CENTENARIES

By S. R. Ranganathan, M.A., L.T., F.L.A.

(*University Librarian, Madras*)

Regaud, Stephen Peter (1774–1839)

STEPHEN PETER RIGAUD, a British astronomer, was born at Richmond in Surrey, August 12, 1774. His father was observer to the King at Kew, which is believed to have influenced the tastes and predilections of his son. He was educated at Richmond and Oxford and became M.A. in 1799. He was appointed reader in experimental philosophy and Savilian professor of geometry in 1810. He succeeded his father in 1814 as observer to the King at Kew and became Radcliffe observer in 1827. These posts he held till his death.

Rigaud made nineteen valuable contributions to the *Transactions* of the Royal Astronomical Society and to other periodicals. He was responsible for the addition of a new transit circle to the Radcliffe Observatory. He succeeded in persuading William IV to erect a monument to Bradley at Kew.

Rigaud is perhaps best remembered for his contributions to the history of mathematics and astronomy. In 1831 he published the *Miscellaneous works and correspondence of Dr. Bradley*. To this he added a supplement in 1833 which incorporated the astronomical papers of Harriott. He also published in 1838 a *Historical essay on the first publication of Newton's Principia*, in which he explained how Newton might have been led to give an erroneous value to the radius of earth. He also made extensive preparation for a life of Halley and a new edition of the works of Pappus. The first volume of his *Correspondence of scientific men of the seventeenth century* was printed just before his death, while the second volume came out posthumously in 1841.

He was elected Fellow of the Royal Society May 30, 1805 and was its Vice-President in 1837–38. Rigaud died in London March 16, 1839.

Colburn, Zerah (1804–1839)

ZERAH COLBURN, an American mathematical prodigy, was born in Cobot September 1, 1804. His father was a poor man with a large family of nine children. Zerah showed remarkable powers of calculation before he was six and his poor father tried to liquidate his poverty by exhibiting his son.

Having met with success in America he set out in 1812 to England where his prodigious son was admired by royalty and nobility. But Paris gave him a cold reception and the father lost heavily by his travel through France.

During 1816–19, Zerah was sent to the Westminster School under the patronage of the Earl of Bristol. But on the suspicion that the Earl was diverting some funds due to him, the father quarrelled with him and, plagued by poverty, induced his son to redeem their fortunes by a career on the stage. Failing there, he became a school master and ultimately returned to America in 1824, after his father's death. Even there he had only a chequered career, first being a minister till 1835 and then a teacher for the remaining four years of his life.

In 1833 Zerah published his autobiography entitled *A memoir of Zerah Colburn written by himself*. His arithmetical ability is said to have remained with him throughout his life. Leaving his widow and six children behind, he died of tuberculosis March 2, 1839.

Binnie, Alexander Richardson (1893–1917)

ALEXANDER RICHARDSON BINNIE, a British engineer of the Indian Engineering Service, was born in London March 26, 1839. Having received his general education privately and his engineering education from Bateman, he took up an appointment in 1862 in connection with the construction of new railways in Mid-Wales.

In 1867 he came to Nagpur as executive engineer. During his period of service he carried cut the works for the supply of that city with water from Ambajheria, about four miles distant. He also made discoveries of coal in the Chanda District. This led to the construction of a railway and the opening up of the coalfields.

Having served as the Chief Engineer for water works to the City of Bradford from 1875 to 1890, Binnie became Chief Engineer to the London County Council. This position he occupied for nearly twelve years when he constructed the Blackwell and Greenwich tunnels under the river Thames, constructed the Barking Road Bridge and commenced the Vauxhall Bridge. He also reported on the reconstruction of the London drainage and widened the Strand, Aldwych and Kingsway.

After retirement from the London County Council, Binnie commenced private practice with his son as a partner. The works that engaged his attention during this period were the Arterial Drainage of Ireland, the water-supply of Malta, the water-supply and drainage of Petrograd and the water-supply of Ottawa.

His paper on the *Nagpur water works* is of interest even now. His paper *On mean and average rainfall and the fluctuations to which it is subject* won for him a Telford and a George Stephenson Medal.

On the completion of the Blackwell Tunnel he was Knighted and in 1905 he was elected President of the Institution of Civil Engineers.

Binnie died at Beer May 18, 1917.

Tata, Jamsetji Naserwanji (1839–1904)

JAMSETJI NASERWANJI TATA, an Indian pioneer and patron of scientific research, was born at Naosari in Gujerat March 3, 1839. After studying in the Elphinstone College, Bombay, for three years, Tata entered his father's business and set sail to China in 1859 to further their export business.

Turning his attention to the cotton industry in Bombay, Tata first studied the conditions of

Lancashire mills and later established his own Empress Mills in Nagpur January 1, 1877. In 1896 he published a monograph on *Growth of Egyptian cotton in India* and sought to acclimatize Egyptian cotton in India. The inauguration (1893) of the Japanese Steam Navigation Co., the promotion of the Tata Iron and Steel Co. (1907), and the far-sighted inspiration of the Bombay hydro-electric schemes have been sufficient causes to accord Tata a foremost place among the pioneers of Indian industry.

