Is metalinguistic negation responsible for anomalous interpretations?

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Unexpected, ‘marked’ interpretations under negation

- Intrusive scalar implicatures

(1) Mary didn’t solve SOME of the problems. She solved ALL of them.

- Failure of presupposition projection

(2) Sue didn’t marry the king of France. There is no king of France.

- Less standard but real: multiple negations and vagueness (cf. Egré & Zehr 2016)

(3) a. (#) Peter is both tall and not tall.
    b. Peter is neither tall nor not tall.
       $\rightsquigarrow$ He’s of average height.

Theoretical options

Something must be added to our theories. What?

At least two options:

- A special use of negation
- Accomodation operators, embedded implicatures

The metalinguistic hope (Horn)

There is an *independently motivated* use of negation which is responsible for all the anomalies.

- Horn (1985):

  > *Marked negation . . . represents . . . a metalinguistic device for registering objection to a previous utterance (not proposition) on any grounds whatever, including the way it was pronounced.*

Objecting to non-truth conditional aspects of meaning

- A very clear case (in my opinion): correction of ‘register’

(4) Ce livre n’est pas chiant, il est ennuyeux!

(5) a. This movie is not a shitty movie, it’s a very bad movie
    b. He didn’t piss, he urinated

Negation-like operators that seem to resist the ‘correcting’ use

Noted in passing in Horn (1985)

(6) a. #It’s false/it’s not true that this is a shitty movie, it’s a very bad movie.
b. #It’s false/it’s not true that he pissed, he urinated.

What about 'doubt' ?

(7) a. ?Je doute qu’il ait pissé, il a uriné
b. ?I doubt that he pissed, he urinated

My impression: could maybe mean ‘I doubt that X used the word *piss*’, i.e. does not really object to the word as such. Cannot mean ‘Don’t use the word *piss*’.

(8) I doubt that he “pissed”. He must have used some other word.

Digression: Echoïc uses of negation

It has been suggested that metalinguistic negation is no more than a form of 'echoïc' negation. However, note that 'It is false that *p*' seems to be necessarily echoïc, while plain negation sometimes is and sometimes isn't.
Compare:

(9) a. Mary passed even though she did not attend the course.
    b. Mary passed even though it's false that she attended the course.
    $\leadsto$ ok only if it was somehow suggested that she attended the course.

Scalar implicatures

(10) Mary solved some/most of the problems $\leadsto$ Mary didn't solve all

Griceian explanation: a cooperative speaker who believed ALL would have said so.

(11) NOT (Mary solved some/most of the problems)
ENTAILS: Mary didn't solve them all

(12) Mary didn't solve/failed to solve most of the problems

(13) Mary didn't solve MOST of the problems, she solved ALL of them.
$\leadsto$ should be a contradiction.

Metalinguistic negation and scalar implicatures

(14) Mary didn't solve SOME of the problems. She solved ALL of them

Analyzed as:

(15) I object to the utterance of 'Mary solved some of the problems', on the grounds that Mary solved all of the problems.

What about *It is false that?*

(16) It's false that Mary solved SOME of the problems. She solved ALL of them.

For many speakers: not so bad!

But: we saw that 'it's false' does not license correcting uses . . .

(17) I doubt that Mary solved SOME of the problems. She solved ALL of them.

- Intrusive implicatures seem to be possible in environments which do not license a metalinguistic interpretation. Noted in passing by Horn, potentially fatal to the account.

What about presupposition?

(18) Marie didn't stop smoking.
$\rightsquigarrow$ Marie used to smoke

(19) Marie didn't stop smoking, since she has never smoked.

(20) John has not met the king of France, since there is no king of France.

Presupposition cancelling under boolean negation

(21) It's false that Mary stopped smoking. She has never smoked.

(22) It's false that Mary met the king of France, since there is no king of France.

(23) I doubt that Mary stopped smoking. I strongly suspect that she has never smoked.

(24) I doubt that Mary met the king of Syldavia. As far as I know Syldavia is not a monarchy.

Vagueness

(25) John is neither tall nor not tall.
$\rightsquigarrow$ It not appropriate to say that John is tall, it's not appropriate to say that he's not tall.

But one can also say, without contradiction:

(26) It's false that John is tall, and it's false that he is not tall.

Ignorance implicatures vs. secondary implicatures

- A two-step procedure

(27) Mary solved some of the problems

a. $\neg$K(all) [quantity]
b. K $\neg$(all) [If speaker is opinionated]

(28) Mary is Italian or German

a. $\neg$K(Italian) & $\neg$K(German)
b. ~~K$\neg$(Italian)~~, ~~K$\neg$(German)~~
c. $\neg$K(Italian) & $\neg$K$\neg$(Italian),
$\neg$K(German) & $\neg$K$\neg$(German)
d. Speaker does not know whether Mary is Italien or German

Sentential negation can target ignorance inferences

Noted in Horn (1985):

(29) Mary is not German or Italian, she's German!

