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On the residual omission of Determiners in Italian L1: a case study

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This study deals with the acquisition of functional categories. Specifically, it focuses on determiner omissions in L1, a wide-spread phenomenon of early grammar which is subject to variation among languages (Chierchia et al., 1999; Guasti et al., 2004). We analyze here the spontaneous production of one Italian monolingual child. On the basis of the distribution of D in this language, we took into consideration semantic/syntactic properties of nominals that are crucial for the licensing of determiners in Italian. Results indicate that, during the period analyzed, D omission is a residual phenomenon more related to the structural configuration in which nominals occur rather than to other properties of Ns. In particular, an interesting selectivity emerges as for the non-target patterns are concerned: items involved in the high DP structures seem to play a crucial role in defining the conditions under which determiners are dropped in L1 grammar.

1. Introduction[1]

Previous research on early article omission, based on analysis both of spontaneous production and elicited production, has stressed the crucial role played either by prosodic constraints or syntactic constraints. On one hand, the former group of studies converges in explaining determiner omissions in terms of prosodic constraints on the output of the speech production system (Gerken, 1991 for English L1; Crisma and Tomasutti, 2000 for Italian L1). According to this hypothesis, there is a strict correlation between the prosodic properties of the element preceding or following the determiner and article omissions. On the other hand, the latter group of studies focuses on the correlation between the position occupied by nominals in the sentence and article omissions (Guasti et al., 2004 for Dutch and Italian, Caprin & Yoghà, 2006 for Italian). In particular, the sentence initial position appears to be more sensitive to determiner omission than the sentence internal one. Furthermore, a subject/object asymmetry as for the omission of determiner has been reported; children omit more

[1] Previous versions of this work have been presented at Consortium for Linguistics in Taiwan (2007), Galana 3 (2008) and The Romance Turn 3 (2008). We thank the audiences for insightful comments and suggestions. We are particularly indebted to Adriana Belletti, Giuliano Bocci and Luigi Rizzi for discussions on this work. Usual disclaims apply.

determiners in sentence initial subjects rather than in sentence internal objects (Guasti et al., 2004; Caprin & Yoghà, 2006). Moreover, other studies reveal that, once a *First Position Effect* on determiner omissions is excluded, a subject/object asymmetry maintains, but individual variation on the highest rate of omissions in subject/object position is attested (Baauw et al., 2005). Interestingly, these phenomena do not seem to depend on prosodic constraints.

The present research is a contribution to the second group of studies. It aims at reconstructing a fine-grained mapping of syntactic contexts sensitive to D omission, focusing on the spontaneous production of one Italian monolingual child. The main purpose of this study is to investigate the role played by structural configurations in early D omission.

The paper is organized as follows: section 2 contains a brief overview of the morphosyntactic properties of articles in Italian; in section 3, 4 and 5 we present the corpus, the criteria adopted for the identification of the utterances relevant to our analysis and the data collected; section 6, 7, and 8 are devoted to detailed analysis of the different contexts sensitive to determiner omission and to the development of explanatory proposals for non-target patterns. In section 9 we conclude the paper with a general discussion of the findings.

2. (Morpho) syntactic properties of the article system in Italian

Italian has a full paradigm[2] of definite and indefinite articles which vary according to gender and number. Furthermore, there are also some allomorphic variants of definite and indefinite masculine articles (*lo, gli, uno*) as well as a reduced form for the definite singular feminine *la* and masculine *lo* (both reduced to *l'*[3]).

With regard to the distribution of determiners, the pattern is quite complex. In general terms, singular count nouns in argumental positions require a determiner:

(1) Leggo [* (un) libro]$_{Obj}$
'I read a book'

(2) [*(Il) ragazzo]$_{Subj}$ è italiano
'The boy is Italian'

(3) Vado in vacanza [$_{PP}$ con [*(un) amico]$_{Prepositional\ Obj}$]
'I go on holiday with a friend of mine'

Bare plurals are allowed as object of a transitive verb (4), and object of a preposition (5). They encode a non-specific (generic) reading:

(4) Leggo [libri]$_{Obj}$
'I read books'

[2] See the appendix (Table C and D) for the Italian article paradigm and article choice.

[3] Reduced forms and allomorphs are required in front of nominals beginning with vowels, with clusters of consonant such as, for example, s + consonant or *ps*, with consonant such as *z, x, y*:

(i) **l**'uomo (the man.ms.sg) vs **il** libro
(ii) **l**'amica (the friend.fm.sg) vs **la** penna
(iii) **lo/uno** specchio (the/a mirror.ms.sg)
(iv) **gli** specchi (the mirrors.ms.pl)
(v) **lo** xilofono (the xilophone)

(5) Vado in vacanza [$_{PP}$ con [amici]$_{\text{Prepositional Obj}}$]
'I go on holiday with friends'

Interestingly, the same does not hold true for the preverbal subject position where a bare plural is ungrammatical. In contrast, bare plurals are grammatical as postverbal subjects with, for example, unaccusative verbs (Longobardi 2000). Examples (6) and (7) illustrate the contrast:

(6) [*(I) ragazzi]$_{\text{Subj}}$ sono italiani
'The boys are italian'

(7) Arrivano [(i) ragazzi] $_{\text{Subj}}$ italiani
'There arrive Italian boys'

As for mass nouns, they may be licensed as bare nominals in postverbal subject positions (8) and object positions (9 a,b). They receive a non-specific (partitive) reading:

(8) Viene acqua giù dal tetto
'The water comes down the roof'

(9) **a** Bevo [(il) vino]$_{\text{Obj}}$ tutti i giorni
'I drink wine every day'

b Bevo whiskey [$_{PP}$ con [ghiaccio] $_{\text{Prepositional Obj}}$]
'I drink whiskey with ice"

As for predicative position, only mass nouns and plurals may occur without the determiner [4]:

(10) Questo è [vino]$_{\text{Predicative Nominal}}$
'This is wine'

(11) Questi sono [libri]$_{\text{Predicative Nominal}}$
'These are books'