While quietly doing many deeds of kindness, Tata never indulged in promiscuous charities which are but a temporary relief to the inefficient. Convinced of the deficiencies of higher education in India, he inaugurated in 1892 a scheme by which a few promising young Indians were sent to England to qualify for higher administrative and technical services. He was proud of his scholars, "Our young men," said he, "have proved that they can not only hold their own against the best rivals in Europe on the latter's ground, but can beat them hollow".

Tata realised that the course of study in the Indian Universities stifled originality and initiative. His remedial plan took shape as an offer to Government of India on September 28, 1898 of property in Bombay estimated to yield an annual income of Rs. 1,25,000. He also deputed a promising young man, Burjorji Padshah, to European seats of learining to find out the most productive use for the endowment. "What advances a nation or a community is not so much to prop up its weakest and most helpless members as to lift up the best and most gifted so as to make them of the greatest service to the country," so said Tata and started with Padshah's provisional scheme to work out his remedial plan. Its final form took shape as the Indian Institute of Science, Bangalore, "an institution devoted to post-graduate study and research, particularly in science, and conducted with a view to the application of science to Indian arts and industries, with a constitution resembling that of a University.

Tata refused to accept the proposal that the Institution should be named the Tata University, though his contribution towards its establishment amounted to 30 lakhs of rupees. The Institute began its work July 24, 1911.

Tata died at Nauheim, a German watering place May 19, 1904.

ASTRONOMICAL NOTES

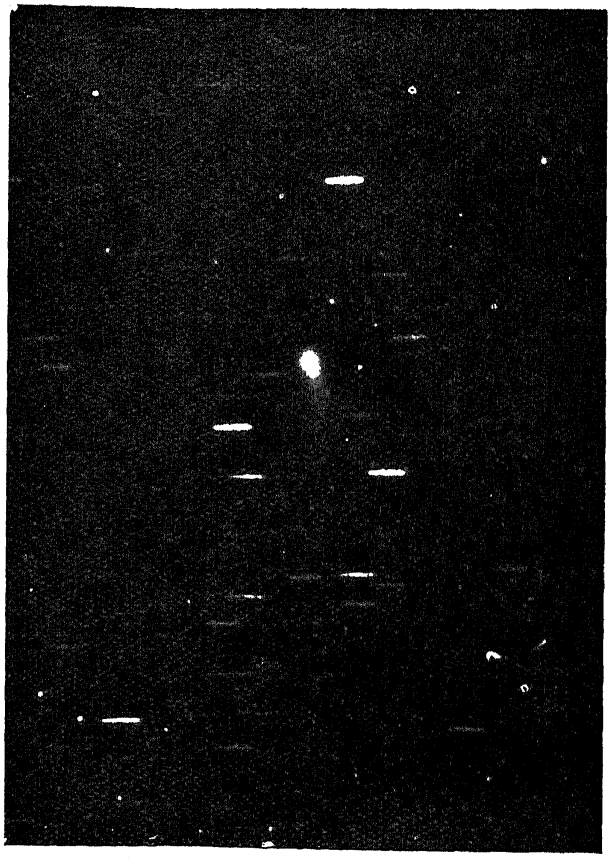
Solar Eclipse.—An annular eclipse of the Sun will occur on April 19, but the phenomenon will not be visible in India. The path of the annular eclipse lies towards the extreme north —in the Arctic Ocean and the north-west part of North America.

Planets during April 1939.—Mercury is in inferior conjunction with the Sun on April 3; and during the latter part of the month it can be seen low down near the western horizon at about sunset. Venus will continue to be visible as a bright morning star for nearly two hours before sunrise; it is slowly moving towards the Sun and becoming fainter. Mars, rising about midnight, will be well placed for observation during the late hours of the night; its brightness is increasing, the stellar magnitude being $-0{\cdot}2$ at the end of the month.

Jupiter, although not in a favourable position for observation, can be seen as a morning star rising about a couple of hours before the Sun; on April 22, there will be a close conjunction of the planet with Venus which is worth observing. Saturn passes conjunction with the Sun on April 11 and at the end of the month, will be just visible near the eastern horizon.

A lunar occultation of interest, that can be observed in India is that of the first magnitude star Spica (α Virginis) which will occur on the night of April 4–5, about an hour after midnight.

Comet Cosik-Peltier (1939 *a*).—As indicated by the ephemeris, the comet became somewhat brighter. On February 8, the magnitude was 5·8, just bright enough to be seen with the unaided eye. The object was diffuse with a sharp nucleus, and had a conspicuous tail over a degree in length, which was well visible with even small instruments. At the time of closest approach to the earth, the distance appears to have been about 50 million miles. The comet has been moving rapidly in a south-easterly direction from the constellation Cetus to Eridanus.



Comet Cosik-Peltier (1939 *a*)

Taken at the Nizamiah Observatory, Hyderabad.—Feb. 14, 1939. Exposure : One hour, ten minutes.

The Photograph was taken with a 4½ inch astro camera attached to the astrographic equatorial The images of stars in the region are shown as short trails due to the motion of the comet relative to the stars during the time the exposure was made. The tail appears to be about a degree in length.

T. P. B.