You should not say 'A or B'. We *know* that A.

Are ignorance inferences embeddable?

(30) a. #I doubt that Mary is German or Italian. She's German
b. #It's false that Mary is German or Italian. She's German

Compare with:

(31) a. (?) I doubt that Mary solved SOME of the problems. I think she solved all of them!
b. (?) It's false that Mary solved SOME of the problems. She solved all of them!

Other ignorance-inducing expressions

- Modified numerals

(32) How old is she?
She's more than 20 years old
$\leadsto$ Speaker does not know her exact age

(33) How old are you?
I'm more than 20 years old

(34) I'm allowed to vote. I'm more than 18 years old.

With *at least*, the ignorance inference seems obligatory (Geurs & Nouwen)

(35) #I'm allowed to vote. I'm at least 18 years old.

Can metalinguistic negation target the ignorance inferences triggered by modified numerals?

(36) Mary isn't more than 20 years old! You know her age, she's 25!

(37)
 a. Mary isn't at least 20 years old! You know her age, she's 25!
 b. Mary isn't AT LEAST 20 years old. She's EXACTLY 20 years old

(38) #It's false that Mary is more than 20 years old. You know her age, she's 25!

(39) #It's false that Mary is AT LEAST 20 years old. You know her age, she's 25!

(40) #It's false that Mary is AT LEAST 20 years old. She's EXACTLY 20 years old.

(41) Mary is approximately 18 years old.
$\rightsquigarrow$ Speaker does not her exact age

(42) Mary isn't approximately 18 years old! She's exactly 18 years old.

(43) #It's false that Mary is APPROXIMATELY 18 years old! She's exactly 18 years old.

Summing up

- Metalinguistic negation is supposed to be a device to object to an utterrance *on any ground whatsoever*
- Sentential negation seems to have such a use, which can be diagnosed by correction of non-truthconditional aspects of a sentence (*piss* vs. *urinate*)
- *It's false that*, *I doubt that* do not have such a use.
- Intrusive scalar implicatures, failures of presupposition and vagueness projection can be *described* in truth-conditional terms. The claim that the relevant cases involve metalinguistic negation is thus not straightforward.
- We observe that the relevant phenomena can be, to a certain extent, reproduced under the scope of *it is false that*, *I doubt that*. Therefore, metalinguistic negation is not sufficient to account for the relevant phenomena.

Global accommodation for presupposition

Global accommodation

- A sentence's presuppositions are the constraints that the context of utterance must meet for the sentence to be felicitous. Typically, something has to be common knowledge
- In practice, one often infers that the speaker takes something to be common knowledge
- Sometimes the speaker exploits the fact that we can make this inference so as to convey new information using presupposition material

(44) I have to pick my sister at the airport.
$\rightsquigarrow$ Speaker has a sister.

Local accommodation

- Trivalent approach to presupposition

(45) Mary met the king of France

a. True (1) if there is a king of France and Mary met him
b. Undefined (#) if there is no king of France
c. False (0) otherwise

(46) Negation: maps 1 to 0, 0 to 1, and # to #

Accommodation operator:
$\|\mathrm{A}(\phi)\| = 1$ if $\|\phi\| = 1$,
$\|\mathrm{A}(\phi)\| = 0$ otherwise (i.e. if $\|\phi\| = 0$ $\underline{\text{or } \|\phi\| = \#}$)

Accommodation as a last resort

(Gazdar 1979)

(47) Mary hasn't met the king of France, because there is no king of France

In this case, global accommodation yields a contradiction. Local accommodation helps:

(48) NOT(A(Mary has met the king of France)=
NOT(there is a king of France and Mary met him)

- The last resort clause explains markedness, etc.

Other cases beyond negation

Non-presuppositional uses of *know* in the first person

(49) If Mary knew that Peter failed, she would tell him.
$\rightsquigarrow$ Peter in fact failed.

(50) If I knew that Peter failed, I would tell him.
$\rightsquigarrow$ If Peter had failed and I knew it, I would tell him.

Local accommodation necessary to avoid a form of Moore's paradox:

1. Use of subjunctive conditional strongly suggests that the antecedent might well be false.
2. If the speaker presupposed 'Peter failed', then she would know that Peter failed, and she would then consider the antecedent true.
3. Local accommodation licenses a reading that does not presuppose that Peter failed, which avoids the paradox.
4. No comparable pressure in the case of (49)

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A variant of Moore's paradox

(51) Je ne sais pas que Pierre a échoué.
'I don't know that Peter failed'
$\rightsquigarrow$ sounds Moore-paradoxical.
(English counterpart ok, on a non-factive use. This seems specific to English)

What woud local accommodation predict?