Finally, let us conclude this overview on the morphosyntax of the determiner system in Italian focusing on the distribution of articles with proper names and possessive constructions. While the former is subject to dialectal variation, the latter affects all common nouns (count and mass nouns) preceded by a possessive pronouns, regardless of number and gender. Interestingly, only singular kinship terms introduced by possessive pronouns may be used as bare nominals:

[4] Interestingly, once mass nouns and plurals show up with a modifier (AP, sentential modifier, quantifier), the determiner is obligatory:
(i)a Questo è (*il) mio vino
'This is my wine'
b Questi sono (*i) libri che vuoi comprare'
'These are the books you want to buy'
c Compro tutto (*il) vino/ tutti (*i) libri
'I buy all wine/all books'

(12) Cerco la mia borsa$_{.fm.sg}$/i miei libri.$_{ms.pl}$/il mio vino
'I am looking for my bag/my books/my wine'

(13) Vedo tutti i giorni mia sorella / *(le) mie sorelle
'I see my sister/sisters every day'

Summing up, the distribution of determiners in Italian suggests that different properties of the nominals play a role in determining the condition under which articles are obligatory in standard Italian: (i) the distinction singular vs. plural; (ii) the distinction mass vs. count nouns; (iii) the syntactic configuration. In our research we address the question whether and how such properties of nominals may interact in early determiner omission in Italian L1.

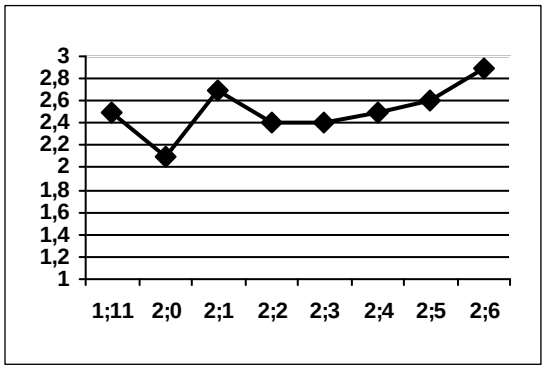
3. The Corpus

We base our study on the analysis of an original corpus consisting of 11 recordings of Sabrina, a female Italian monolingual child living in Tuscany (Italy). The corpus was transcribed in CHAT format following the CHILDES criteria and successively double checked. Table 1 and Figure 1 show the MLU and the MLU variation during the period analyzed[5].

Table 1: MLU

Age	**MLU**
1;11	2,5
2;0	2,1
2;1	2,7
2;2	2,4
2;3	2,4
2;4	2,5
2;5	2,6
2;6	2,9
Average MLU	2,51

Figure 1: MLU variation



As can be observed, Sabrina's MLU is high since the first recording. Nevertheless, we identified a difference between a first period (1;11-2;2) during which the MLU considerably fluctuates and the second period (2;3-2;6) during which the MLU variation steadily increases.

4. Criteria for the identification of the relevant utterances

We took as 'determiners' definite/indefinite articles and their early manifestations as protosyntactic devices (PSD, henceforth). As PSD, we considered the indistinct vocalic morphemes produced by the child in front of nominals which can be taken as morphophonological placeholders according to Bottari et al., (1993/94). On the basis of the morphosyntactic properties outlined in section 2, we considered for our analysis count and mass nouns in argumental/predicative position when they obligatorily

[5] The data have been collected and transcribed by Simona Matteini. They have been further double checked by Valentina Chiancianesi, Sara Paolucci, and Ida Ferrari.

require a determiner. As for argumental position we included subject/objects of verbs, prepositional objects, nominals produced in isolation as answers to questions about the subject/object of the event. The utterances are exemplified in (14):

(14) **a** CHI: c' è farfallina.
there is _ small butterfly
'There is a small butterfly.'

b CHI: metti a potto libetto?
put away _ small book?
'Can you put away the small book?'

c CHI: dai sapone?
give _soap?
'Can you give me the soap?'

d CHI: con matello [martello].
with _ hammer
'with the hammer'

e INV: chi arriva?
'Who is coming?'

CHI: principe
_ prince
'the prince.'

f INV: allora # che disegnamo?
'What should we draw now?'

CHI: pinguino.
_ penguin
' A penguin.'

As for predicative position we included singular count nouns in copular constructions:

(15) CHI: questa è treno.
this is _ train
'This is the train.'

(16) INV: guarda un po' # chi è questo qui?
'Look ! Who is this?'

CHI: drago.
_ dragon
'A dragon.'

Crucially, we included in our analysis also mass noun with a 'specific' reading, as they require a determiner in Italian, as, for example, in possessive constructions:

(17) CHI: Questo è il latte mio!
This is the milk my
'This is my milk!'

We excluded all the contexts not requiring a determiner, such as (i) mass nouns and bare plurals with a 'non specific' reading in argumental or predicative position; (ii) proper names/kinship terms, since they do not require a determiner in the variety of Italian spoken by the child[6], (iii) all combinations of nominals and prepositions not requiring a determiner in Italian such as, for example, *andare a casa* (to go home). Relevant examples are given in (18) and (19).

(18) **a** CHI: questo è ciaccino!
'This is bun'

b CHI: vuole mangiare sassolini.
want.$_{3.prs.sing}$ to eat pebbles
'He wants to eat small pebbles'

c CHI: quelle so' [=? sono] candele.
'Those are candles!'

(19) **a** CHI: dov'è mamma?
'Where is mummy?'

b CHI: dov'è zia Simona?
'Where is aunt Simona'

Finally, we excluded: (a) idiomatic expressions and routine sentences containing a nominal; (b) unclear sentences, (c) immediately adjacent complete repetitions of the child's own utterances, (d) corrected initial errors.

5. The data

On the basis of such criteria, we isolated 661 contexts which required a determiner. On these utterances, the rate of D omissions/occurrences/PSD were calculated. Table 2 and Figure 2 illustrate the pattern we observed:

[6] The variety of Italian spoken in Siena (Tuscany). Interestingly, the use of expletive determiners with proper names (and kinship terms) is subject to a high degree of variation among the varieties of Italian spoken in Tuscany as well. Let us take as a case point the contrast between, for example, *Senese* and *Fiorentino*. Proper names and kinship terms are always introduced by a definite article in the latter but not in the former.

