

# Fibrations in Logic

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The categorical approach to logic based on fibrations is now well established. Its use for example to analyse Realizability Toposes has been very effective. However most workers restrict their attention to preordered fibrations. The idea that more general fibrations provide a mathematical theory of proofs is explained already in the introduction to Lawvere's influential paper "Adjointness in Foundations". This talk will focus on the value of the more general point of view.

It turns out that (as suggested by Lawvere) many non-standard logics of a pre-ordered kind are best regarded as the pre-ordered reflection of a richer fibred category of types. While this does not itself give much insight, it is also the case that constructions on non-standard logics seem much clearer at the level of types. I shall give examples of this 'Propositions from Types' approach and use it in particular to describe variants of the Dialectica Interpretation of Gödel.