

In 1827, Mr. Rigaud met with a severe domestic affliction in the loss of his wife ; an event which left him sole guardian of a large family of young children; to the superintendence of whose education much of the attention of the latter years of his life was devoted. The affection and solicitude with which he discharged this duty was rewarded by his being spared to witness the academic distinction of his eldest son, who is now a Fellow of our Society; and the Council are happy in being able to state that he is completing the publication of a collection of letters from scientific men in the beginning of the last century, upon which his father was engaged at the time of his death; and the original documents of which formerly belonged to Mr. Jones, the father of Sir William Jones, but now in the possession of the Earl of Macclesfield.

Many members of this Society have had opportunities of observing the kindness and unaffected simplicity of manner which marked Mr. Rigaud's intercourse in private life; and some of them, the more sterling qualities of his character. For many years past, however, he had entered but little into society. His almost constant residence, for nearly half a century, was Oxford: and there he has left a large circle of friends, who had abundant opportunities of knowing his virtues, and who will long regret his removal. In him the University has lost a most devoted son; and it is now a consolation to remember that he was ever foremost among those whom she delighted to honour.

Mr. James Epps was appointed Assistant-Secretary of this Society in 1830, and during the eight years he officiated in that capacity, he not only merited the approbation of the Council by the ability and zeal with which he discharged the duties of his office, but also rendered himself acceptable to the Fellows at large by his uniform urbanity, his cheerful disposition, and his readiness to oblige on all occasions. Although he had not the advantages of a regular education, and the occupations of his early life left but little leisure for the cultivation of the sciences, he had acquired, nevertheless, very considerable knowledge both of theoretical and practical astronomy; and he had also much skill and experience in astronomical computation. He was the author of several papers printed in our *Memoirs*; namely, one in the fourth volume, accompanied by some useful tables for computing the azimuthal deviations of a transit instrument from the observed passages of two stars through the vertical it describes; another, in the same volume, on the errors of the same instrument occasioned by the inclination of the axis to the horizon; one, in the sixth volume, on the method of ascertaining the comparative rates of chronometers; and one, in the ninth volume, on the investigation of formulæ for reducing observations made with the annular micrometer. He likewise recently contributed another paper on the errors that may be produced in determining differences of longitude by observations of moon-culminating stars, when there are no corresponding observations; accompanied by a table of results deduced from comparisons of such observations, with the places given in the *Nautical Almanac*,

which has been ordered by the Council to be printed in the forthcoming volume.

In 1838, Mr. Epps resigned his office in the Society, and removed to Hartwell to superintend the private observatory of our excellent Treasurer, Dr. Lee. For this appointment he was eminently well qualified. He entered on its duties with his usual ardour; thus meriting the friendship and esteem of his patron, which he continued to enjoy without interruption to the hour of his death. On his removal to Hartwell, he was elected a Fellow of this Society.

Mr. Epps was a man of varied accomplishments and extensive general information; and knew well how to turn theoretical knowledge to practical account. He was born in 1773, of humble but respectable parents residing in Kent; and died at Hartwell on the 10th of August last, regretted by all who knew him.

The Council have to regret the resignation of Captain Smyth as Foreign Secretary; a gentleman well known to you all for his varied acquirements, and for his great zeal in the cause of science in general, and more especially that branch of it which is more immediately connected with this Society, and which he has so successfully cultivated. Capt. Smyth's occupations in a more distant part of the country will prevent his continuing in the office, which he has so admirably filled: but it is to be hoped that he will occasionally assist us with his counsel and advice.

It is well known to members frequenting the meetings of this Society, that the names of three Fellows have, for the last three years, been suspended in the meeting-room as defaulters: and although notices have been regularly issued to them, agreeably to the by-law, Sect. v. § 6, the arrears have not yet been paid. The Council therefore have considered it their duty (as on a former occasion in the year 1836) to call a special general meeting, for the purpose of removing or expelling those Fellows. This special general meeting will take place after the termination of the present annual general meeting.

In the Report of the Council to the Society in the year 1838, it was stated that the pendulum observations made by the late lamented Lieut. Murphy in Asia, had been received, and placed in the hands of Mr. Baily, for examination and reduction. Since that period, the pendulums themselves have arrived, and Mr. Baily has repeated his experiments on them, for the purpose of comparing the results before and after the voyage, with those made by Lieut. Murphy. A Report on the whole of these experiments, and on their general result, will be made by Mr. Baily, and read to the Society at one of the evening meetings. These pendulums are now intrusted to Capt. James Clark Ross, as already mentioned, for the purpose of making further experiments at such places as he may find it convenient, during his present scientific voyage: and they are thus, for the third time, placed in active operation.

