Implicature Calculation, *only*, and lumping: another look at the puzzle of disjunction

Danny Fox, MIT

The Neo Gricean account of scalar implicatures: Principles of communication allow the listener to infer (upon hearing (1))) that unless the speaker believed that (1)alt) were false, the speaker would have uttered (1)alt).

(1) John did some of the homework.

(1)alt) John did all of the homework.

Since the speaker didn't make this alternative utterance, it fallows that the speaker believes that (1)alt) is false.

Derived Implicature: (S believes) it's not the case that John did all of the homework

The Puzzle of Disjunction:

(2) John did the reading or some of the homework.

By parity of reasoning: Principles of communication should allow the listener to infer (upon hearing (2))) that unless the speaker believed that (2)alt) were false, the speaker would have uttered (2)alt):

(2)alt) John did the reading or all of the homework.

Since the speaker didn't make this alternative utterance, it should fallow that the speaker believes that (2)alt) is false.

Derived Implicature: (S believes) it's not the case that John did the reading or all of the homework.

Problem: $\neg(p \vee q) \equiv \neg p \wedge \neg q$; although we get the correct implicature that John didn't do all of the homework, we also get the incorrect implicature that John didn't do the reading (cf. Chierchia, Schwarz, and Sauerland, among others).

1.2. The proposal (in a nutshell)

- There is a systematic way to state the "scalar implicature" of a sentence explicitly: append the focus particle *only* to the sentence and place focus on scalar items.

(3) John did some of the homework.
Implicature:
John only did SOME of the homework.

For all of the alternatives to 'some', d,
if the proposition that John did d of the homework is true,
then it is entailed by the proposition that John did some of the homework.

(4) John bought three houses.
Implicature:
John only bought THREE houses.

For all of the alternatives to 'three', n,
if the proposition that John bought n houses is true
then it is entailed by the proposition that bought 3 houses.

(5)) John talked to Mary or Sue.
Implicature:
John only talked to Mary OR Sue.

For all of the alternatives to 'or', con,
if the proposition that John talked to Mary con Sue is true
then it is entailed by the proposition that John talked to Mary or Sue.

Note: alternatives to a scalar item must be the other members of the Horn-Scale.

- Exactly the same problem arises in the semantics of *only*:

(6)) Speaker A: John did the reading or some of the homework.
Speaker B: Is it possible that he did all of the homework.
Speaker A: No. he only did the reading or SOME of the homework.

For all of the alternatives to 'some', d,
if the proposition that John did the reading or d of the homework is true
then it is entailed by the proposition that John did the reading or some of the homework.

(7)) Question under discussion: Who is responsible for the fact that various things are missing from the kitchen, among them the ice cream and the candy?
A: I know that John ate the candy or some of the ice cream.
B: Do you think he might have eaten all of the ice cream?
A: No, he only ate the candy or SOME of the ice cream.

- There is a solution in the case of *only*, based on the notion of lumping developed in work by Kratzer (1988). This solution can be carried over to the problem with implicatures if we derive implicatures in a parallel fashion to the way we derive the semantics of sentences with the focus particle *only*, i.e., if implicatures are derived in the semantics rather than the pragmatics.

Consequence: We will have a new argument in favor of a proposal for the semantics of scalar items along lines suggested in Groenendijk and Stokhof (1984) and Krifka (1995). According to such a proposal the interpretation of scalar items does not involve "Scalar Implicatures" but is rather the result of systematic semantic ambiguity (cf. Chierchia 2000, and van Rooy 2002). The source of the ambiguity is a covert exhaustivity operator, akin to *only*, which is optionally appended to various syntactic constituents.