

It is to the honor of our own land—an honor now freely awarded from abroad—that in this she takes her full share. The work done by Winlock of Cambridge, and Young of Dartmouth, and Rutherford of New York, and Watson and Peters of Ann Arbor and Clinton, besides that which is steadily secured at our government observatory at Washington (now thrice doubly armed by the possession of her twenty-six-inch refractor), is daily aiding in the establishing for us as high a position in science as we had attained in the practical arts with their inventions. A few sketches, therefore, of our chief working observatories at this day can hardly fail to profit and interest the general reader. From what has been already written, he will not be surprised that we put the Cincinnati Observatory first upon our list, especially if he has noticed that it has received a new consecration by the founding of a new edifice.

As early, indeed, as 1805, Cincinnati may be said to have had a practical working observatory. In that year the first Surveyor-General of the United States, Colonel Jared Mansfield, received, after a delay of at least three years in their construction and transportation from London, astronomical instruments ordered by Albert Gallatin, Secretary of the Treasury, and paid for by President Jefferson out of his *own contingent fund*, "since no appropriation for them had been made by law." The invoice ran thus in part:

LONDON, April 3, 1805.

Alexander Baring, Esq.,

Bought of E. Troughton—	
One 3-feet reflecting telescope mounted in the best manner.....	£47 5 0
One 30-inch portable transit instrument....	78 15 0
One astronomical pendulum clock.....	68 0 0

These instruments were said to be excellent of their kind. Years afterward, they were placed in the Philosophical Department of the Military Academy at West Point. In the house of the Surveyor-General, at Cincinnati, they were used in making numerous and interesting astronomical observations. The orbit of the comet of 1807 was calculated, eclipses of different kinds were observed, the longitude of the observatory determined, and other observations of importance made from 1807 to 1813, all of them outside of the usual duties of the mere surveyor.

The key to this is to be found in the na-

ture of Colonel Mansfield's duties at that time. Looking back to the act of 1785, introductory to the famous ordinance of 1787 for the then named "Northwestern Territory," we find that the original plan of laying out the public lands required standard astronomical observations. Congress had determined that plan by requiring the whole of the great West to be laid out in sections of six miles square by rectangular co-ordinates. It was necessary to call in astronomy to determine for these the standard meridian and base lines. Our surveyor was directed additionally, or rather in relation to the establishment of these lines, to determine also, if possible, the southern extremity of Lake Michigan, the western extremity of Lake Erie, the confluence of the Ohio and Mississippi, and the western boundary of the Reserve. The plan of astronomical surveying, adhered to to this day, was devised by Colonel Mansfield. His head-quarters were his observatory at Cincinnati, from which are dated some of his observations and astronomical discussions to be found in that now rare volume, *Transactions of the Connecticut Academy*, Part I. Mansfield was a surveyor whose astronomical work would long be quoted—like Ellicott's, quoted from the time of his laying out the Federal City to this day.

Our next date is at the end of the lapse of forty years. We are brought then to the marked era in astronomical interest already referred to, and to the labors of those who awakened that interest.

Mitchell was a native of Kentucky. He graduated with honor at West Point in 1829. Resigning from the army, and practicing law in Cincinnati, he was made professor in the City College. He was an enthusiast in astronomy. He gave a series of lectures to the citizens in 1842, which created their Astronomical Society. The preamble to their



OLD CINCINNATI OBSERVATORY.