Table 2: D occurrences/omissions/PSD

Age	Occ	Omiss	PSD
1;11	(49/101) 48%	(27/101) 27%	(25/101) 25%
2;0	(23/49) 47%	(17/49) 35%	(9/49) 18%
2;1	(76/114) 67%	(35/114) 31%	(3/114) 3%
2;2	(55/81) 68%	(24/81) 30%	(2/81) 2%
2;3	(69/95) 73%	(17/95) 18%	(9/95) 9%
2;4	(82/108) 76%	(24/108) 22%	(2/108) 2%
2;5	(44/55) 80%	(8/55) 15%	(3/55) 5%
2;6	(47/58) 81%	(11/58) 19%	(0/58) 0%
Total	**(445/661) 67%**	**(163/661) 25%**	**(53/661) 8%**

Figure 2: D occurrences/omissions/PSD

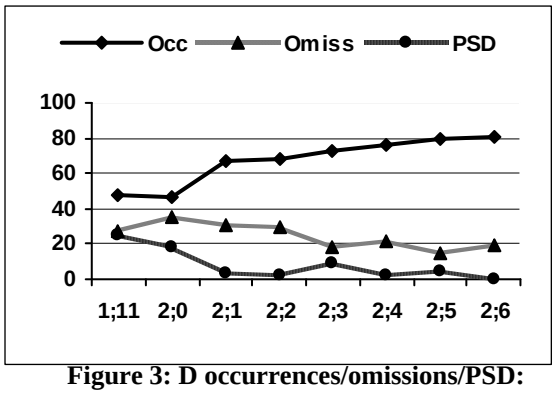
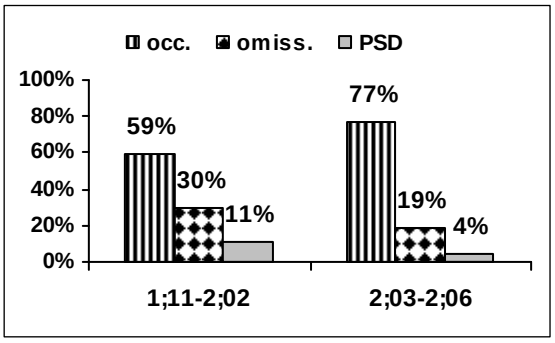


Figure 3: D occurrences/omissions/PSD: stages of development



Overall, determiner omission ranges between a highest rate of 35% (2;0) and a lowest rate 15% (2;5). Hence, this fact allows us to infer that D omission is a residual phenomenon which follows a developmental path during the period analyzed. As suggested by Figure 2, production of PSD and D omission are quite a noticeable phenomena in the first two recordings. Starting from (2;1) the former strategy drastically decreases, while the latter option decreases steadily. As for D occurrences, they increase gradually from 48% (1;11) to 81% (2;6). Considering the decrease of D omission, we identified two stages of development: in the first stage (1;11-2;02) the average rate of D omission is about 30% whereas from 2;03 to 2;06 the average rate of D omission is attested at about 19% (Figure 3).

6. Sensitive Contexts for D Omission

In order to identify to which aspect the omission of D may be related, we verified the correlation between the omission of determiners and the following properties of nominals: gender, number, mass distinction. Furthermore, we also considered the position occupied by nominals in the sentence and their functions. Attention has also been paid to the configurations in which nominals are modified by functional/lexical elements (i.e. possessive pronouns and the quantifier *tutto*).

6.1 D omission with [+/- Mass] DPs

As for the distinction [+/- Mass], the percentage of article omission with [+ Mass] nominals (22% - 13/58) is similar to the one of [-Mass] nominals (24% - 145/603).

The difference between the two groups is not statistically significant (Fisher's E. P-Value = 0,87)[7].

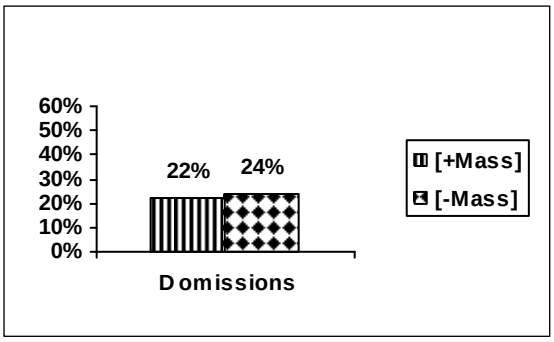
Table 3 and Figure 4 illustrate the low percentage of D omission with respect to D occurrences in both groups of nominals. This fact suggests that, at this stage of acquisition, the [+/- Mass] distinction does not seem to play a crucial role in the phenomenon under investigation. In fact, the child seems to master that bare mass nouns are grammatical only in specific contexts in Italian, such as copular constructions and object position with a non specific reading (*E' brodino!* – This is broth!; *Mangio pollo.* – I eat chicken.).

Table 3: D omission according to the distinction [+/- Mass]

	D Omissions	D Occurrences
+ Mass	(13/58) **22%**	(45/58) **78%**
- Mass	(145/603) **24%**	(458/603) **76%**
p = 0,87		

(20)**a** CHI: c'ho moccico. **[+ Mass]**
'I have snot.'
b CHI: pulisci pavimento! **[- Mass]**
'Clean the floor!'

Figure 4: D omission according to the distinction [+/- Mass]



6.2 D omission with [+/- Singular] DPs

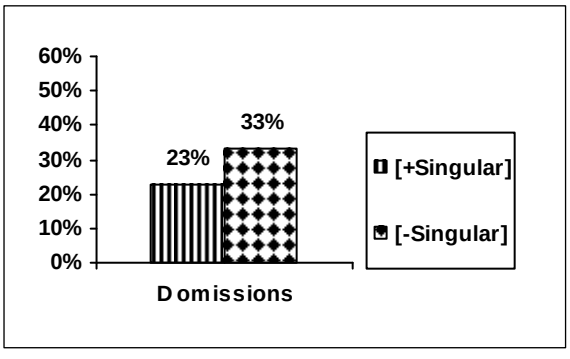
Turning to the [+/-Singular] distinction, Table 4 and Figure 5 show a slightly higher percentage of D omissions within [- Singular] contexts. Determiner omission is attested at 33% (27/83) with plural nominals and at 23% (132/578) with singular ones. This difference is statistically near to the significant threshold: (Fisher's E. P-Value = 0,07).

