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In what has been called the central argument of the Principia, Isaac Newton derived the elliptical shape of the planets' orbits. In the years following its publication in 1687, however, this argument and other portions of the Principia received significant criticism from, among others, Johann Bernoulli. In this expository talk, I shall describe Newton's argument, the criticism it received, and Newton's rebuttal, all of which suggest some of the substantial issues in the conflict between the Newtonian and Leibnizian forms of the calculus. (Received September 16, 2012)