

"ADAMS, J.C. (JOHN COUCH). - A NEW METHOD IN LUNAR THEORY INTRODUCED.

On the Secular Variation of the Moon's Mean Motion. Received and Read June 16, 1853.

Référence : 50167

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Commentaire : First appearance of this important paper by Adams, - famous for his co-discovery with Le Verrier, of Neptune in 1846 - in which he introduces new mathematical methods in dealing with the perturbations of the Moon, raising a sharp scientific controversy, and correcting Laplace's great memoir of 1788. "He (Adams) was elected a fellow of Pembroke College in 1853, and shortly afterward he presented to the Royal Society a remarkable paper on the secular acceleration of the moon's mean motion. This quantity was thought to have been definitively investigated by Pierre Simon de Laplace in 1788, but Adams showed that Laplace's solution was incorrect. In particular, Laplace had ignored a variation in solar eccentricity that introduces into the differential equations for the moon's motion a series of additional terms. Adams calculated the second term of the series, on which the secular acceleration depends, as $3771/64m^4$ the value computed from Laplace's work was $2187/128 m^4$. The effect of the correction was to reduce the figure for the moon's secular acceleration by about half, from $10?.58$ to $5?.70$. This paper caused a sharp scientific controversy, marked by angry chauvinism on the part of several French astronomers. Their attacks stimulated a number of independent investigations of the subject, all of which confirmed Adams' result. The matter was definitely settled in his favor by 1861, but not without hard feelings." (DSB).

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