

Mr. Adams, of St. John's College, Cambridge. The historical facts which refer to these labors, and to Leverrier's and Galle's happy discovery of the new planet, have been circumstantially and impartially developed from reliable sources in two works, by the astronomer royal, Airy, and by Bernhard von Lindenau.* Intellectual endeavors, almost simultane-

* Airy, in the *Monthly Notices of the Royal Astronomical Society*, vol. vii., No. 9 (November, 1846), p. 121-152. Bernhard von Lindenau, *Beitrag zur Geschichte des Neptuns-Entdeckung*, p. 1-32, and 235-238. At the instigation of Arago, Leverrier commenced, in the summer of 1845, his investigations of the theory of Uranus. The results of this investigation he laid before the Institute on the 10th of November, 1845, the 1st of June, 31st of August, and 5th of October, 1846, and published them at the same time; but the most extensive and important of Leverrier's labors which contained the solution of the whole problem appeared in the *Connaissance des Temps pour l'an 1849*. Adams laid the first results which he had obtained for the disturbing planet before Professor Challis in September, 1845, without having them printed, and, together with some alterations in October of the same year, before the astronomer royal, still without making them public. The latter received the final results of Adams, with fresh corrections referring to a decrease of the distance, in the commencement of September, 1846. The young Cambridge geometrician expresses himself upon the chronological succession of the investigations which were directed to one and the same object with as much modesty as self-denial: "I mention these earlier dates merely to show that my results were arrived at independently and previously to the publication of M. Leverrier, and not with any intention of interfering with his just claims to the honor of the discovery; for there is no doubt that his researches were first published to the world, and led to the actual discovery of the planet by Dr. Galle; so that the facts stated above can not detract in the slightest degree from the credit due to M. Leverrier." Since, in the history of the discovery of Neptune, mention is frequently made of an early share which the great Königsberg astronomer took in the hope already expressed by Alexis Bouvard (the author of the tables of Uranus) in the year 1834, "of the disturbance of Uranus by a yet unknown planet," it will, perhaps, not be unacceptable to many readers of the *Cosmos* if I introduce here part of a letter which Bessel wrote to me on the 8th of May, 1840 (therefore two years before his conversation with Sir John Herschel, during his visit to Collingwood): "You request me to give you information as to the *planet beyond Uranus*. I could indeed refer you to friends in Königsberg who, from misunderstanding, fancy that they know more about the matter than I do myself. I chose as the subject of a public lecture delivered upon the 28th of February, 1840, the development of the connection between *astronomical observations* and *astronomy*. The public know no difference between the two; consequently, their opinion was to be corrected. The indication of the development of astronomical knowledge from observations naturally led to the remark that we can by no means affirm that our theory explains all the motions of the planets. Uranus afforded a proof of this, the *old* observations of which do not at all accord with elements which coincide with the later observations from 1783 to 1820. I believe that