

The Acquisition of Negated Disjunction: Evidence from Italian, French and Dutch

Introduction. We investigated the interpretation of sentences with negated disjunction “NOT A or B” in Italian, French, and Dutch learners. Our findings provide further support for the Semantic Subset Principle that explains children’s initial non-target-like interpretation of such sentences (Crain et al., 1994; Goro & Akiba, 2004; Notley et al., 2014). Moreover, Italian and French children converge to the adult setting earlier than their Japanese and Mandarin peers. We argue that the presence of negative concord in Italian and French plays a role here.

Background. English sentences like (1a) generate a conjunctive entailment—they are true in a situation where the cat did not eat either veggie. In contrast, in Japanese this entailment does not arise: sentences like (1) are true in three situations: a) no veggie was eaten, b) the carrot is not eaten, b) the pepper is not eaten. Goro (2007) and Crain (2012) propose that this cross-linguistic variation is determined by the Disjunctive Parameter: in English OR is a non-positive polarity item (–PPI) and scopes under negation (NEG>OR), whereas in Japanese OR is a +PPI and scopes over negation (OR>NEG) (Szabolcsi, 2002). Situations in which sentences with OR = –PPI are true form a subset of situations in which sentences with OR = +PPI are true. Crain argues that child grammar obeys the Semantic Subset Principle: children initially take OR to be a –PPI (the subset value); they revise this initial setting on the basis of positive evidence. Goro supports this prediction with 5-yo Japanese children, who generate a conjunctive entailment for sentences such as (1) like English speakers. Our study seeks to extend the cross-linguistic basis of the Subset Principle by testing its predictions in learners of three new languages—Italian, French and Dutch—two of which are typologically different from those already studied in that they are negative concord languages.

Our study. 61 children (18 Italian, M=5;02; 23 French, M=5;03; 20 Dutch, M=4;10) and 38 adults (12 French, 14 Italian and 12 Dutch) participated in a TVJ task modeled after Goro & Akiba (2004) with sentences like (1) in 3 conditions: (i) Silver Medal (only one veggie is eaten), (ii) Sad Face (no veggie is eaten) and (iii) Gold Medal (both are eaten). The crucial condition was Silver: if children interpret OR as a –PPI (as in English), they should *reject* this situation in all three languages. **Results.** Dutch children and adults consistently rejected the Silver condition, generating a conjunctive entailment. Some Italian and French children behaved like Dutch children and adults, suggesting that they have the subset value of the parameter, similar to Japanese and Mandarin children in previous studies. Other Italian and French children, however, accepted the Silver condition, with disjunction taking scope over negation, like the adults in these languages. Mixed-model logistic regression analyses on the Silver responses (fixed effects: *language*, *age*; random effects: *item*, *subject*) revealed two main effects: (i) Language: Italian and French participants were more likely to accept the Silver medal condition than Dutch ones ($p < .01$); no significant difference between French and Italian. (ii) Age: children significantly differed from adults ($p < .001$). No significant interaction. **Conclusion.** 4-5-yo Dutch, Italian and French children comply with the Semantic Subset Principle when acquiring negated disjunction: they interpreted sentences like (1) either like the adults of their language (Dutch) or like the adults of a “subset” language (French and Italian). Some French and Italian children have already converged on the adult grammar, in contrast to their Japanese and Mandarin peers. This presents a novel finding in the developmental track of negated disjunction. We propose that this earlier acquisition in French and Italian derives from the fact that these languages, unlike Japanese, are negative concord languages and express the conjunctive entailment reading with another form: French: NEG ... *ni... ni*; Italian: NEG... *né...né*, (2). This alternative blocks the NEG>OR interpretation for (1b-c) and as such offers a cue to trigger the superset value of the Disjunction Parameter for French and Italian OR. Preliminary evidence from Italian learners shows that they indeed interpret *né... né* sentences in (2a) like adults.

- (1) a. The cat did **not** eat the carrot **or** the pepper. *English*
 b. Il gatto **non** ha mangiato la carota **o** il peperone. *Italian*
 c. Le chat n'a **pas** mangé la carotte **ou** le poivron. *French*
 d. De poes houdt **niet** van wortel **of** paprika. *Dutch*
 the cat loves not of carrot or pepper
- (2) a. Il gatto **non** ha mangiato **né** la carota **né** il peperone. *Italian*
 b. Le chat n'a mangé **ni** la carotte **ni** le poivron. *French*
 the cat NEG ate neither the carrot neither the pepper

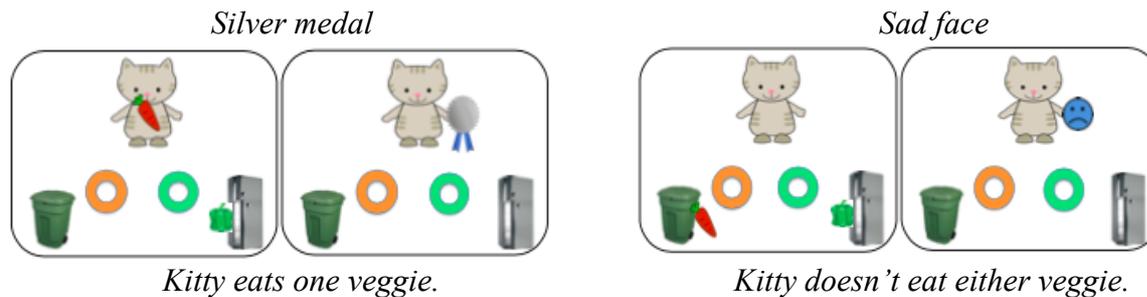


Figure 1. Samples of the Silver medal condition (left) and the Sad face condition (right).

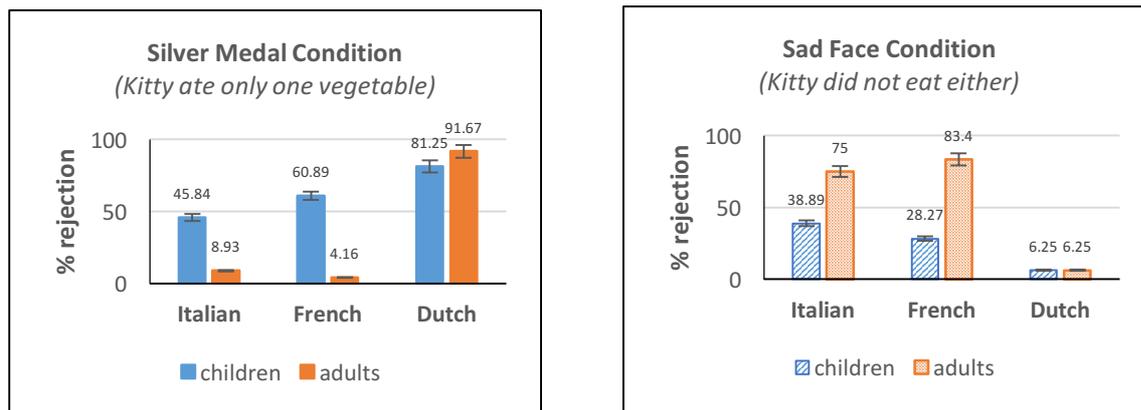


Figure 2. Mean percentages of rejection in the Silver Medal and Sad Face conditions. Error bars represent percentage error.

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