Table 4: D omission according to the distinction [+/- Singular]

	D Omissions	D Occurrences
+ Singular	(132/578) **23%**	(446/578) **77%**
- Singular	(27/83) **33%**	(56/83) **67%**
p = 0,07		

(21)**a** CHI: guarda squalo! **[+Sing.]**
'Look at the shark!'
b CHI: pulisci tende! **[- Sing.]**
'Clean the curtains!'

Figure 5: D omission according to the distinction [+/- Singular]



Contrary to the tendency emerged within [+/- Mass] nominals, the [+/- Singular] distinction seems to play a role in early determiner omission. However, a further

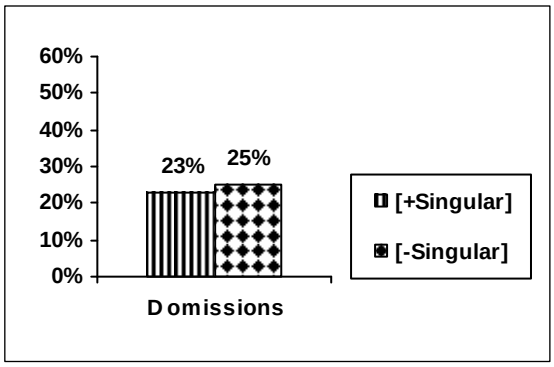
[7] All the data were statistically analyzed using Fisher test. The significance threshold is 0,05.

analysis of the data reveals that the rate of D omissions in plural contexts is higher only in the configuration in which the nominals are introduced by the quantifier *tutti/e* as in "*Ho macchiato tutte *(le) paperine"* – I soiled all ducks. [QP+D+N: + Sing 25% (1/4) vs – Sing. 90% (9/10)][8].
Once the nominals introduced by QPs are excluded from the count, the difference between the rate of D omissions with singular nominals (23% - 131/574) and the one with plurals (25% 18/73) is not statistically significant (p= 0,76) as illustrated in table 5 and Figure 6.

Table 5: D omissions and occurrences according to +/-Singular distinction of Ns, excluding QPs.

	D Omissions	D Occurrences
+ Singular	(131/574) **23%**	(443/574) **77%**
- Singular	(18/73) **25%**	(55/73) **75%**
p = 0,76		

Figure 6: D omission according to the distinction [+/- singular] excluding QPs.



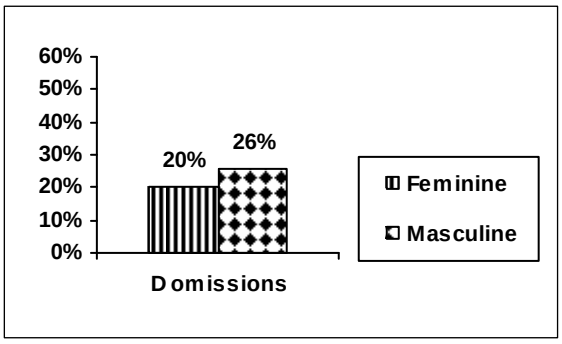
6.3 D omission with Feminine/Masculine DPs
As for gender, we observe that the Determiner is omitted 26% (100/381) with masculine nouns and 20% (56/280) with feminine ones. This difference is near to the significant threshold: Fisher's E. P-Value = 0,06.

Table 6: D omission according to Gender distinction

	D Omissions	D Occurrences
Feminine	(56/280) **20%**	(224/280) **80%**
Masculine	(100/381) **26%**	(281/381) **74%**
p =0,06		

(22)**a** CHI: aspetta sposa. **[Fem.]**
'He is waiting for the bride.'
b CHI: dov'è tappeto? **[Masc.]**
'Where is the carpet?'

Figure 7: D omission according to Gender distinction



This result is not unexpected. Taking into consideration the Italian article paradigm, two facts may account for this finding: (i) only the masculine article shows allomorphic variants in Italian; (ii) the definite masculine singular article *il* and the definite masculine plural article *gli* are more complex from a phonetic and a

[8] This fact is particularly interesting in that suggests how article omission may correlate more on DP placement rather than on intrinsic properties of nominals (i.e. number).

phonological point of view. Hence, the child may be induced to omit determiners more frequently in the former context but not in the latter.

6.4 DPs placement and D omission

This section deals with the correlation between article omissions and the position occupied by DPs in the sentence. Specifically, four contexts were analyzed: (i) DP-V; (ii) V-DP; (iii) P-DP[9]; (iv) DP in isolation.

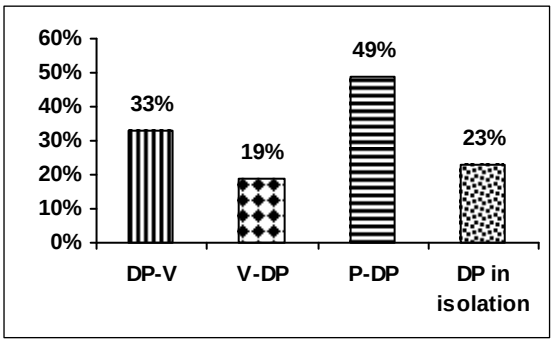
As for (i), we considered all DPs preceding a verb. In this pattern we included preverbal subjects, preposed objects and preposed predicative nominals of copular constructions[10]. As for (ii), we included all DPs following a verb as post verbal subjects, post verbal objects and post verbal predicative nominals. In (iii) we considered all DPs following a monosyllabic preposition, also when the latter has been omitted. Finally, the pattern in (iv) includes: (a) subject and object DPs uttered in isolation as answers to questions about the subject/object of the action; (b) predicative nominals uttered in isolation as answer to questions.

As it emerges from the data analysis reported in the Table 7 and Figure 8 below, the position occupied by nominals in the sentence seems to play a crucial role in D omission.

