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Infinitesimals in Eighteenth-Century Calculus: The Background to Cauchy's Analysis

In 1988 Joe Dauben explored the implications of Abraham Robinson's invention of non-standard analysis for the history and philosophy of mathematics. Dauben drew attention to a body of historical work (concentrated mainly on Augustin-Louis Cauchy) that centered on an historical re-evaluation of the concept of the infinitesimal in light of Robinson's discoveries. While not particularly focused on Robinson's work itself, my talk contributes to the discussion through an examination of the eighteenth-century background to Cauchy's researches. Included in the survey are Berkeley's Analyst, the views of Euler and Lagrange on infinitesimals and the 1786 prize competition of the Berlin Academy on the theory of the infinite.

Reference

Joseph W Dauben, "Abraham Robinson and Nonstandard Analysis: History, Philosophy, and Foundations of Mathematics." In *History & Philosophy of Modern Mathematics. Volume 11: Minnesota Studies in Philosophy of Science*. 1988. Eds. William Aspray and Philip Kitcher. Pp. 177-200. University of Minnesota Press.