

Negated disjunctive statements: the Italian perspective

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This paper investigates the comprehension of negated disjunctive statements in Italian-speaking children and adults. We conclude (1) that OR is a positive Polarity Item (PPI) taking scope over clause mate negation, and (2) that two groups can be identified at age 5: one that takes OR to be a PPI, just as adults do, and one that takes OR to be interpreted *in situ*, in compliance with the Semantic Subset Principle (SSP) (Crain 2012). We propose that early convergence to the adult grammar is influenced by the negative concord status of Italian, and by the pattern of agreement in negative disjunctive statements.

Following Szabolcsi (2002), Goro (2004) and Crain (2012) proposed that scope relations between negation and disjunction is governed by a lexical parameter (the Disjunction Parameter), whereby OR can be a \pm PPI. In languages like English, OR is a -PPI. When OR is in the scope of the negation, as in $\neg(A \vee B)$, the sentence yields a conjunctive entailment, $\neg A \wedge \neg B$. In contrast, in Mandarin and Japanese disjunction OR is +PPI, taking scope over clausemate negation, such that sentences of the form $\neg(A \vee B)$ are analyzed as $\neg A \vee \neg B$. Disjunctive sentences in -PPI languages are true in a subset of the circumstances, as compared to languages where OR is +PPI. To avoid a learnability problem, Crain (2012) assumes that children initially take OR to be a -PPI, enabling them to revise this initial setting based on positive evidence. Goro (2004) demonstrated that 5-year-old Japanese children conform to this prediction, such that they behave in the same way as English adults and children, i.e., they generate a conjunctive entailment for sentences of the form $\neg(A \vee B)$ (cf. Crain 2012, for Mandarin).

In the light of previous research, the present study sought to determine, first, whether OR is +PPI for adults and, if so, whether children start by assuming that OR is -PPI, like their Japanese and Mandarin-speaking peers, i.e., rejecting sentences of the form $\neg(A \vee B)$ in contexts in which when only one disjunct is true. The first experiment was modelled on Goro (2004). We found that the 13 Italian-speaking adults we tested accepted sentences of the form $\neg(A \vee B)$ 100% of the time when only one disjunct, and rejected these sentences 100% of the time when both disjuncts were true. We conclude that OR is +PPI in adult Italian. At the same time, adults rejected conjunctive statements, $\neg(A \wedge B)$, 92% of the time when only one conjunct was false and accept them 100% of the time when both conjuncts were true. The experiment with children revealed that 5-year-olds behaved in the same way as adults in responding to negative sentences with conjunction, but children split into two groups in responding to negative sentences with disjunction. One group ($n = 10$) was adult-like, but the other group ($n = 7$) rejected the test sentences when only one disjunct was true (another 3 children produced a mixed pattern). Statistical analysis using R revealed no Group differences, but significant differences between conditions. The findings indicate that children distinguish between OR and AND, and that some children at least conform to the SSP. However, 10 children were already adult-like. In this respect, our results differ from those of Goro's (2004). Apparently Italian-speaking children more rapidly revert to the adult setting of the Disjunction Parameter. To understand why, we repeated the experiment, but removed all the AND items, on the grounds that these items might have influenced children's interpretation of OR statements. However, the findings of the second experiment were similar to those of the first experiment. Why do Italian children converge earlier to the relevant value of

the parameter? We propose two related facts. One is the fact is that Italian is a negative concord language, and the other is that the interpretation of negative statement is influence by verb inflection. Consider (1) and (2), in which the postverbal subject trigger or not agreement on the verb.

- (1) Alla festa non sono venuti Gianni o Maria
To the party NOT are came-PL John and Mary
John and Mary have not came to the party
- (2) Alla festa non è venuto Gianni o Maria
To the party NOT is came-PL John and Mary
John and Mary has not came to the party

Example (1), with plural agreement on the verb, generates a conjunctive entailment. Example (2), with singular agreement on the verb, conveys the meaning that one of the two individuals failed to come. It is possible, therefore, that inflectional morphology on the verb plays the same role as morphological case in Turkish, where OR scope over negation only when NPs are case marked (Geçkin, Crain and Thornton 2015).