Parameterizing Negation: Interactions with Copular Constructions in Italian and English children

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1. Introduction

The main goal of this study is to provide a more precise picture of the pattern of copular omission attested in Italian and English child grammar through a closer investigation of negative contexts. If copular omissions could be considered as a reflex of a "defective" inflectional system, in the sense that certain functional projections could be left underspecified in the first stages of linguistic development, then looking at them in negative utterances will give us other material helpful to understand the shape of the early IP system and of the principles governing it.

In the next section the results of two recent studies will be presented, in order to illustrate the phenomenon of copular omissions in Italian and English and to give a general idea of its consistency. The picture which emerges is of a fundamental symmetry between the two languages in declarative contexts. In the following section a new count will be made, in order to assess if the same behaviour could be found also in negative utterances. Quite surprisingly, the omission rate varies considerably between the two languages, and an interesting alchemy arises between those principles responsible for omissions in declarative contexts and the additional projection NegP, considered as one of the *loci* of parametrical variations. A good account for the difference found in Italian and English negative utterances must then consider both the common principle responsible for omissions in declarative utterances and the variations in the syntax of negation. This result can be achieved adopting a developmental theory along the lines proposed in Rizzi (1994) combined with a well documented cross-linguistic difference in the structural realization of NegP.

2. Copular omissions in declarative sentences

Between the second and the third year, early grammar allows specific constructions that are absent in the target language, the specific grammar to be learned. One good example is constituted by the sentences reported below, taken from three children whose corpora are available through CHILDES:

(1) a. He on a horse. (Nina 2;1.22)
c. there my cow. (Eve 2;2)
d. it a lady (Eve 1;11)

Those sentences are not well formed in adult English, where a finite form of the verb *be* must be obligatorily present, even if the option to leave the copular verb unexpressed is attested in several other languages, such as Russian, Hebrew and also African American English. The possibility to have a null copula in other adult grammars might suggest that sentences as in (1) can be accounted as an instance of parametrical mis-setting, but this option, which may look attractive, has its limits. A first, conceptual one, is that such an explanation would be extremely construction-specific, unable to integrate this kind of omissions into a model of the early Inflectional System. Moreover this hypothesis is directly disconfirmed by the empirical data. In fact the parametrical mis-setting hypothesis predicts that the rate of null copulas should be constant across declarative and negative sentences as well as wh-questions. This is not the case, as it will be shown in this the paper.

Another possibility is to explain the presence of null copulas through more general properties of child grammar. Let's assume, together with many authors (Moro 1988, Becker 2004), that copular verbs are not lexical verbs, since they don't assign any ɵ-role but are best considered as the spell-out of Tense features. In this case it could be possible to relate copular omissions (i.e. Tense omissions) with other phenomena observable in early grammar, usually explained in terms of Tense underspecification, as Root Infinitives. This seems a viable hypothesis, supported by the fact that null copulas disappear at around the same age that Root Infinitives disappear.

In order to illustrate the phenomenon of copular omission in English, we report in Table 1 some of the results of Becker 2000.

Tab.1. Omission rate in relation to predicates in the High Omission Period

	age	**nominals**	**locatives**	**adjectives**	**average**
Nina	2;0-2;6	26%	86%	47%	53%
Peter	2;0-2;3	19%	73%	58%	50%
Naomi	2;0-2;7	10%	62%	40%	37%
Adam	2;7-3;4	46%	95%	58%	66%
Eve	2;1-2;3	60%	45%	80%	62%
Tot.		**36%**	**72%**	**56%**	**53%**

Those results refer to selected files from the reported speech of five American English children and show the phenomenon at its peak[1]. I will refer to this period as the High Omission Period (HOP). One effect found by Becker and reported in table 1 is that the omission rate varies in function of the predicate class, differentiating between stage/individual level predicates. I won't talk at length about this aspect, since this distinction is not relevant for our purposes and no similar effect can be found in Italian. What is important is the magnitude of the phenomenon: if we average the omission rate across the predicate classes, we see that it ranges between the 37% in Naomi's and the 66% in Adam's production.

Those findings are in part replicated for Italian children in a recent study by Elisa Franchi (2004), who found a similar omission rate in the speech of three two-years old children, Martina, Raffaello and Rosa (CHILDES). She individuated 692 copular contexts, 235 of them without an overt copula. Those results are summarized in table 2.

