There is an annotation in Newton’s hand in David Gregory’s papers in the Library of the Royal Society in London, which was found by H. W. Turnbull. It turns out that Gregory asked Newton for an explanation of the movement of a body which is accelerated by an inverse-cube force. The question of a trajectory obeying such a force was answered by Newton in his *Principia* in a corollary and is important because tidal forces are inverse cubes. The author has examined the annotation and found an interesting window into the more hidden mathematical methods which Newton used in creating his *Principia*. It turns out that Newton obviously used ‘a method of squaring curvilinear figures’ which was hidden in the *Principia*; hence he used calculus. The paper contains all the relevant mathematics and physics in order to understand Newton’s corollary as well as his annotation in Gregory’s papers. It is very well researched and gives deep insight into the process of creating the *Principia*.

Reviewer: Thomas Sonar (Braunschweig)


[23] Truesdell, C, A program toward rediscovering the rational mechanics of the age of reason, Archive for History of Exact Sciences, 1, 3-36, (1960) · Zbl 0096.00301 · doi:10.1007/BF00357393


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