2018 William Reinhardt Memorial Lecture

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Infinitesimals and the Labyrinth of the Continuum

Friday October 5, 3.15 pm, Hellems 199

Abstract The continuum concept is one of the oldest in mathematics and philosophy. A continuum has no *gaps*. We commonly suppose that space, time and motions are continua. Leibniz's struggles to understand the continuum led him to term it a *labyrinth*. In modern times the continuum has been reduced to discreteness by providing it with set-theoretic formulations, although certain important thinkers resisted this reduction.

Closely connected with the concept of the continuum is that of the infinitesimal. Traditionally, an infinitesimal quantity is one which, while not coinciding with zero, is smaller than any finite quantity. The differential calculus was originally built on this concept.

I will present a survey of these ideas.

Paula Nahmod
The Labyrinth of the Continuum
(with permission of the artist).