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Newton's Principia: Myth and Reality GEORGE SMITH, Tufts University

Myths about Newton's *Principia* abound. Some of them, such as the myth that the whole book was initially developed using the calculus and then transformed into a geometric mathematics, stem from remarks he made during the priority controversy with Leibniz over the calculus. Some of the most persistent, and misleading, arose from failures to read the book with care. Among the latter are the myth that he devised his theory of gravity in order to explain the already established "laws" of Kepler, and that in doing so he took himself to be establishing that Keplerian motion is "absolute," if not with respect to "absolute space," then at least with respect to the fixed stars taken as what came later to be known as an inertial frame. The talk will replace these two myths with the reality of what Newton took himself to have established.