Tab 2. Omissions in the production of 3 Italian children

	omission rate (n. on total)		**temporal development**	
Martina	35%	(69/197)	1;7- 1;11	**49%**
			2;1- 2;7	17%
Raffaello	27%	(30/113)	1;7- 2;4	**65%**
			2;5- 2;11	17%
Rosa	36%	(136/382)	1;7- 2;5	**81%**
			2;6- 3;3	26%
Tot	**34%**	**(235/692)**		

Table 2 gives an indication of the temporal course of the phenomenon[2], distinguishing between an early stage, that we may think as corresponding to the High Omission Period of Table 1, where omission ranges between 49% and 81%, and a later stage where omissions tend to disappear. It is worth noticing that the in the case of Raffaello and Martina, the last transcription ends before the third year of life, when omissions have not completely disappeared.

Those results take into consideration only sentences with an overt subject, leading to an underestimation of the occurrences of null copulas. This point will be made clear by considering some examples. Take the following sentences, extracted from the child corpora:

(2) a. quetto Ø Giovanni (Martina 2;7.15)
this Giovanni

b. questo Ø bianco (Raffaello 2;04.29)
this white

Those sentences require an inflected form of the verb *essere* 'to be' in order to be grammatical:

2a': questo è Giovanni
this be-3pres/s G.

2b'. questo è bianco
this be-3pres/s white

Since they are not well-formed in adult Italian, there is less doubt that they are best analyzed as genuine instances of omission. But there is also another possibility, related to the *pro*-drop nature of Italian. This language allows the subject to be left unexpressed, a fact that slightly complicate the task of individuating null copulas, since in an early grammar where both the options of having a null subject and a null copula are given, one word sentences like (3) could also be considered as omissions:

(3) *pro* Ø bianco

Since utterances such as (3) can be interpreted either as elliptical sentences or copular sentences with a *pro* subject, they have been left outfrom the count of copular omissions.

A last set of data, worth mentioning, is concerned with the lack of omissions in wh-utterances. In this syntactic contexts as shown in table 3, the percentage of null copulas is negligible, with only two cases out of more than 400 utterances.

Tab. 3. Omission in Wh-sentences

	age	n/totali	rate
Martina	1;7-2;7	1/51	2%
Raffaello	1;7-2;11	0/78	0%
Rosa	1;7-3;3	1/290	0.3%
Tot		**2/419**	**0.48%**

This fact suggests that the clause type, in this case declarative vs. interrogative, may affect the distribution of overt copulas and we may suspect that also other clausal types could have the same effect. In order to refine the omission pattern, we conducted a new analysis looking for negative contexts.

3. Asymmetry in negative sentences

Negative sentences differ from declaratives in that they need to project an extra functional head, the one which host the sentential negative marker. This trivial consideration leads us to ask if this extra projection present in the IP system may have consequences on the omission pattern.

To provide an answer to this question, the same corpora chosen by Becker and Franchi were analyzed, selecting the negative utterances characterized by the presence of the sentential negative marker *not*/*non*[3]. Between them, only the ones unambiguously identifiable as copular from the context of occurrence where taken into consideration and in the case of English an additional requirement was added: only sentences with an overt subject where included.

With those criteria, 98 negative copular sentences were found in the High Omission Period, and between them, 67 present a null copula. In (4) some example are reported:

(4) a. this not Jesus (Adam 10)
b. the dolls not in your briefcase (Eve 11)
c. this not yours (Naomi 60)

The results relative to all the five children examined are reported in table 5.

Tab. 5. Omissions in negative sentences - HOP

	nominals	**locatives**	**adjectives**	**total**
Nina	-	-	1/1	1/1
Peter	1/1	-	0/3	1/4
Naomi	-	-	2/12	2/12
Adam	23/32	1/1	16/24	40/57
Eve	15/16	1/1	7/7	23/24
Tot	39/49	2/2	26/47	**67/98**
%	80%	100%	55%	**68%**

Comparing negative with positive utterances, presented respectively in tables 5 and 1, it is clear that negation doesn't limit the distribution of null copulas in English. However, in the period under examination, only 98 negative utterances where found. In order to enlarge the database, all the files available from the corpora of the 5 children were included into the count, until the last one (if

available) where omission is attested. In this case it is possible to find 393 negative copular sentences, 84 of them with a silent copula. Table 6 summarizes those findings. It is interesting to notice that no difference related to the predicate class can be found.

Tab. 6. Omissions in negative sentences - all files				
	nominals	**locatives**	**adjectives**	**total**
Nina	3/79	1/10	3/37	7/126
Peter	3/86	0/12	2/51	5/138
Naomi	1/9	0/1	2/21	1/31
Adam	22/33	1/1	16/22	39/56
Eve	16/17	4/4	10/10	30/31
Tot	45/224	6/28	33/141	**84/393**
	20%	21%	23%	**21.4%**

Those results clearly indicate that also in negative contexts copular omissions are consistently attested in English.