(52) NOT(A(I know that Pierre failed)
$\rightsquigarrow$ NOT(Pierrer failed and I believe that Peter failed)

If I believed that Peter failed, I would also believe 'Peter failed and I believe that Peter failed'. So this ends up pragmatically equivalent to 'I don't believe that Peter failed'. See appendix.

(53) a. I don't KNOW that Peter failed.
b. He doesn't KNOW that Peter failed

Know vs. believe

(54) John believes that it's raining
$\rightsquigarrow$ Speaker does not know whether it's raining. (Otherwise: use 'know').

(55) John does not KNOW that it's raining.
$\rightsquigarrow$ John only BELIEVES that it's raining (His belief is not warranted, maybe I don't believe that Peter failed).

Note, that if the factive presupposition projects, the overall information content is the following:

(56) It is raining, John does not know that it's raining, but he believe that it's raining
$\rightsquigarrow$ Contradiction if *knowledge* = *true belief*
$\rightsquigarrow$ John's grounds for his belief are not good enough so that you can call this 'knowledge'

Vague predicates

Egré & Zehr (2016)

(57) John is tall

3 cases: John is clearly tall, John is clearly not tall, John is in the middle.
Default interpretation: as if there were a matrix 'Clearly'

(58) a. John is tall $\rightsquigarrow$ John is clearly tall.
b. John is not tall $\rightsquigarrow$ John is clearly not tall.

Local 'Clearly-operator'

Trivalent approach: 'John is tall' is undefined in the borderline cases.
'Clearly' = A

(59) John is not A(tall) $\rightsquigarrow$ John is either borderline or clearly not tall (= rather short).

Local accommodation at last resort

(60) John is tall and John is not tall.

a. A(John is tall and John is not tall) $\rightsquigarrow$ contradiction
b. A(John is tall) and A(John is not tall) $\rightsquigarrow$ contradiction
c. John is tall and John is not A(tall) $\rightsquigarrow$ contradiction

(61) John is neither tall nor not tall
NOT (A(John is tall) or A(John is not tall))
$\rightsquigarrow$ John is borderline.

Embedded scalar implicatures

(62) a. Doing all the homework is preferable to doing SOME of the homework

b. #Having a pet is preferable to having a cat

(63) Hurford disjunctions

a. John did some or all of the homework (I don't know)

b. #John has a pet or a cat.

Redundant conjunctions

(64) a. #John solved all of the problems, and he solved SOME of the problems.
b. #John had cheese and dessert, and cheese OR desert.

(65) a. Someone solved all of the problems, and someone solved SOME of the problems
b. You can have cheese and dessert, and you can have cheese OR desert

(66) ??Someone has a cat, and someone has a pet.

Not just lexical strengthening

(67) #John is required to solve more than four problems, and he's required to solve more than three problems.

(68) Someone is required to solve more than four problems, and someone is required to solve more than three problems.

$\rightsquigarrow$

Someone [is required to solve more than four and is not required to solve more than five] and someone [is required to solve more than three and is not required to solve more than four]

- All this is compatible with the proposal that embedded SIs are possible (at least) as a last resort.

Conclusions

- The initial hope to account for various anomalous interpretations in terms of metalinguistic negation cannot be maintained. Metalinguistic negation, viewed as a device to object to an utterance on any ground whatsoever, exists, but cannot account for the full range of facts.
- Local 'adjustment' mechanisms are available (accomodation, embedded scalar implicatures), and are used to avoid contradictions or 'pragmatic paradoxes', various pragmatic violations.
- Constraints on embedded scalar implicatures (prosody, distribution): not addressed here. See Fox & Spector.

Appendix: more on example (51)

(69) a. #It's raining and I know it's raining
b. #It's false that it's raining and that I know it.

Let B be a belief operator, and let us simplistically assume that knowledge is just true belief. Assuming that a) B distributes over conjunction, and c) speaker is infallible about her own beliefs, we have:

$B(p \text{ and } B(p)) \leftrightarrow B(p) \text{ and } B(B(p)) \leftrightarrow B(p) \text{ and } B(p) \leftrightarrow B(p)$
$\rightsquigarrow$ better to just say 'I believe that it is raining', or just 'It is raining'.

$B\ (\neg(p \text{ and } B(p)))$ entails $\neg B(p \text{ and } B(p)$, which is itself equivalent to $\neg B(p)$. So (69-b) pragmatically entails $\neg B(p)$. Furthermore, $\neg B(p)$ entails $\neg(p \text{ and } B(p))$, and so (69-b) ends up pragmatically equivalent to 'I do not have the belief that p'. Speaker had better said 'I don't believe that it's raining'.