Table 7: D omission and position of DP

	D Omissions	D Occurrences
DP-V	(3/9) **33%**	(6/9) **66%**
V-DP	(67/356) **19%**	(289/356) **81%**
P-DP	(42/85) **49%**	(43/85) **51%**
DP in isolation	(49/211) **23%**	(162/211) **77%**

Figure 8: D omission and position of DP



Indeed, the highest rates of D omission are attested in the contexts P-DP 49% (42/85) and DP-V 33% (3/9)[11], whereas, it is considerably lower in the contexts V-DP 19% (67/356), and DP in isolation 23% (49/211). The data show that the most sensitive pattern to D omissions is the prepositional context. A significant difference emerges comparing the P-DP values and those of V-DP and DP in isolation respectively (Fisher's E. P-Value < 0,0001 in both cases). On the contrary, we do not observe a statistically significant difference comparing the V-DP values with the DP in isolation values (Fisher's E. P-Value = 0,23).

6.5 DPs functions and D omission

Before focusing on D omissions in prepositional contexts, we analyzed the data on the basis of the function that the DP has in the sentence. Previous studies on this topic have stressed that, besides a first position effect, a subject/object asymmetry is found in children's production data (Baauw et al., 2005). Nevertheless, these studies do not

[9] It has been pointed out that P-DP cannot be considered merely a 'position' as PP can occur preverbally, post-verbally or in isolation. Moreover, P can either be selected by nouns and verbs. Our purpose here was to stress the fact that DP_s occur after a preposition.

[10] Although ungrammatical in standard Italian, this construction is occasionally produced by the child.

[11] Due to the few occurrences, this pattern will be neither further discussed nor statically analyzed.

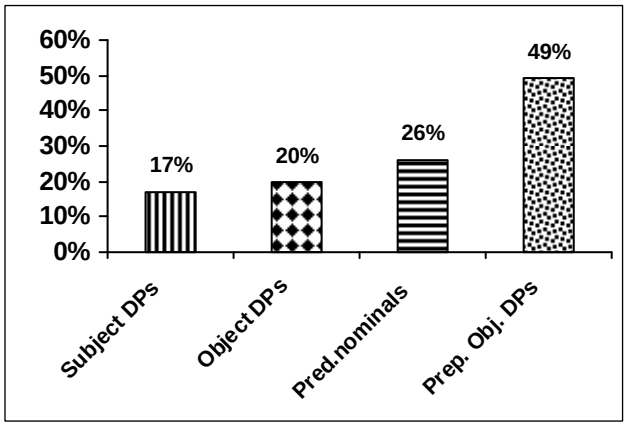
converge in indicating a preference for D omissions in subject or object position. Baauw et al., 2005 found individual variation in Dutch speaking children; Schoenenberger et al., 1997 found a preference for D omission in object position in German children; Caprin & Yoghà, 2006 report a preference of D omission in subject position for Italian speaking children[12].

In analyzing Sabrina's corpus, we consider the following function: (i) subject, (ii) object, (iii) object of preposition, (iv) predicative nominals. Table 8 and Figure 9 show the results of this analysis:

Table 8: D omission according to the DP function

Subject DPs	
D Omissions	D Occurrences
18/108	90/108
17%	**83%**
Object DPs	
D Omissions	D Occurrences
65/327	262/327
20%	**80%**
Predicative nominals	
D Omissions	D Occurrences
37/141	104/141
26%	**74%**
Prepositional Object DPs	
D Omissions	D Occurrences
42/85	43/85
49%	**51%**

Figure 9: D omission according to the DP function



As for D omission, no subject/object asymmetry is found in Sabrina's corpus (D omissions in Subject DPs 17% vs Object DPs 20% - Fisher's Exact P-Value: 0,57). A slightly higher tendency to omit determiners in predicative position, though not statistically significant, emerges in the data analysis (D omission in Pred. DPs 26% vs Subject DPs 17% - Fisher's Exact P-Value: 0,08; D omission in Pred. DPs 26% vs Object DPs 20% - Fisher's Exact P-Value: 0,14). Crucially, the highest rate of omissions in prepositional contexts still remains (49%). A significant difference emerges comparing the values of Prepositional Object DPs with the one of Subject/Object DPs (Fisher's Exact P-Value: <0,0001 in both cases) and with the one of Pred DPs (Fisher's Exact P-Value: 0,0005).

The most striking result prompted by these data, is that the residual phenomenon of D omission seems to be related more to the position occupied by DPs, rather than to other properties of nominals (gender, number, [+/- Mass] distinction)[13]. In particular,

[12] Due to their experimental design, only preverbal subject and post verbal object have been taken in consideration by Caprin and Yoghà, 2006.

[13] The influence of linear order on D omissions has already been reported in the literature (Guasti et al., 2004 for Dutch and Italian, Caprin & Yoghà, 2006 for Italian). Results of these studies converge in indicating the sentence initial position as the most sensitive to D omission. It is worth noticing that the child under consideration produced very few DPs in sentence initial position to have reliable

this study identifies PPs structures as a source of difficulty in determiner provision by the child. This aspect has received little attention in the literature on this topic. In fact, a few studies on language acquisition have focused on D omission in PP contexts. As for Italian L1, Antelmi (1997) has observed that determiners were often omitted when nominals are introduced by a preposition. However, the author does not provide quantitative analysis of the phenomenon. In Leonini (2006), the same tendency has been observed in the acquisition of Italian L2 by German learners (both in a elicited task and in spontaneous production). In the following two sections we will focus on determiner omissions in prepositional contexts and we will formulate some explanatory proposals for the non-target patterns produced by the child.

7. Focus on prepositional contexts

This section is devoted to the analysis of the child's production of prepositional phrases requiring a determiner. Only monosyllabic prepositions were considered[14]: 85 PPs obligatorily requiring a determiner out of 226 PPs were identified [15].

Focusing on these contexts, it emerges that, besides the target form [P+D+N][16], three non-target patterns are produced by the child: (a) both the preposition and the determiner are omitted *[_P_D+N]; (b) only the determiner is omitted *[P_D+N]; (c) only the preposition is omitted *[_P+D+N]. The relevant patterns are exemplified from (23) to (26):

(23) CHI: nella foretta! — Target form [P+D+N]
'in the forest'

(24) CHI: mette cassettino! — *[_P_D + N]
put _ drawer
'Put it into the drawer'

(25) CHI: con principe. — *[P_D+N]
with _ prince
'with the prince'

---

quantitative and qualitative analysis on this topic. Moreover, none of the previous studies consider D omissions in P contexts separately.

