Schwabe's Sun-spot Observations.

In 1864, in response to a request from Dr. De la Rue and Prof. Balfour Stewart, Hofrath Schwabe allowed his valuable series of Sun-spot observations to be deposited in the Kew Observatory, and at the same time, in a letter printed in the *Monthly Notices*, vol. xxxvi. p. 298, desired that after his death they should be considered to be the property of this Society. These manuscripts have hitherto remained at Kew, where considerable use has been made of them in the reduction of the Kew solar photograms; but in the course of last year they have been transferred to the Society's library at the request of the Council.

The Transit of Venus, 1882.

At the request of the Treasury, a committee has been appointed by the Royal Society to advise the Government upon the steps which it is desirable to take in order to secure observations of the Transit of *Venus* across the Sun's disk 1882, December 6. The committee—which consists of the Astronomer Royal, the President of the Royal Society, the President of the Royal Astronomical Society, Professor J. C. Adams, the Earl of Crawford and Balcarres, Dr. De La Rue, Dr. Huggins, Professor H. J. S. Smith, Professor Stokes, and Mr. Stone—has already commenced its labours.

Obituary.

The Council regret that they have to record the loss by death of the following Fellows and Associates during the past year:—

Fellows:—C. Raganootha Chary.
Rev. R. S. Bower.
H. W. Buxton.
J. S. Eiffe.
William Gray.
W. A. Harris.
William Lassell.
Rev. R. C. Lumsden.
Captain J. Williams.

Associates:—Baron Dembowski.
Benjamin Peirce.
Prof. C. A. F. Peters.

Chintamanny Ragoonatha Chary, the head assistant in the Madras Observatory, died on February 5, 1880. He was attached to the Observatory for a period of nearly forty years, and served in succession in every grade under Captain Jacob and the present astronomer, Mr. Pogson. He contributed three papers to the *Monthly Notices*, viz.: 'On the Determination of Personal Equa-

tion by Observations of the Projected Image of the Sun" (vol. xix. p. 337); "Occultations visible in the month of August, 1868, at Madras and along the Shadow-Path of the Total Eclipse of the Sun in India" (vol. xxviii. p. 193); "On the Total Eclipse of the Sun, on December 11th, 1871, as visible in the Madras Presidency" (vol. xxxi. p. 137). He was elected a Fellow of the Society on January 12, 1872.

In 1874 he published a pamphlet on the Transit of Venus, being induced to do so, as he states, by the fact that "although the class of phenomena to which the Transit of Venus belongs is mentioned in Hindu treatises on Astronomy, especially of the Sidhanta Siromani, yet the Sidhantis or Hindu astronomers are really not familiar with the nature of this particular occurrence, and cannot predict it with even a rough approach to accuracy, happening as it does at such strange and rare intervals." The English edition is in the form of a dialogue, and the author mentions that he had been accustomed for so many years to discuss astronomical facts and methods verbally with Hindu professors of the art that his sketch naturally assumed this shape. It is stated in the preface that in the Sanscrit, Canarese, Malayalum, and Maharathi versions it was found convenient to vary this arrangement. The library of the Society contains, besides the English edition, copies of the version in Hindustani and Telugu. Among the list of subscribers to the pamphlet are the Government of Madras, 1,100 copies; of Bombay, 900; of the N.W. provinces, 300; the Chief Commissioner, Central Provinces, 200; the Maharajah Holkar, 240; Education Department, Bombay, 200; besides eleven subscribers for 100 or more copies, eight for forty or more, &c.

At the end of the pamphlet Mr. Chary printed an address delivered by him "at Pacheappah's Hall, Madras, on April 13, 1874, to a large meeting of native gentlemen." The object was to obtain support for a work upon Astronomy which should embody the corrections, equations and formulæ established by European research, "together with what is proper to retain from our own works, and thus to construct a manual accessible to Hindu astronomers, and sufficient for all the purposes to which Astronomy is applied in our social and religious practices." The title of this work was to be "Jyotisha Chintamani," and it was to consist of two volumes of about 500 and 300 pages respectively. Mr. Chary states that for five years he has devoted his leisure to this task, and that he intends to take eighteen months' furlough shortly, and to devote the whole of his energies to bringing the work to a conclusion. After explaining the cost of printing the book, and asking for assistance to enable him to undertake the publication, he proceeds: "It is a matter of the deepest regret that I should be unable to carry out my design, so long the cherished object of my life, without invoking help from others. But you are all aware that my income has always been very slight, barely sufficient to provide for simple wants; an allowance of Rs. 100 per mensem after thirty-

three years' service leaves scanty margin for saving, and what little I have managed to put aside has been dispersed in meeting the charges which have had to be incurred in proceeding with the work so far. My health, too, is becoming weaker daily, and I cannot shut my eyes to the fact that my retirement from active work is not very distant."

He also suggested that a native Observatory should be founded by voluntary effort, and offered to present his own instruments as a nucleus of such an institution; after referring to the importance of co-operation in science, he adds: "In Europe, excluding Russia, there now exist fifty-four public and ten private Observatories spread over an area of less than two million square miles. In India with a surface of one and a half million miles we have but one, and that one wholly supported by the State . . . I recommend no more than that a modest but thorough place of instruction and study should be founded where theoretical knowledge can be united to actual practical work, and where the mathematician equally with the humble Sidhanti may find pleasure and profit. Such places exist in hundreds in Europe, but nowhere is the need for them greater than in India. Not much money, a little zeal, a little stedfastness of purpose, wed these to a regard for science, and soon would the metropolis of Southern India be graced with an Institution which would be an honour to the country."

In an obituary notice of Mr. Chary which appeared in the *Madras Mail* for February 7, 1880, he is spoken of as an unassuming and distinguished native gentleman, and it is stated that his strict honesty and ready skill as an observer, combined with accuracy and speed in computation, and a fair and useful amount of self-acquired mathematical knowledge, rendered him, until disabled by impaired health, invaluable in the Observatory, and that the chief share in the catalogue of stars in hand, with the Transit Circle, since 1862, comprising already over 38,000 separate observations, is due to his personal exertions. The notice concludes as follows:—"He was twice successfully engaged in observations of total eclipses of the Sun: on the first occasion in August 1868, at Vunpurthy, in the Nizam's dominions, in independent charge of a branch expedition for the purpose; and on the second, in December 1871, at Avenasky, in the Coimbatore District. He was the first and only native of India who has yet entered the lists as a discoverer of new celestial objects, having detected two new variable stars, *R Reticuli*, in 1867, and *V Cephei*, in 1878. As editor of the astronomical portion of the Asylum Press Almanac, and of a native calendar published on his own responsibility, he has been before the public for the past twelve years; and he latterly took great interest in delivering public lectures on Astronomy, with a view to enlighten his countrymen upon the subject, and to convince them of the absurdity of their notions in regard to celestial phenomena, by familiar explanations, in simple terms, of the true principles of

the science, as opposed to the ignorant superstitions and rough predictions of Hindu astrologers and empirics of the old school." It is probable that his projected book was not published; there is no copy of any portion of it in the Society's library, and the writer of the notice in the *Madras Mail* does not refer to it.