How to compute negation scope?

In this communication, I would like to demonstrate how the scope of negation is computed. I will assume that logical, semantic and pragmatic constraints are working together in computing scope of negation, resulting in three main uses: descriptive negation, with narrow scope, metalinguistic negation scoping over an assertion and its presupposition (PP), and metalinguistic negation scoping over a conversational implicature (CI). It will be shown that logical implications, as regards truth-conditions, are different, and that properties as entailment, discourse relation, connective, contextual assumption and contextual effect are all together contributing to the determination of the scope of negation.

One of the main contributions of this paper is to argue for a pragmatic approach, explaining how logical properties of negation contribute to pragmatic interpretation and the computation of the scope of negation with respect to logical and pragmatic inferences.

The analysis is based on the distinction between three types of content: NEG, the negative proposition, POS, its positive counterpart, and COR, the corrective clause specifying the negative utterance interpretation. We hypothesize that COR is a necessary clue for specifying the scope of negation, and that without COR, NEG receives a default descriptive interpretation. Metalinguistic uses are thus launched only on presence of COR, as discourses (1) to (3) show:

(1)   Abi is not beautiful.
(2)   Abi is not beautiful, but gorgeous.
(3)   Abi doesn't regret to have failed, since she passed.

The three types of negation uses are the following:

Descriptive use (DN): COR entails NEG: ORDINARY (x) → NOT BEAUTIFUL (x), and negation is narrow scope.

Metalinguistic negation of scalar implicature (CI-MN): COR entails POS: GORGEOUS (x) → BEAUTIFUL (x), and negation is restricted to the scalar implicature

Metalinguistic negation on presupposition (PP-MN): COR entails NEG and NEG-PP: PASSED (x) → NOT-FAIL (x) & NOT-REGRET (x).

Moreover, other pragmatic criteria are confirming this three-folded analysis of negation (Author 2013). First, different connectives prototypically make explicit three different discourse relations: CORRECTION and *on the contrary* for DN, CONTRAST and *but* for CI-ML, and EXPLANATION and *because/since* for PP-MN. Second, different contextual assumptions and contextual effects, as defined in *relevance theory* (Sperber & Wilson 1995, Wilson & Sperber 2012), are specific to these three types of negation. Descriptive negation has as a main contextual effect the suppression of POS. CI-MN typically strengthen POS, whereas PP-MN eradicates both the presupposition and POS or NEG, depending of the positive or negative contexts. Examples (4) to (8) illustrates these contexts and effects:

(4)   DN
        A: Paul believes that Anne has three children.
        B: No, Anne does not have three children, she has two.
(5)   CI-MN
        A: Abi is beautiful, isn't she?
        B: No, she is not beautiful, she is gorgeous.
(6)   PP-MN (POS in context)
        A: I met Abi. Apparently, she regrets having failed.
        B: No, she doesn't regret having failed, since she passed.
(7)   PP-MN (NEG in context)
        A: I met Abi. Apparently, she does not regret having failed.
        B: In effect, she doesn't regret having failed, since she passed.

The conclusion is that scope is the result of contextual assumptions and implications, and that discourse connectives are selected because their procedural meanings are compatible with the contextual effects launched by negation.

References

Author (2013), How 'Logical' are Logical Words? Negation and its Descriptive vs. Metalinguistic Uses, in Taboada M. & Trnavac R. (eds.), *Nonveridicality, evaluation and coherence relations*, Leiden, Brill, 76-110.

Sperber D. & Wilson D. (1995), Relevance. Communication and Cognition, Oxford, Blackwell, 2nd edition.

Wilson D. & Sperber D. (2012), Meaning and Relevance, Cambridge, CUP.