

# INTERDISCIPLINARY APPROACHES TO LANGUAGE AND ITS USE

## Experimental evidence: Huang & Snedeker 2011

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# **BACKGROUND HYPOTHESIS**

## Theoretical premises

SEMANTIC MEANING is computed based on form (phonemes, morphemes, words, phrases, sentences).

PRAGMATIC MEANING is computed based on form, semantic meaning, and on extra-linguistic factors.

## Consequence for processing

Semantic meaning should be processed faster than pragmatic meaning.

- Pragmatic meaning is based on semantic meaning.
- Pragmatic meaning is based on a broader range of factors.

## **STUDY**

Huang, Yi Ting and Jesse Snedeker. 2011. *Logic and conversation* revisited: Evidence for a division between semantic and pragmatic content in real-time language comprehension. *Language and Cognitive Processes* 26(8), 1161–1172.

# QUANTITY, RELEVANCE, QUALITY, AND SCALAR IMPLICATURE

(1) *Situation*: Boy finished the ice cream sandwiches.

Mother: Did you finish the ice cream sandwiches?

Son: I ate some of them.

'Son ate some **and possibly all** of them.'

SEMANTIC MEANING

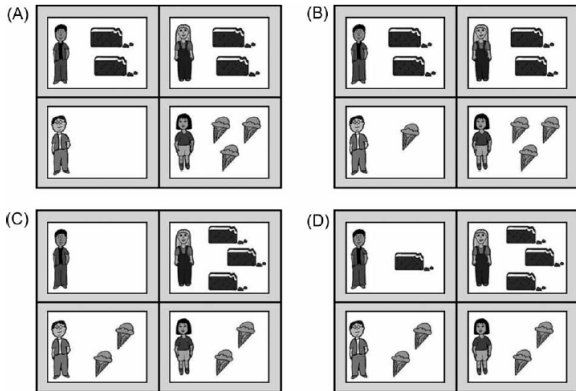
'Son and some **but not all** of them.'

+ SCALAR IMPLICATURE

- Make your contribution **maximally informative** (quantity), **relevant** (relevance), and **true** (quality).
- In reality, the son's semantic answer is relevant, true, but not maximally informative.
- Deriving the **scalar implicature**:
  - The mother can assume that the son is cooperative and respects the maxims.
  - If the son respects quantity, then he would have said that he ate all of the sandwiches.
  - Because he didn't say that, the mother draws the scalar implicature that he didn't in fact eat all of the sandwiches.
- Processing: semantics faster than pragmatics

# MATERIALS

(2) Point to the girl that has (A) **some** / (B) **two** / (C) **all** / (D) **three** of the ice cream sandwiches.



**Figure 1.** Examples of visual-world displays for (A) some, (B) two, (C) all, and (D) three trials. Participants here were instructed to “Point to the girl that has \_\_\_\_ of the ice cream sandwiches.” The girl with ice cream sandwiches was the Target while the girl with ice cream cones was the Distractor.

# METHOD, DEPENDENT VARIABLE, AND PREDICTION

**Method:** eye-tracking

**Dependent measure:** higher-than-chance gaze at the Target

**Prediction:** If deriving a scalar implicature takes time and if the 'some but not all' meaning of *some* is derived as a scalar implicature, then the participants will need more time to find the Target in the *some* condition than in the *all* condition.

# RESULT

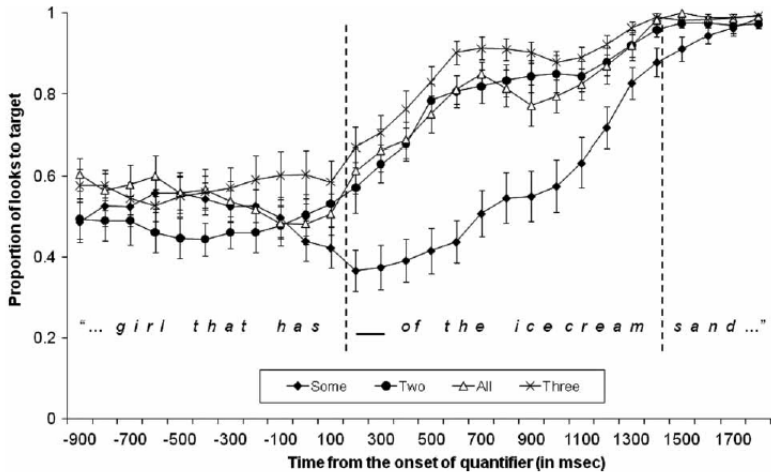


Figure 2. The time-course of looks to target for the four trial types.

## **READING TIP**

Breheny, Richard. 2019. Scalar implicatures. In Chris Cummins and Napoleon Katsos (eds.), *The Oxford handbook of experimental semantics and pragmatics*, 39–61. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780198791768.013.4>



# REFERENCES

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- Breheny, Richard. 2019. Scalar implicatures. In Chris Cummins & Napoleon Katsos (eds.), *The Oxford handbook of experimental semantics and pragmatics*, 39–61. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780198791768.013.4>.
- Huang, Yi Ting & Jesse Snedeker. 2011. *Logic and conversation revisited: Evidence for a division between semantic and pragmatic content in real-time language comprehension.* *Language and Cognitive Processes* 26(8). 1161–1172. <https://doi.org/10.1080/01690965.2010.508641>.