

Acquisition and parsing of Focus movement in Italian: the role of prominence and agreement morphology .

Focus movement in Italian generates non-canonical word-orders. One of them is the string $NP_1 NP_2 V$. Two constituents are fronted at the beginning of the clause and the word order is compatible with both the SOV and the OSV interpretations. In this study, we investigate adults' and children parsing strategies by manipulating prosodic prominence and the S-V agreement features.

Italian is a SVO language. Yet a layer of functional projections in the CP system (Rizzi 1997) can be activated to interface overt syntax with Information Structure (Chafe 1976, Krifka & Fery 2008). A consequence of this is that the canonical word order in (1a) can be subverted. Assuming that two TopicPs exists, one above and one below FocusP, in (1b-c), a focused object can be preceded (1b) or followed (1c) by a topicalized subject:

- (1) a. La tigre ha battuto la zebra SVO
 "the tiger defeated the zebra"
 b. [_{TopP} la tigre_a [_{FocP} LA ZEBRA_b [_{IP} t_a ha battuto t_b]]] SOV
 c. [_{FocP} LA TIGRE_b [_{TopP} la zebra_a [_{IP} t_a ha battuto t_b]]] OSV

Sentences (1b-c) are the same string $NP_1 NP_2 V$. They vary, however, for the position of prosodic prominence: prominence is on the second NP in (1b) and on the first NP in (1c). Prosodic prominence here is defined through the L+H* contour (Bocci, 2013). Notice that, if prominence is removed, the two strings become virtually indistinguishable and there would be no cue indicating what is the theta-role assigned to NP_1 or NP_2 . Although sentences of the kind in (1b-c) are informative on the complex relation between Prosody, Information Structure and Syntactic movement, they did receive little attention in the literature. We designed a new experiment to answer two preliminary research questions: A) Is there any parsing preference between the SOV and the OSV word orders? B) How such preference, if any, can be overridden by prosodic or morphological cues?

The experiment: We exploited the potential ambiguity of the string $NP_1 NP_2 V$ to assess the role played by agreement morphology and prosody in directing the sentence's interpretation. We used a 2 (Group: Adults, Children) X 2 (Morphology: +, - agreement mismatch) X 2 (Prominence: NP_1 , NP_2) design based on a Truth-Value Judgment Task (Crain & Thornton 1998). **Participants.** 11 children (M 5;6 (5;3 -5.11)) and 10 adults. **Method.** Participants saw 20 short stories on a computer screen where some animals were challenging each other. In one of the story, illustrated in Fig.1, the goal of the game was to collect as many balls as possible. The outcome was that the tiger defeated both the giraffe and the zebra while the giraffe defeated the zebra only. At this point, participants heard a recorded dialogue between two characters in which the second character corrected the first. Contrastive Focus prominence was always on the object but the position of the object was varied between NP_1 and NP_2 . We uses the condition (SOV, -AGR) to illustrate:

- (2) Character A: la giraffa ha battuto la tigre
 "the giraffe defeated the tiger"
 (3) Character B: No! LA ZEBRA la giraffa ha battuto
 a. "No! *the giraffe defeated the zebra*" True under OSV
 b. *"No! *the zebra defeated the giraffe*" False under *SOV

Participants had to judge Character B's sentence. If participants correctly identified the focused object, they were expected to judge (3) true. A False answer would instead indicate a preference for the infelicitous interpretation (3b). The four experimental conditions are reported in Table 1. **Results.** A preference for the SOV word order (Topic Focus Verb) was found in both groups (Fig.1). Agreement mismatch was a powerful cue for adults, overriding the preference for SOV. For children, instead, a sharp preference for SOV remains also in presence of an agreement mismatch (Fig.2). The mixed model in table 2 confirms this observation with a main effect of word order and agreement with a marg. significant main effect of group and interaction between group and agreem.

Discussion: in relation to our research questions, we found that A) a preference for SOV exists and that B) such a preference can be almost completely overridden by morphological cues in adults but not at age five. These results will be further discussed in relation the form of movement chains and to the focus-background partition of the discourse.