Now we turn to Italian. Remember that by virtue of its *pro*-drop nature, choosing only sentences with an overt subject, we are excluding potential omissions, underestimating their occurrence. The same situation holds in the case of negative utterances. Consider the following examples:

(6) a. Gianni non ø verde
John not green

b. non verde
not green

Sentence (6a) is ungrammatical in adult Italian and can be unambiguously considered as a genuine instance of omission. In the case of (6b), instead, where the subject is left unexpressed, another option exists. In fact, (6b) is perfectly natural if considered as a normal elliptical sentence where only the negative constituent is overt. It can be felicitously uttered in response to a question, for instance. Consider the exchange in (7):

(7) A: Di che colore comprerai il cappotto?
'Of which colour will you buy the trench coat ?'

B: Non verde ~~comprerò il cappotto~~
Not green I'll buy the trench coat

It is clear that 7B is a different possible analysis for (6b). In those cases it is very hard to choose between the ellipsis interpretation and the null copula one, where 6b receives instead the following representation:

(8) *pro* non Ø verde

Including also ambiguous sentences of the kind in (6b) into the count, we may overestimate the omission rate, given that also elliptical sentences can be ascribed within the set of omissions. Nevertheless, they will be included for two reasons. The first reason is that in this way we can obviate the paucity of negative copular constructions in the corpora examined, not being forced to exclude sentences with a null subject. The second is that in this way we will maximize the omission rate in Italian, adopting the most permissive counting procedure. Remember that in English, instead, we have excluded sentences without an overt subject. In this way we can obtain the highest omission rate possible for Italian and the lowest for English[4].
The transcriptions from Martina, Raffaello and Rosa where checked for negative utterances, and then controlled in order to isolate copular ones.

Tab.7 Omissions in negative contexts. Martino, Raffaello and Rosa

	age	overt	covert
Martina	1,7 - 2,7	3	0
Raffaello	1,7- 2,11	2	0
Rosa	1,7 - 3,3	6	0
Tot		**9**	**0**

Only 11 where found, and in none of them a null copula appears. The problem is that the total number of the negative copular utterances is not enough to give us more than an indication. To enlarge the database, the transcriptions of all the other Italian children available through CHILDES where examined, plus the corpus of Lisa, provided by Flavia Adani. In this way as many as 63 negative copular contexts were attested, and none of them contained any copular omission, either of the form (6a) or (6b). Table 8 provide the results for Italian.

Tab.8 Omissions in negative contexts. 11 Italian children.			
	age	overt	covert
Martina	1,7 - 2,7	3	0
Raffaello	1,7 - 2,11	2	0
Rosa	1,7 - 3,3	6	0
Guglielmo	2;2 - 2;11	6	0
Diana	1;8 - 2;6	7	0
Viola	1;11 - 2;10	1	0
Lisa	1;5 - 2;7	4	0
Camilla	2;2 - 3;4	16	0
Gregorio	1;7 - 2;1	2	0
Marco	1;5 - 2;1	0	0
Elisa	1;10 - 2;3	16	0
Tot.		**63**	**0**

If we compare those results with the English data presented in tab. 6, a sharp asymmetry is evident: omissions are absent in Italian negative copular constructions, while they are attested in the same English constructions. Table 9 summarizes the relevant contrast.

Tab. 9. Omission in negative contexts: Italian and English		
	%	n. on total
Italian	0%	(0/63)
English	21%	(84/393)

A complex picture than emerges, which leaves us with an interesting puzzle to explain. If omission of the copula is a genuine option for early grammar, as seems to be confirmed by cross-linguistic analysis of declarative sentences, why is it the case that Italian negative sentences block this option? In the next section we will sketch a proposal that tries to unify the lack of omissions in both questions and negative utterances under the same general principle.