[14] See the appendix (Table E) for Italian monosyllabic prepositions and their syncretic articulated forms.

[15] Considering PPs in general, it emerges that monosyllabic prepositions are attested in the Sabrina Corpus from the first recording (1;11) Specifically, *a*, *di*, *in*, *con*, are used more frequently than *per*, *su* and *da*. Prepositions *fra*/*tra* are never found in the corpus. A few cases of wrong selections of prepositions are found, as in the following example:

(i)INV: di chi hai paura?
'Who are you afraid of?'
CHI: con matigna
with _ stepmother
'Of the stepmother'

Moreover, non target possessive constructions are produced by the child (see section 8.2 for a detailed analysis of this pattern and the appendix for a quantitative analysis of the prepositions produced by the child.)

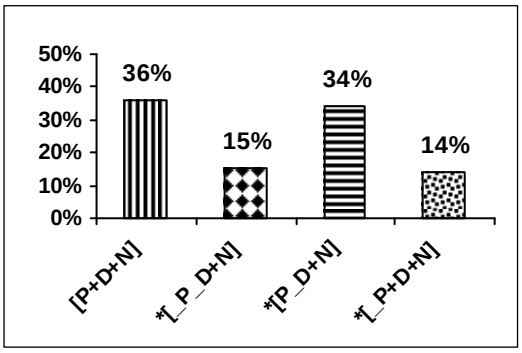
[16] With the the notation [P+D+N] we refer to articulated prepositions produced by the child as: (i) syncretic forms (nella foresta – *in the forest*); (ii) non syncretic forms with definite articles (con la matrigna – *with the stepmother*) or indefinite ones (per un bambino – *for a child*).

(26) CHI: paura la matigna! *[_P+ D+N]
fear _ the stepmother
'I am afraid of the stepmother'

Table 9: Different Patterns in P-DP contexts

[P+D+N]	*[_P_D+N]	*[P_D+N]	*[_P+D+N]
(31/85)	(13/85)	(29/85)	(12/85)
36%	**15%**	**34%**	**14%**

Figure 10: Different Patterns in P-DP contexts



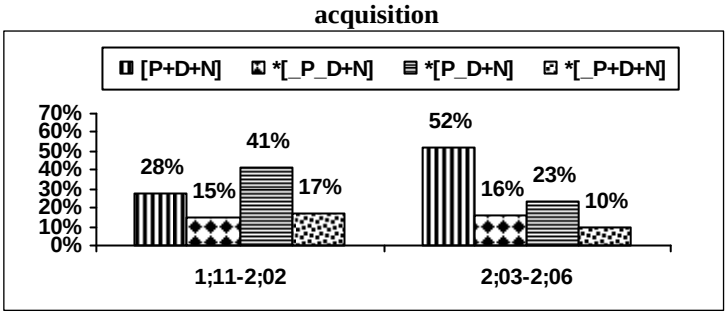
As exemplified in Table 9 and in Figure 10, [P + D] contexts are rather problematic for the child as far as D insertion is concerned. Thus the child resorts to the non-target pattern *[P _D+N] to a greater extent (34%).

The non-target patterns involving dropping of the preposition *[_P+D+N] or dropping of both the preposition and the article *[_P_D+N] are less attested. Moreover, a developmental path as for the pattern *[P_D+N] is attested. In fact, if we consider the two stages of acquisition outlined in section 5, the data show an opposite tendency between the target form [P+D+N] and the *[P_D+N] pattern. The former is attested at 28% in the first period and at 52% in the second one. The latter decreases from 41% in the first stage to 23% in the second one. Table 10 and Figure 11 exemplify such contrast.

Table 10: P-DP contexts – Developmental path across two stages of acquisition

	[P+D+N]	*[_P_D+N]	*[P_D+N]	*[_P+D+N]
1;11-2;02	(15/54) **28%**	(8/54) **15%**	(22/54) **41%**	(9/54) **17%**
2;03-2;06	(16/31) **52%**	(5/31) **16%**	(7/31) **23%**	(9/31) **10%**

Figure 11: P-DP contexts – Developmental path across two stages of acquisition



7.1 PPs context as a vulnerable domain for D insertion: proposals

The aim of this section is to provide an explanatory proposal for the non-target pattern emerged within the PP contexts.

Our analysis is based on the assumption that the articulated preposition in Italian undergoes a process of head incorporation, as assumed by Granfeldt (2003) for French, and Giusti (2003) for Italian. According to this view, the determiner in D° adjoins to the head of the PP above the DP projection, as exemplified in (27):

(27) [SpecPP [P° [SpecDP [D° [.....]

Turning to the child performance observed in this study, we propose that two interacting factors may contribute to make the PPs context a vulnerable domain for determiner omission: (i) articulated prepositions show a syncretic form in Italian; (ii) D and P are in a local configuration and both provide functional structure to the NP.

Let us now focus on the two hypotheses more in detail;

(i) It might be hypothesized that, through D omission, the child is avoiding the extra complex syntactic process at work in the derivation of articulated prepositions in Italian.

Evidence in favour of this hypothesis comes from the fact that determiners are supplied in contexts not requiring a process of head incorporation in Italian, like, for example, preposition with indefinite articles:

(28) CHI: stata a uno ballo
been at a dance
'She went to a dance'

Moreover, the definite article is not omitted when combining with the preposition *per* that does not take a syncretic form in Italian:

(29) CHI: pe la mamma.
'For the mother'

(ii) Regardless of the head incorporation process, D omission is favoured by the nature of the two heads involved in this configuration. Both P and D are heads of the NP functional extended projection and they are both involved in the NP case assignment. Hence, the child may be induced to omit one in order to prevent overburdening structures for the still immature computational and performance system. The omission of D over P might be preferred in order to avoid a loss of interpretability of the entire PP.

