INDEFINITES AND NEGATION: SCOPE AND WORD ORDER IN ITALIAN

The question
I investigated children's interpretation of scopally ambiguous sentences like (1):
(1) Two boys didn't hide the loot
This sentence contains a numerically quantified NP (*two*) in subject position followed by negation and can be interpreted as (1') or (1''):
(1') There are two boys that didn't hide the loot (surface scope: ∃2¬)
(1'') There aren't two boys that have hidden the loot (inverse scope: ¬∃2)
Musolino (1998 & 2000) observed an *isomorphism effect* in English children, who seem to prefer interpretation (1') over (1''). Testing a SOV language like Kannada, in which, differently from English, negation comes at the end of the sentence but, like English, it c-commands the indefinite, Musolino and Lidz (2003) and Lidz and Musolino (2006) showed that children always prefer the interpretation in which the c-commanding element takes scope over the other, independently of surface (linear) order in which these elements appear. Gualmini (2003&2006) has argued that in fact children at 4 and 5 can access the inverse scope reading when this interpretation meets the role of expectations when these are made clear in the experimental setting. I intend to contribute to the ongoing debate presenting an experimental study with Italian children. Being a non-obligatory SVO language (it allows post-verbal subject), Italian constitutes an interesting ground for testing the accessibility of both readings within the same language. Moreover, being the status of post-verbal subject in Romance languages still a matter of theoretical debate (cf. a.o. Belletti, 1999 and Cardinaletti, 1997), experimental investigations in the field of acquisition can help deciding among competing theories on this topic;

The experimental study
Material and Procedure. By means of a Truth Value Judgment Task (Crain and Thornton, 1998) , I tested two groups of children (mean age: 4,04) on the Italian equivalents of (1), reported below as (2), in which the linear order of the elements is the same as English, and (3), in which the indefinite subject appears in post-verbal position:
(2) Due bambini non hanno nascosto il tesoro   [group I]
    [lit. Two boys not have hidden the loot]
(3) Non hanno nascosto il tesoro due bambini   [group II]
    [lit. Not have hidden the loot two boys]
These sentences were heard as a description of the following story by two different groups of children: four boys with four loots are afraid of thieves and are thinking of a secure place where to hide their loots. After considering the question, only two out of the four boys actually hid the loot in the end, while the other two didn't, considering it safer to keep the loot with them. Crucially, the outcome of the story renders the sentences true under interpretation (1'), i.e. ∃2¬, and false on the other (¬∃2). Following Gualmini, we expected children at 4 to have easy access to the inverse scope reading, thus to univocally accept both sentences in the given situation, independently on c-commanding relations between the two scope-bearing elements if the context makes this reading plausible. Following Musolino and Lidz, we expected a preference for the interpretation in which the c-commanding element takes scope over the other. This amounts to make a clear-cut prediction in case of sentence (2), for which interpretation (1'), i.e. ∃2¬, should be preferred, but to leave the question open in case of sentence (3), for which the syntactic configuration is yet under theoretical debate.
Results. Interestingly, we found that children in the two groups behave differently: children in group I accept sentence (2) most of the times in the given context (70%) (and correctly pointed to the two boys that didn't hide the loot when asked to show the puppet which (boys)); on the contrary, subjects in group II split, and only 43,8% accept sentence (3) and

pointed to the correct set of characters. The difference is statistically significant ($\chi^2(1, 88)=6.09$, p<.01). Crucially, both groups show to have equal access to the alternative reading, i.e. $\neg\exists 2$, given that this interpretation was selected (yielding a "no" response) 20% and 16,7% of the times for group I and II respectively ($\chi^2(1, 88)=.16$, p=.68, n.s.). A difference between the two groups is instead observed in the incidence of "random" responses, i.e. those cases in which the child selects a "yes" or "no" answer but in fact provides an explanation inconsistent with her answer. For example, when a child says "no" to sentence (2) but then explains her answer by pointing to the set of boys that actually hid his loot. These "random" answers were given only 4 out of 40 items in group I (10%) but 19 times out of 48 items for group II (39,6%), and this difference is statistically significant ($\chi^2(1, 88)=9.89$, p<.001).

Conclusion

The results obtained so far seem to highlight an intrinsic difficulty for 4 year old children to process sentences in which the subject appears in post-verbal position. Moreover, considering the preference for the isomorphic reading observed by Musolino and Lidz (2006), and the results obtained by Gualmini (2003) with non-isomorphic interpretations, our results seem to suggest that in fact sentences (2) and (3) have different syntactic representations, and that Italian children show difficulty in interpreting sentences like (3) in which the subject appears in post-verbal position. Given that, so far, little experimental work has been conducted with Italian children on the comparison of pre- and post- verbal subject constructions, we are currently pursue the investigation further to address this issue in more detail.

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