Why exhaustivity is sometimes (but not always) part of what is meant

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Exhaustivity implicature (or scalar/quantity implicature) is a prominent topic in the literature, but there has been only little reflection on whether and why they would be *implicatures*, i.e., part of what the speaker means, as opposed to mere *implications* (for implicature vs. implication see Bach 2006). To illustrate:

(1) A: John was at the party, or Mary. $\rightsquigarrow$ *not both* (exhaustivity)
L*H H% H*L L%

For instance, a pragmatic approach might say that (1) implies "not both" because if the speaker had considered "both" possible she would have mentioned it, e.g., by appending "or both" (Schulz and Van Rooij, 2006; Westera, 2016) – but this says nothing as to why the content of the implication would in addition be part of what is meant, i.e., an implicature. After all, utterances *imply* lots of things that are not *implicated* (Bach 2006).

But exhaustivity is not *always* part of what is meant. A disjunctive *interrogative* (but with same intonation as (1)) yields the same exhaustivity implication as uttering the corresponding declarative, but for interrogatives the content of this implication is not part of what is meant but *presupposed* (e.g., Aloni and Égré 2010; Biezma and Rawlins 2012). This is commonly assumed; it is shown for instance by the licensing of 'yes' and 'no':

(2) A: John was at the party, or Mary. (L%) $\rightsquigarrow$ *not both* (meant).
B: Yes, not both. / No, both were there.

(3) A: Was John at the party, or Mary? (L%) $\rightsquigarrow$ *not both* (not meant).
B: ***?*** Yes, not both. / ***?*** No, both were there.

The judgments in (3) align with Roelofsen and Farkas 2015 (their (16)); those in (2) with experiments by Destruel et al. (2015) regarding other types of exhaustivity implicatures.

I will take a **pragmatic approach** to this puzzle, but for completeness I will first briefly sketch what a **grammatical approach** (e.g., Chierchia et al. 2012) might look like. Since the grammatical approach treats exhaustivity essentially as a semantic entailment, this will naturally be part of what is asserted in (2) but not in (3), which does not assert anything after all. The next question would then be why the exhaustivity *implication* is nevertheless present in both, and I do not currently see how the grammatical approach may go about this. As some motivation for pursuing a pragmatic approach instead, let me just note that several problems that have motivated a grammatical approach have recently been solved also within a pragmatic account (e.g., Geurts 2011; Westera 2016, 2017).

As usual in pragmatics, we rely on the interaction of a fair number of assumptions from the literature that are, however, each individually general and plausible:

A. **QUDs**: The set of all in principle relevant propositions is subdivided into QUDs (questions under discussion), roughly, 'ways of being relevant', of which one or several may be *active*, i.e., to be addressed by an utterance (e.g., Roberts 1996).
B. **Cooperativity**: A cooperative speaker will share all and only information believed to be true and relevant to some active QUD (essentially Grice 1989).
C. **Symmetry**: if an active QUD contains a proposition p, then its negation $\neg p$ is also contained in an active QUD (e.g., Chierchia et al. 2012; though not necessarily the *same* QUD, e.g., Horn 1989; Westera 2017).
D. **Table**: Interrogatives serve to introduce a new QUD to the table, while declaratives presuppose a pre-existing QUD (Roberts 1996; Farkas and Bruce 2010).
E. **Possibility**: One who introduces a *new* QUD to the table should consider all its propositions (or 'direct answers') possible (e.g., Roberts 1996).

F. **Closure**: QUDs are typically closed under conjunction (e.g., Schulz and Van Rooij 2006) – the exception being cases where this would violate assumption E.

G. **Accents**: 'contrastive' accents on the disjuncts indicate that each disjunct is contained in an active QUD (e.g., Biezma and Rawlins 2012; cf. Grice 1989).

H. **Final fall**: low boundary tones L% convey that the speaker intended to draw attention to all (and only) propositions that are considered both possible and relevant to an active QUD (Biezma and Rawlins 2012; derived from maxims in Westera 2016).

Although none of these are new, in the talk I will review their motivations. Our main contribution is to note the following consequences of these assumptions:

- In (2), both disjuncts are relevant (G.), hence so is their conjunction 'both' (F.). Since the speaker didn't mention their conjunction, this must be because it is considered false (H.), explaining the exhaustivity implication 'not both'. Moreover, since the conjunction is relevant, so is their negation (C.), i.e., the exhaustivity 'not both', which must therefore be part of what is meant (B.).
- In (3), both disjuncts are likewise relevant (G.), but now their conjunction 'both' cannot be (despite F.). The reason is that the interrogative introduces a new QUD (D.), and to introduce a QUD containing 'both' this proposition should be deemed possible (E.), which cannot be the case, because then the speaker would have mentioned it (H.). Moreover, since 'both' cannot be relevant, neither can its negation 'not both' (C.), i.e., the exhaustivity, which must therefore not be part of what is meant (B.).

More compactly: exhaustivity can be part of what is meant only if the 'both' proposition was already relevant before, and this cannot be the case if the utterance itself introduces the QUD. This solves the puzzle posed by (2) and (3), within a pragmatic approach to exhaustivity. In the talk we review some further consequences of this proposal, e.g., that exhaustivity for interrogatives cannot be understood as the exclusion of *relevant* alternatives; rather, it is the exclusion of *irrelevant* alternatives that *would have been relevant* had they been deemed possible (given E.). The account generalizes to other cases of exhaustivity, but only where a a case can be made that the excluded proposition should have been relevant had it been deemed possible (the role played by F. in the case of "not both").

Assuming a pragmatic approach to exhaustivity, the foregoing solves a longstanding puzzle through the interaction of well-known, general pragmatic principles. Moreover, at SPE we hope to use this account as a case study to highlight that (i) to derive an implication and (ii) to explain its being part or not being part of what is meant, are two separate issues, the latter of which has been unduly neglected in the pragmatics literature.

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