Following Giusti's (1993, 2003) analysis for Rumanian[17], we suppose that in *[P_D+N] pattern, P is presumably inserted by the child in the highest head (F^{max}) of

[17] As reported by Giusti (1993), in Rumanian the enclitic article is ungrammatical with unmodified nominals object of prepositions as exemplified in (i):

(i) M'am adus la profesor(*ul)
I am gone to professor (*the)
'I have been to the professor'

An exception to this pattern is represented by the preposition *cu* (with).

the extended nominal projection, the position usually occupied by the determiner as Case marker as exemplified in (30).

(30) **[**$_{FP1}$**[**con**][**$_{NP}$ principe**]]**

Following this proposal, it might be hypothesized that P and D are in complementary distribution in Sabrina's early grammar.

The two analyses just sketched may be **strictly interrelated**. Further investigation on languages in which prepositions and articles do not show a syncretic form may shed light on the matter. In particular, they may clarify whether children tend to avoid the complexity of head incorporation or, when facing a configuration in which two functional heads in a local relation share similar properties, produce only one for economy reason.

8. D omission in other contexts

In the previous section we have analyzed determiner omissions in prepositional contexts. Such a configuration is not the only one involved by this phenomenon in Sabrina's corpus. Interestingly, we found a tendency to omit determiners with the quantifier *tutti/e* and also in possessive constructions. Both configurations require obligatorily an article in standard Italian. Although occurrences of this kind are very few in the corpus, an analysis of the non-target patterns produced in these syntactic domains gives cues on the strategies adopted by the child when new elements are introduced in the DP structure.

8.1 Quantifier tutti/e

As for D omission with the quantifier *tutti/e*, we observed an opposite tendency between singular and plural contexts. D omission is attested at a high rate in the latter but not in the former. Such a contrast is exemplified in table (11).

Table 11: D occurrences/omissions with QPs

	D Omissions	**D Occurrences**
Singular QPs	(1/4) **25%**	(3/4) **75%**
Plural QPs	(9/10) **90%**	(1/10) **10%**

(31) **a** CHI: tutta la torre di Mangiafuoco.
'Mangiafuoco's whole tower'

b CHI: Ho macchiato tutte paperine.
'I soiled all ducks'

Crucially, nominals introduced by *tutto/tutti* obligatorily require a determiner in Italian regardless of number distinction. The relevant examples are given in (32)a vs b:

(32) **a** Tutta *(la) famiglia di Maria.
'Maria's whole family'

The enclitic article has to be morphologically realized when the object of preposition is modified by an adjective or by a complement as in (ii):

(ii) M'am adus la profesur *(ul) tau
I am gone to professor *(the) your
'I have been to your professor'

b Tutte *(le) mele.
'all apples'

The asymmetry in (31) recalls the contrast between the 'definite'/'indefinite' quantifier as for the property of selecting a full DP in Italian. Such a property affects only the former but not the latter. Let us focus on the contrast between the 'definite' quantifier *tutti* (all) and the indefinite quantifier *molti* (many) in Italian:

(33) **a** Ho letto tutti *(i) libri
'I read all books'
b Ho letto molti (*i) libri
'I read many books'

As proposed by Giusti (1993) and Giusti & Leko (2001), we assume that both quantifiers in (33)a-b are heads of the functional nominal projection. In (33)a *tutti* selects a full DP while in (33)b *molti* does not require an overt D[18]:

(34) **a** [Q tutti [D i [F..[NP libri]…]]]
b [Q molti [D ø [F..[NP libri]...]]]

Child's tendency to omit D in plural QPs may suggest that she is analizing *tutti* as an indefinite quantifier which does not require an overt D, as in (34)b[19].

8.2 D omission with Possessive DPs

In this section we deal with D omission and Possessive DPs[20]. As for this particular syntactic domain, we found that the child resorts to the omission of determiners only

[18] The same holds true also for the indefinite quantifiers 'many' in English:
(i) I read many (*the) books.

[19] The interesting question that arises is whether the child is assigning a 'generic' reading to the QP *tutte paperine* as in the English example in (i) vs (ii) containing the quantifier 'all':
(i) I soiled all ducks $_{[gen]}$
(ii) I soiled all the ducks$_{[spec]}$ I have
Unfortunately the few occurrences of QPs of this kind in our corpus prevent us from drawing any conclusion.

[20] Other non-target patterns produced by the child in possessive DPs are concerned with (a) the linear order possessor-noun; (b) the omission/replacement of preposition *di*. As for (a), utterances in (i)-(ii) illustrate the non-target patterns:

(i) INV: Di chi hai paura, Sabrina?
'Who are you afraid of?'
CHI: i Cenerentola cappetta!
of Cinderella shoe
'of Cinderella's shoe'

(ii) INV: non ti capisco!
'I do not understand you'!
CHI: ho paura i Cenerentola e cappetta!
Have$_{1.ps.sg}$ fair of Cinderella the shoe
'I am afraid of Cinderella's shoe'

In all cases the possessor precedes the head noun. The construction displays the linear order Poss-N rather than the Italian linear order N-Poss required in Italian possessive constructions containing a non-pronominal possessor. Interestingly, the utterance in (i) and (ii) mirrors the linear order of Germanic possessive construction of the Saxon Genitive-type, where non pronominal possessors show up in

when the possessor occurs prenominally[21]. An example of non-target pattern is given in (35):

(35) CHI: Dov'è mia penna?
'Where's my pen?'

Interestingly, determiner omission is excluded when the possessor is in postnominal position.
Table (12) and examples (36)-(37) show the contrast between insertion/dropping of determiners according to the position of the possessor:

Table (12): D omission with Possessive DPs

	D+Poss+N	***[_D+Poss+N]**	**D+N+Poss**	***[_D+N+Poss]**
Total	0/3	3/3	6/6	0/6
%	0%	100%	100%	0%

(36) CHI: oggi era mio compreanno!
'Today it was my birthday'

(37) CHI: dov'è il telefono mio?
'Where's my phone?'

