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The Diller-Nahm model of type theory

Gödel's Dialectica interpretation is a proof interpretation of Heyting arithmetic into a system of computable functionals of finite type. De Paiva [1], Hyland [2] and others have worked on the idea of a semantic version of Dialectica: starting with a category of types and a fibration of predicates over it, a new structured category is built whose morphisms correspond to the Dialectica interpretation of logical implication. Recently, von Glehn [3] has adapted this idea for the original Dialectica interpretation to categorical models of dependent type theory. I will discuss how we can build categorical models of dependent type theory based on other variants of Dialectica, including the Diller-Nahm variant.

REFERENCES:

- [1] V.C.V. de Paiva, The Dialectica categories, *Categories in Computer Science and Logic*, American Mathematical Society (1989) 47–62.
- [2] J.M.E. Hyland, Proof theory in the abstract, *Annals of Pure and Applied Logic* 114 (2002) 43–78.
- [3] T.L. von Glehn, Polynomials and Models of Type Theory, *PhD thesis*, University of Cambridge (2014).