

- ▶ MATTHIAS BAAZ, AGATA CIABATTONI, *On the limits of analiticity*.
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The notion of *analytic proof* dates back to Leibnitz, who described it as a proof only consisting of concepts already contained in the result (praedicatum inest subiecto). Various formalizations of this notion have been proposed. In mathematics, via elementary proofs. In logic analyticity was made precise by Gentzen in 1936 with the introduction of cut-free sequent calculi. In the last few decades a huge range of variants and extensions of the sequent calculus have been introduced to define calculi for logics which seem to escape a cut-free sequent formalization. Nevertheless, many interesting logics still lack an analytic calculus and it is not known if it is just that the “right” formalism or a successful methodology for defining adequate rules has not yet been found, or there is some principal obstacle preventing these logics from having such a calculus.

In this lecture we present sufficient conditions for a first-order logic do not admit any analytic calculus of a reasonable kind.