

(in 1762), at the early age of thirty-nine, worn out by his incessant labors; and his widow sent to London a copy of his Tables with additional corrections. These Tables were committed to Bradley, then Astronomer Royal, in order to be compared with observation. Bradley labored at this task with unremitting zeal and industry, having himself long entertained hopes that the Lunar Method of finding the Longitude might be brought into general use. He and his assistant, Gael Morris, introduced corrections into Mayer's Tables of 1755. In his report of 1756, he says,<sup>17</sup> that he did not find any difference so great as a minute and a quarter; and in 1760, he adds, that this deviation had been further diminished by his corrections. It is not foreign to our purpose to observe the great labor which this verification required. Not less than 1220 observations, and long calculations founded upon each, were employed. The accuracy which Mayer's Tables possessed was considered to entitle them to a part of the parliamentary reward; they were printed in 1770, and his widow received 3000*l.* from the English nation. At the same time, Euler, whose Tables had been the origin and foundation of Mayer's, also had a recompense of the same amount.

This public national acknowledgment of the practical accuracy of these Tables is, it will be observed, also a solemn recognition of the truth of the Newtonian theory, as far as truth can be judged of by men acting under the highest official responsibility, and aided by the most complete command of the resources of the skill and talents of others. The finding the Longitude is thus the seal of the moon's gravitation to the sun and earth; and with this occurrence, therefore, our main concern with the history of the Lunar Theory ends. Various improvements have been since introduced into this research; but on these we, with so many other subjects before us, must forbear to enter.

*Sect. 3.—Application of the Newtonian Theory to the Planets,  
Satellites, and Earth.*

THE theories of the Planets and Satellites, as affected by the law of universal gravitation, and therefore by perturbations, were naturally subjects of interest, after the promulgation of that law. Some of the effects of the mutual attraction of the planets had, indeed, already attracted notice. The inequality produced by the mutual attraction of Jupiter and Saturn cannot be overlooked by a good observer. In the

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<sup>17</sup> Bradley's *Mem.* p. xviii.