Fig. 1. Scenario with no Agreement mismatch

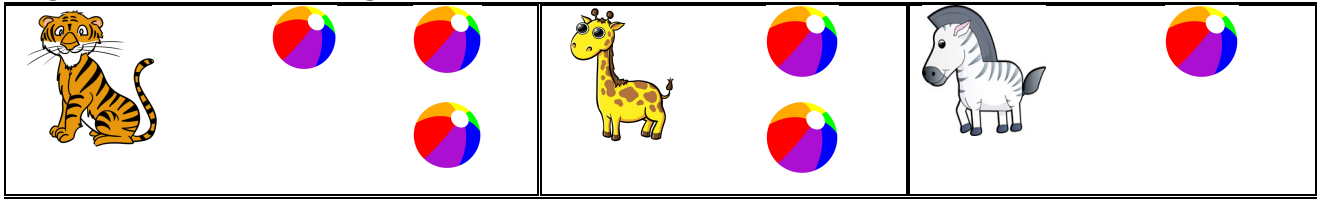


Fig. 2. Scenario with Agreement mismatch

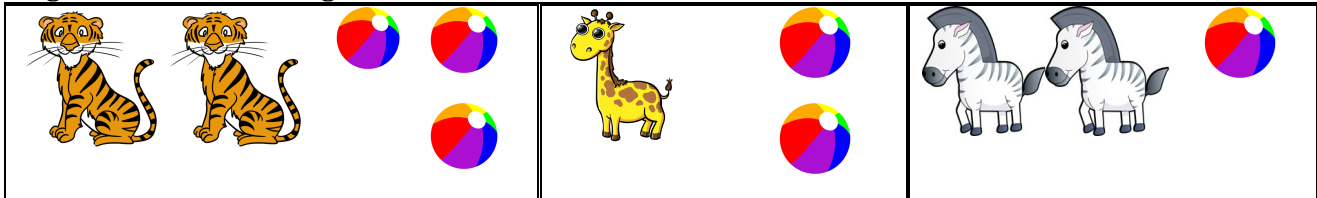


Fig.3. No agreement mismatch. Proportion of TVJs compatible with the SOV or SVO interpretation.

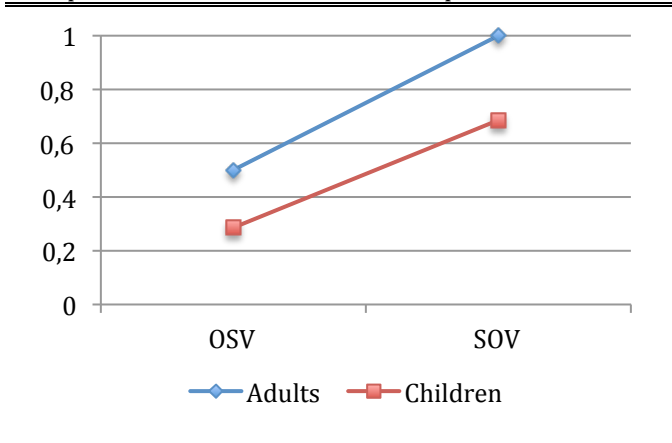


Fig.4. Agreement mismatch. Proportion of TVJs compatible with the SOV or SVO interpretation.

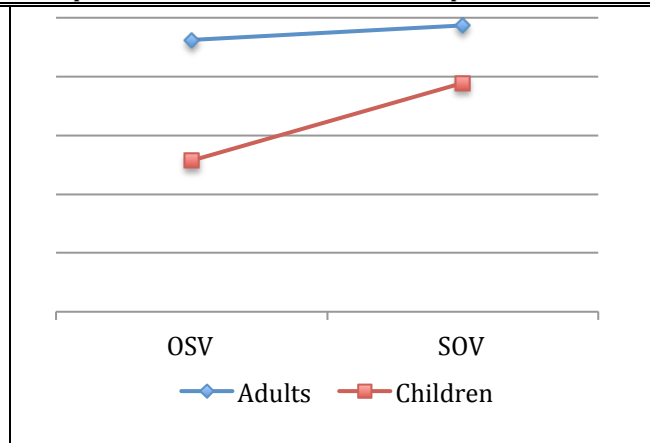


Table 1. Experimental conditions.

| Conditions | Test sentences | TV |
|----------------|------------------------------------------------------------------------------------|--------------|
| 1 (SOV, - Agr) | No! la giraffa _{sing} LA ZEBRA _{sing} ha _{sing} battuto | SOV=T; OSV=F |
| 2 (OSV, -Agr) | No! LA GIRAFFA _{sing} la zebra _{sing} ha _{sing} battuto | SOV=F; OSV=T |
| 3 (SOV, + Agr) | No! la giraffa _{sing} LE ZEBRE _{plur} ha _{sing} battuto | SOV=T; OSV=F |
| 4 (OSV, +Agr) | No! LE ZEBRE _{plur} la giraffa _{sing} ha _{sing} battuto | SOV=F; OSV=T |

Table 2. Mixed effect model. Formula in R: lmer(correct~group*agr*WO+(1|item), family=binomial)

| | Estimate | Std. Error | z value | Pr(> z) | |
|---------------------------|----------|------------|---------|----------|----|
| (Intercept) | -0.9163 | 0.3742 | 2.449 | 0.01433 | * |
| Group: children vs adults | 0.9163 | 0.4899 | 1.870 | 0.06143 | . |
| Agreement: +agr vs - agr | 0.9735 | 0.5044 | 1.930 | 0.04960 | * |
| Word Order: SOV vs OSV | 1.6965 | 0.5221 | 3.249 | 0.00116 | ** |
| Group*Agr | 1.5388 | 0.8454 | 1.820 | 0.06873 | . |

Selected references: Bocci, G. (2013). *The Syntax-Prosody Interface from a Cartographic Perspective: Evidence from Italian*. Amsterdam: John Benjamins. Chafe, W. L. (1976), *Givenness, contrastiveness, definiteness, subjects, topics and point of view*, in Charles N. Li, *Subject and Topic*, New York, Academic Press, 27-55. Féry, C. & M. Krifka. (2008). Information structure, Notional distinctions, ways of expression. In Piet van Sterkenburg (ed.), *Unity and diversity of languages*, 123-136. Amsterdam: John Benjamins. Rizzi, L. (1997). The Fine Structure of the Left Periphery, in L. Haegeman (ed.), *Elements of Grammar*, Kluwer, Dordrecht.