All, *most*, and *some*: A case study in scalar implicature

Observation #1: uttering any of the *most*-sentences in (1a)–(3a) will typically convey the corresponding *not…all*-sentence in (1b)–(3b).

(1) a. Betty ate most of the cookies.
b. Betty didn't eat all of the cookies.

(2) a. Most of the students did well on the homework.
b. Not all of the students did well on the homework.

(3) a. I gave most of my books to Don.
b. I didn't give all of my books to Don.

Question: how does this happen? Two options to consider:

Option #1: the literal meaning of the *not…all*-sentence is part of, or "contained" in, the literal meaning of the *most*-sentence.

- literal meaning of *most of the Xs* = 'a majority of the Xs, but not all of the Xs'

Entailment as a tool for investigating the literal meaning of a sentence: if the literal meaning of (1a) "contains" the literal meaning of (1b), then (1a) should entail (1b), and likewise for (2) and (3).

(4) a. Betty ate most of the cookies. In fact, she ate all of them.
non-deniability: (4a) is not contradictory, so (1a) does not entail (1b)
b. Betty ate most of the cookies. But she didn't eat all of them.
redundancy: (4b) is not redundant, so (1a) does not entail (1b)

Conclusion: the literal meaning of the *not…all*-sentence is not part of the literal meaning of the *most*-sentence.

- literal meaning of *most of the Xs* = 'a majority of the Xs, ~~but not all of the Xs~~'
= 'a majority of the Xs'

Option #2: the *not…all*-sentence forms part of what the speaker ordinarily intends to convey when s/he utters the *most*-sentence.

Recall our earlier distinction between literal meaning and speaker meaning:

- **literal meaning (domain of semantics):** information about the world that a sentence conveys through the conventional meanings of its words alone

- **speaker meaning (domain of pragmatics):** information about the world that a speaker intends to convey by uttering a particular sentence, and which often contains much more than just the literal meaning of that sentence

Conversational implicatures belong to speaker meaning, not literal meaning: they are not entailments of what the speaker uttered, but they are nonetheless part of the message that the speaker intends to communicate.

(5) **Pete:** Should we stop in for a drink?
Nora: I have to be at work by 7am tomorrow.

Implicature of Nora's response: I don't want to stop for a drink.

Question: does the utterance of a *most*-sentence conversationally implicate its corresponding *not...all*-sentence?

If it does, then we should be able to demonstrate the following:

- the *not…all*-sentence is not an entailment of the *most*-sentence (see (4))
- a competent hearer can construct a plausible chain of reasoning that leads from the literal meaning of the *most*-sentence, along with the speaker's presumed cooperativity, to the *not…all*-sentence
(conversational implicatures must be **calculable)**

Observation #2: an *all*-sentence (no *not*) entails its corresponding *most*-sentence, but not vice versa. (The *all*-sentence **asymmetrically entails** the *most*-sentence.)

(6) a. Betty ate all of the cookies.
b. Betty ate most of the cookies.

(7) a. #Betty ate all of the cookies. But, she didn't eat most of them.
non-deniability: (7a) is contradictory, so (6a) does entail (6b)
b. #Betty ate all of the cookies. In fact, she ate most of them.
redundancy: (7b) is redundant, so (6a) does entail (6b)

(8) a. Betty ate most of the cookies. But, she didn't eat all of them.
non-deniability: (8a) is not contradictory, so (6b) does not entail (6a)
b. Betty ate most of the cookies. In fact, she ate all of them.
redundancy: (8b) is not redundant, so (6b) does not entail (6a)

Claim: Observation #1 is true because Observation #2 is true.

Observation #3: if one sentence asymmetrically entails another sentence, then the first one provides more information than the second one does.

- *A* entails *B*: *A* contains all of the information that *B* does
- *B* does not entail *A*: *B* does not contain all of the information that *A* does, i.e., some of the information that A conveys is not also conveyed by *B*

Observation #3 is an important one, and so it is worth looking at other examples that illustrate the same point. In (9) and (10), the (a)-sentence asymmetrically entails the (b)-sentence, and the (a)-sentence clearly provides more information:

(9) a. Mabel ate oatmeal for breakfast this morning.
b. Mabel ate breakfast this morning.

(10) a. Roger and Joan left the hotel.
b. Roger left the hotel.

Question: why would a cooperative speaker choose to utter *Betty ate most of the cookies* instead of the more informative sentence *Betty ate all of the cookies*?

Answer: the speaker needs to balance the competing demands of two maxims.

- **Quantity:** provide as much information as you can...
- **Quality:** ...but don't utter something that you know or believe to be false.
- cooperative speaker will provide as much truthful information as s/he can
- since the speaker did not utter the more informative *all*-sentence, s/he must not believe that the *all*-sentence is true: otherwise, the maxim of Quantity would demand that s/he utter the *all*-sentence instead!
- so, the speaker's utterance of *Betty ate most of the cookies* implicates the denial of *Betty ate all of the cookies*, in other words, *Betty didn't eat all of the cookies*

Knowledge that the hearer must possess in order to calculate the implicature:

- knowledge of literal meaning: *all* asymmetrically entails *most*
- knowledge of the conversational maxims: cooperative speakers will try to obey both Quantity and Quality as best they can

Recall our distinction between two types of implicatures:

- **particularized conversational implicature:** one that depends on special features of the conversation, or specific facts/assumptions about the world
- **generalized conversational implicature:** one that arises "by default"—does not depend on any special features of the conversation, or specific facts/assumptions about the world

Moral of the story: some generalized conversational implicatures are so widespread that we feel as though they must belong to the literal meanings of sentences. But, once we investigate linguistic meaning more precisely, we see that our everyday beliefs about our language may well be incorrect!

Question: what about *some*?

(11) a. Betty ate all of the cookies.
b. Betty ate most of the cookies.
c. Betty ate some of the cookies.

Observation #4: an *all*-sentence asymmetrically entails its corresponding *some*-sentence, as does a *most*-sentence.

(**At-home exercise:** use the entailment tests to prove this!)

Question: given what we just learned about *most*, what do we expect an utterance of (12) to implicate?

(12) Betty ate some of the cookies.

Implicature: Betty didn't eat all of the cookies.
Implicature: Betty didn't eat most of the cookies.

Observation #5: a sentence containing *some* conversationally implicates the denials of the corresponding sentences containing *most* or *all*.

(**At-home exercise:** check that the reasoning described on pg. 3 of the handout can also be applied here in order to calculate the implicatures of (12).)

Linguistic scale: a sequence of related terms ordered according to the informativity relationships that they give rise to.

some < *most* < *all*
——stronger—>
(more info.)

- a sentence containing a stronger member of the scale asymmetrically entails/is more informative than any corresponding sentence containing a weaker member

- a sentence containing a weaker member of the scale conversationally implicates the denial of any corresponding sentence containing a stronger member of the scale (these are the **scalar implicatures** of the sentence containing the weaker member)

(See pgs. 45-46 of your Birner reading on conversational implicature, as well as pgs. 14-15 of your Kearns textbook, for more examples of linguistic scales.)