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Nathaniel Miller* (nat@alumi.princeton.edu), School of Mathematical Sciences, Ross Hall, University of Northern Colorado, Greeley, CO 80639. *The Philosophical Status of Diagrams in Euclidean Geometry*.

This talk will discuss a forthcoming book, *Euclid and His Twentieth Century Rivals: Diagrams in the Logic of Euclidean Geometry*, which considers the philosophical status of diagrams in Euclidean geometry. Euclid's *Elements* was viewed for most of its existence as being the gold standard of careful reasoning and mathematical rigor, but by the end of the nineteenth century, developments in mathematical logic had led many people to view Euclid's proofs as being inherently informal, in large part because of their use of diagrams. The work discussed in this talk seeks to show that the use of diagrams in Euclidean geometry can, in fact, be made as rigorous as other modes of proof, and that formalizing the use of diagrams in this way can shed a lot of light on the history and practice of Euclidean geometry. (Received September 13, 2006)