The pattern in (36)-(37) suggests that prenominal possessors and determiners are in complementary distribution in Sabrina's early grammar. Such a possibility is subject to variation among languages. In German and English, for example, prenominal possessors do not co-occur with determiners, as in (38)a and b:

(38) **a** Das ist (*das) mein Buch
b This is (* the) my book

On the contrary, in Spanish, only prenominal possessors are in complementary distribution with determiners, as illustrated by the contrast in (39)a vs b:

---

prenominal position. Such option is allowed in Italian only with pronominal possessors (*La sua macchina* vs **la di Gianni macchina*).
Concerning (b), we have observed that preposition *di* is sometimes omitted or replaced by the preposition *a* in front of the possessor.

(iii) CHI: l'albero Babbo Natale
the tree _Santa Claus
'Christmas tree'

(iv) CHI: il gatto Astasia
the cat _Anastasia
'Anastasia's cat'

(v) CHI: c'ho i chiavi a Picasso
I have got the keys to Picasso
'I have got the keys of the Picasso car'

[21] Similar findings have been reported by Bernardini Roest (2003) in bilingual Italian-Swedish and Italian L1 acquisition

(39) **a** mi libro (Cardinaletti 1998)
'my book'

b el/este libro mío

According to Cardinaletti (1998), in determiner-less possessive constructions as in (38)a and b and (39)a, an empty D hosts the raised possessive element (a clitic possessive in Cardinaletti's terms). The derivation in (40) illustrates this fact:

(40) [D possessive clitics$_i$ [….[$_{SpecNP}$ t$_j$[$_N$ N]]]]

Following Cardinaletti's proposal, we assume that in the ill-formed construction **Oggi era mio compreanno* (Todays it was my birthday) the child is probably adopting the option in (40)[22]. Although this possibility is restricted only to prenominal possessors occurring with singular kinship terms in standard Italian (*Questa è mia madre* – This is my mother), the child seems to extend this option to all DPs with a prenominal possessor. Moreover, the asymmetry in (36)-(37) points out that determiner insertion may be considered by the child a 'last resort option' triggered by the necessity to license a full DP when the possessor does not move to D°.

9. Conclusion

The results of this study indicate that, during the period analyzed, the omission of D is a residual phenomenon more related to the structural configurations in which the nominals occur than to other factors (i.e. gender, number, +/- mass distinction of nominals). Items involved in the high DP structure (specifically prepositions and prenominal possessors) seem to play a crucial role in determining 'when' and 'how' D omission applies.

Moreover, results of this study have identified P-DP configurations as one of the most sensitive to D omission in child's early grammar. A further study on corpora of other Italian monolingual children would be desirable in order to verify whether the phenomenon is attested or other strategies are used. Furthermore, a comparison with corpora from other languages in which prepositions and articles do not show a syncretic form may help in defining possible explanatory proposals for this finding.

[22] This assumption predicts that the child should recognize the 'functional' status of possessors with respect to other prenominal modifiers, which do not have to appear in complementary distribution with determiners. In our corpus we only found a few occurrences of complex DPs containing a prenominal modifier other than possessives:

(i) Un' atta farfallina
a.fm.sg other.fm.sg butterfly
'another butterfly'

(ii) Quetta lunga torre ho satto!
This.fm.sg long.fm.sg. tower have made
'I made this long tower!'

In both cases the indefinite modifier *altra* and the attributive adjective *lunga* precede the noun and are introduced by a determiner, as required by standard Italian.

Appendix

Table A: Omissions/occurrences of monosyllabic prepositions in Sabrina corpus

	P omissions	P occurrences
di	21	43
a	6	62
da	4	2
in	3	30
con	11	26
su	2	1
per	//	15
tra/fra	//	//

Table B and Figure A: Omissions/occurrences of monosyllabic prepositions in Sabrina corpus: percentage values

	P omissions %	P occurrences %
di	33	67
a	9	91
da	67	33
in	9	91
con	30	70
su	67	33
per	0	100

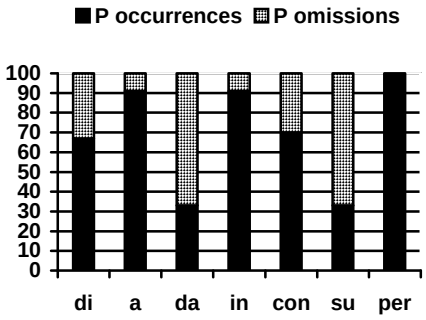


Table C

Italian article paradigm				
	definite		indefinite	
	masculine	feminine	masculine	feminine
singular	il/lo°/l'#	la /l'#	un/uno°	una/un'#
plural	i/gli°	le	Suppletive form: partitive di dei degli° delle	

°allophonic variants
#reduction in front of a wowel

Table D

Italian article choice		
	singular	plural
Definite NP (Known to the speaker and to the hearer-Common ground)	il gatto/la casa	i gatti/le case
Specific Indefinite NP (Known only to the speaker-No common ground)	un gatto/una casa	dei gatti/delle case
Non specific Indefinite NP (Unknown both to the Speaker and to the Hearer-No common ground)	un gatto/una casa	dei gatti/delle case or _gatti/_case

Table E

Monosyllabic Italian Prepositions	**Articulated prepositions**	**Monosyllabic Italian Prepositions**	**Articulated prepositions**
di (of)[23]	**+** di + il = del di+ lo = dello di+ l' = dell' di+ la = della di+ i = dei di+ le = delle di+ gli = degli	**in** (in/at)	**+** in + il = nel in + lo = nello in + l' = nell' in + la = nella in + i = nei in + le = nelle in + gli = negli
a (at/to)	**+** a + il = al a + lo = allo a + l' = all' a + la = alla a + i = ai a + le = alle a + gli = agli	**con** (with/by)	**+ (in spoken language)** con + il = col con + lo = collo con + l' = coll' con + la = colla con + i = coi con + le = colle con + gli = cogli
da (from/to/by)	**+** da + il = dal da + lo = dallo da + l' = dall' da + la = dalla da + i = dai da + le = dalle da + gli = dagli	**su** (on)	**+** su + il = sul su + lo = sullo su + l' = sull' su + la = sulla su + i = sui su + le = sulle su + gli = sugli
		per (for/to)	**-**
		tra (in/between)	**-**
		fra (in/between)	**-**

[23] In brackets a roughly corresponding translation is given.

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