4. An explanation: the C-selection Parameter

It is possible that copular omission is not an isolated phenomenon in early grammar but that it follows from other general principles. In particular, since copular verbs may be considered to be the bare expression of a Tense (and Agreement) due to their inability to assign ɵ-roles, they could be omitted for whatever reason leads the children to underspecify the Tense projection (Rizzi

1994, Wexler 1998). This will explain the distribution of null copulas in both Italian and English declarative sentences. What still needs to be explained is the asymmetry found in negative contexts. The difference in the omission rate reported in tab.9 suggests that negative sentences don't constitute exactly the same syntactic context in the two languages and a different parametrical choice is already made at the age when children were investigated. Selecting the right parameter is not an easy task, but a good candidate can be the relative position of the Negative Phrase with respect to other functional projections[5]. Many authors (Laka 1990, Ouhalla 1990, Zanuttini 1997) have suggested that NegP could be realized in certain languages below the Tense projection, while in others it occupies an higher position. To illustrate this possibility, I report the following pair taken from Ouhalla 1990:

(11) a. Jan elmarlar-i ser-**me**-di-0 *TUR*
John apples-ACC like-Neg-Past-Agr

b. **Ur**-ad-y-xdel Mohand dudsha *BER*
Neg-Fut-Agr-arrive M. tomorrov

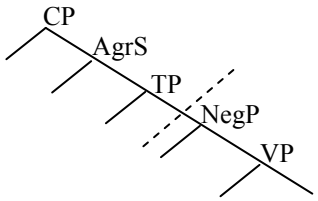
In the Turkish example in (11a) the negative marker *–me* appears closer to the verbal stem than the morpheme expressing tense *–di*. Assuming Baker's Mirror Principle (Baker, 1985), the linear order of morphemes suggests that the position where *–me* is generated is situated lower than the Tense projection. In the case of Berber in 11b, instead, the temporal morpheme *–ad* appears closer to the verbal stem than the negative morpheme *–ur*, reversing the order of the functional projections. Ouhalla takes this fact as an indication that the relative order of TP and NegP is a dimension of parametrical variation:

(12) C-Selection Parameter.
A: NegP > TP
B: TP > NegP

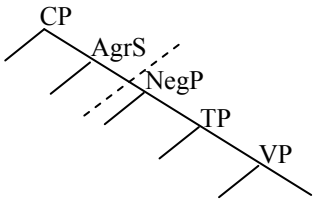
We have thus individuated one possible factor that could be useful to explain the observed contrast in negative sentences between Italian and English children. Following Chomsky (1995) and Laka (1990), we can assume that English has the parameter set on value B, while Italian, following Belletti (1990) seems to have the same parameter set on value A. The order of the two projection results opposite, a fact that, combined with a theory of acquisition along the lines of Rizzi 1994, may provide us an explanation for the omission pattern observed in negative contexts.

Rizzi proposed that children have the option not to project the whole functional structure up to CP, but to choose an arbitrary projection XP as the highest one. One important restriction is that every functional projection below XP must be present and its requirements must be satisfied. Given variation in the ordering of projections, this means that when Italian children produce negative copular sentences, they can truncate the structure right above NegP (14), but they still have TP, whose features require checking by an overt copula. On the other side, due to a different functional order, English children can truncate the structure above NegP (13), leaving aside all the other higher functional projections, includeding TP. In this case, no feature on TP exists and no overt copula is required.

(13) Eng



(14) Ita



This account also has the advantage that it explains the lack of null copulas in wh-sentences. In fact they behave as the Italian negative ones, forcing the Tense projection to be present in the syntactic representation. This explanation will be further supported if also in English wh-sentences a low rate of omission were be found, but this must be left to further research.

Conclusions

In the previous sections some new data concerning the phenomenon of null copula relative to negative contexts were presented, and it was shown that a difference between Italian and English emerges. In order to explain this difference, I assumed that a C-selectional parameter, the one regulating the structural position of NegP, presents a different setting in the two languages. This fact, combined with Rizzi's proposal that children may optionally truncate the structure lower than the CP, allows us to explain the complex omission pattern of null copulas. In particular, under this account, the optionaliy of copular omissions in declarative sentences, their ban from wh-sentences and the observed asymmetry between Italian and English negative sentences can receive a straightforward explanation.

Notes

1. The time period under exam (HOP) is delimited between the first file where copular sentences appear and the last file where the omission rate in locative constructions is attested above 50%.

2. The distinction between the two periods is made by individuating the first file where a monotonic decrease of the omission rate starts.

3. One might expect that another strategy is available to English children, namely the use of the clitic negative form "*n't*". With the exception of Eve, none of the children uses it in the relevant period, as illustrated in the following table.

Use of is/are/was/were + n't		
Nina	7-13	0
Peter	6-11	0
Naomi	35-68	0
Adam	10-28	0
Eve	15-20	9
Tot		**9**

4. This procedure, could be adopted also for declarative sentences. In this case the omission rate is slightly higher than the one presented in Table 2 (see Franchi 2004). A fact that is not crucial for the present discussion.

5. This last claim militates against the view that a universal hierarchical organization of functional heads exist. The relative position of NegP doesn't seem to be unique and also Cinque (1999) is forced to treat this projection as a special case.

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