Abducing Meaning---A Perspective on how Semantics and Pragmatics are Interleaved

In this talk, which will report on work in progress, I will look at the semantics-pragmatics interface from a logical perspective. How are semantics and pragmatics related? More in particular, how do the semantic and pragmatic processes interact? Is it possible to model these two forms of processing computationally, in such a way that the result is also a plausible model of how humans interpret language? In my attempt to answer such questions I will take a Montagovian conception of semantics but also a Stalnakerian theory of pragmatics for granted (both broadly conceived). It seems that any adequate processing model for a combination of the two must deal with the following.

- The semantic and pragmatic processes depend on one another and must therefore be interleaved. There are reasons to think that this interleaving is tight and takes place on a sub-sentential level.
- The two evaluation processes by and large follow the linguistic precedence order. This is what psycholinguists tell us, but also squares well with the Stalnaker-Karttunen theory of presupposition.
- While semantic interpretation is based on a process of composition, pragmatics adds a component that is best described as “reasoning to the best interpretation in context”. It is based on a form of abductive reasoning in context, that is. Examples of abductive processes are anaphora resolution, presupposition accommodation, and assigning “pseudoscope” (in Kratzer’s sense) to indefinites.

I will sketch a model of semantic/pragmatic interpretation that is based on an interpretation calculus. Lambda terms very close to Logical Forms will be abductively interpreted in context with the help of a special refutational tableau system. Tableaux translate these lambda terms into an interpreted logic while their open branches correspond to the ways in which they can be false. The character of the translation (which is based on a variant of Maria Aloni’s Bilateral State-based Modal Logic) will ensure that the left-right order of branches and the linguistic precedence order can be made to coincide. Developing a tableau can also proceed in a (depth-first) left-to-right way. Pragmatics is modelled as a process that, after finding suitable values for Skolem variables and certain abducible variables, contradicts open branches (again, from left to right) and updates the running context with the contradictions found. Presupposition triggers are conditions on the translation and it will be seen that, if not already satisfied, they will be abduced in their local context.