

Isolating a single word's pragmatic contribution: The French answer *Si* in response to a negative question

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The phenomenon and theoretical background

Negative questions are prone to producing ambiguity. To illustrate, imagine Michelle who, asks (1) to her new colleague, Barack (or 1' in French):

(1) Do you not eat meat? (1') *Vous ne mangez pas de viande ?*

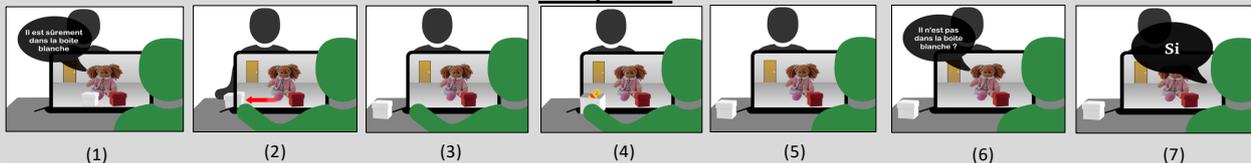
Conventional response particles that affirm (*Yes, Oui*) or negate (*No, Non*) prompt ambiguity when used to answer negative questions. Interestingly, several languages have particles that transcend these issues through a *contrapositive* (Choi, 1991). If the above exchange were to take place in European French (1') and Barack does indeed eat meat, his natural response would be *Si*.

Two semantic accounts of answering systems (Farkas and Bruce, 2010; Krifka, 2013) assume that contrapositives encode a disharmony (a "reverse" or "rejection", respectively) between the literal information in the antecedent sentence (e.g. in the question of 1') and reality. However, this appears to go counter to *Si*'s affirmative polarity. In our view, (an adult) *Si* has two pragmatic components that are unflagged in the semantic accounts. One is to *draw out and maintain* the affirmative from the inquirer's negative question (see Tian & Breheny, 2016). The other is that the *Si* commits the answerer to *agreeing* with that emerged affirmative. In other words, contrapositive answers incorporate pragmatic information. If we are right, this pragmatic information will manifest itself as it does in the extant experimental pragmatic literature: A *Si* response will be associated with a) extra cognitive effort and with b) children becoming more pragmatic with age.

Paradigm

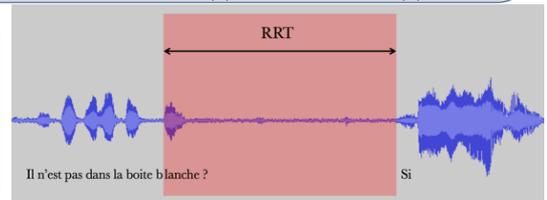
- We set up a game in which participants search for a candy hidden in one of two covered boxes (e.g., a white or red box); both start on a screen (see 1 below).
- A puppet makes two statements. The first is a belief state (again, see 1). The puppet asserts either (a) an Affirmative belief (e.g. *It is surely in the white box*); (b) a Negative belief (e.g. *It is surely not in the white box*), or; (c) a Neutral belief (*I don't know where it is*). This follows work from Schmerse et al. (2013).
- One of the boxes appears to slide off the screen (through experimenter intervention) and on to the table (panels 2-3). The participant inspects the emerged box and places it back down re-covered (panels 4-5). The on-screen puppet then asks an affirmative or negative question (panel 6), e.g. *Il est/n'est pas dans la boîte blanche?* [*It is (not) in the white box?*]. In the trial below, the puppet begins with an affirmative belief, the participant finds a candy in the emerged box, and the puppet asks a negative question before the participant typically provides a *Si* response (see the last panel).
- The trial below is exemplary of the Negative (question)-*Si* (NS) condition. Controls were Affirmative-*Oui* (AO), Affirmative-Non (AN) and Negative-Non (NN).

Example trial



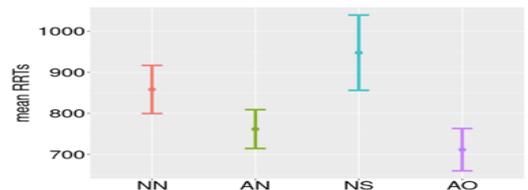
Dependent Measures

Aside from rates of appropriate responses (which were around 95%), our main dependent variable is the participant's *Response Reaction Time*, or *RRT*. This is determined by measuring latency (via Audacity software) between the earliest moment there is enough information to answer, i.e. at the start of mentioning the disambiguating box color (e.g., *BL...* in "boîte blanche"), and the moment the participant voices a response. We assume that the RRT incorporates comprehension of the incoming question and that the three types of responses (*Oui*, *Non* & *Si*) are equally available.



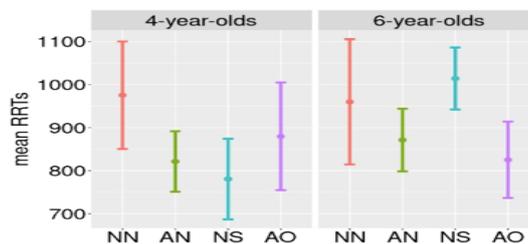
Experiment 1's Main Findings

Experiment 1 included 41 Adults and 27 6-year-olds. The two age groups' rates of accurate responding were comparable as were their *patterns* of RRT across conditions. The only developmental difference was that the 6-year-olds were consistently slower than the adults. We thus combined the latency data across ages and confirmed that the NS condition was the slowest of the four (see Figure on right). This is a novel finding. In similar classic studies that do not offer a *Si*-like option, e.g. Clark & Chase (1972), NN-type responses are slowest.



Experiment 2's Main Findings

In an effort to uncover developmental effects, Experiment 2 investigated (21) 4-year-olds who were compared to the 6-year-olds. While rates of accuracy were comparable across the two ages, the RRT results were remarkable. As can be seen here, the 4-year-olds' responses were comparable to the 6-year-olds' across the three control conditions (AO, AN, and NN). However, the 4-year-olds' NS responses were *fastest* (in fact, of all three age groups). This indicates that the youngest know that the *Si* response is appropriate in the context of a negatively polarized question; nevertheless, they do not fully appreciate its pragmatic potential. In our view, the youngest children are applying a semantic representation, i.e. they are not addressing the questioner's implicit affirmative proposition.



Conclusions

- This study used natural responses and latencies to show that a *Si* response enjoins pragmatic processes in adult-like responding.
- Adults and 6-year-olds reveal that effortful pragmatic inference-making arises when *Si* is called for, indicating that a pragmatic procedure is ultimately part of its meaning.
- Four-year-olds' fast *Si* responses indicate that they do not incorporate a pragmatic procedure, pointing to their use of a semantic representation.
- The semantic-cum-pragmatic reading of *Si* with age makes it compatible with many developmental pragmatic phenomena (starting with Noveck, 2001).
- These data force one to consider that mature uses of a single word -- the response *Si* -- intrinsically depend on pragmatic components, in line with Grice's proposal on conventional implicatures.

References

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