As connected with this subject, it may be mentioned that when Mr. Maclear departed for the Cape of Good Hope, to take the

superintendence of the Observatory there, he took with him one of Kater's invariable pendulums, that had been previously swung in this country by Mr. Baily. That pendulum has recently been returned to this country, together with a detail of Mr. Maclear's experiments. The whole have been placed in the hands of Mr. Baily, who will, in this case also, report upon the general result.

In alluding to the labours of Mr. Maclear at the Cape of Good Hope, the Council may mention also his intention of remeasuring the arc of meridian formerly measured by Lacaille. Already have the stations of Lacaille been satisfactorily identified, and the latitudes of the extreme stations been observed, as we have seen by the paper recently read to this Society: and the requisite apparatus has been sent out for finishing what has been so auspiciously begun. Under the direction of this able and zealous astronomer, there is every reason to expect a satisfactory result to so important an operation.

The fourth volume of the *Monthly Notices* closed with the account of the proceedings at the meeting in June last. The fifth volume commenced with the present session. As these detached papers are distributed only to Fellows of the Society, and cannot now be purchased, only a limited number of copies being printed for distribution, it is requisite that those Fellows, who are desirous of preserving them, should endeavour to prevent their being mislaid or lost.

The Council have great pleasure in stating that the eleventh volume of the *Memoirs* of the Society is now in the press, and that considerable progress has been made in the printing. Amongst the papers that will appear therein, is a very valuable catalogue of all the stars that were observed by Mr. Airy during the time that he had the superintendence of the Observatory at Cambridge. Partial lists of those stars had from time to time been printed in the several volumes which annually proceeded from that Observatory; subject however to a slight correction for reducing them to one and the same equinox. In the catalogue about to appear in our *Memoirs*, they are all uniformly reduced to the epoch 1830, with the annual precessions annexed; and are thus immediately available for occasional reference and application. This catalogue will be found to fill up many *lacunæ*, and tend to rectify many errors in former catalogues, arising either from imperfect observation, or from mistakes in transcribing or computing authentic records. It has been found of great assistance in perfecting and enlarging the catalogue which goes under the name of the Catalogue of this Society; as it contains several stars that had not been observed since the original observations by Hevelius, Flamsteed, and Bradley. With a view to extend its utility still further, the Council have directed that an additional number of copies should be printed, and presented to the Rev. Mr. Challis, the director of the Cambridge Observatory, with a request that they might be distributed with the forthcoming volume of the *Cambridge Observations*: a request with which he has readily complied.

It is also with much pleasure that the Council can state that the extension of the Society's *Catalogue of Stars*, just alluded to, and which has been undertaken at the suggestion and at the expense of the British Association, is in great progress, and will probably be completed before the next anniversary. It is intended that this enlarged catalogue shall contain not only every known star in the catalogues of Hevelius, Flamsteed, Bradley, Mayer, Lacaille, and Zach, but also every star, in any of the more modern catalogues, of the sixth magnitude, in whatever part of the heavens it may be situated, and every star in such catalogues not less than the seventh magnitude, within  $10^\circ$  of the ecliptic; together with every other star that, from its peculiar position, suspected proper motion, or other extraordinary circumstance, may be deserving of being thus recorded, and pointed out for further observation.

In the execution of this work, considerable assistance has been afforded by the four several catalogues published by Mr. Thomas Glanville Taylor, at Madras. The second of those catalogues contains nearly all the stars in the Society's catalogue, visible in that latitude; and the last two exhaust nearly the whole of Piazzi's celebrated catalogue. The total number of stars contained in these four volumes is upwards of 8800; most of which have been observed more than once, and many of them more than five times. The whole have been of essential advantage in completing and perfecting the extension of the Society's catalogue above mentioned: since it has enabled the computers not only to verify the positions of nearly all the stars, but also, in most cases, to deduce the proper motion (if any) that belongs to each of them respectively. The establishment of this observatory is highly honourable to the East India Company, and the fruits which it has produced reflect great credit on the zeal and assiduity of Mr. Taylor, the active superintendent.

Another subject also undertaken by the British Association, is the reduction of the stars in the *Histoire Céleste* (a work containing about 50,000 observations), together with the annual precession annexed to each star. About one-half of this work is already executed; and, when completed, it will afford a ready and convenient reference to almost all the stars (not circumpolar) that are visible in this latitude with an ordinary telescope. The positions of the stars are reduced to the epoch 1800, by means of the very convenient tables of M. Schumacher; a work which renders it scarcely necessary that the computations should be done in duplicate; for, as every star will be referred to its original authority in the printed work, the astronomer will have an easy and ready mode of verifying any suspected result, and of rectifying any error that may be discovered.

To the British Association also, astronomers are indebted for another work of a similar kind: namely, the reduction of *all* the observations of stars made by Lacaille at the Cape of Good Hope. It is well known that only 1942 of those stars were reduced by Lacaille himself, and formed into a catalogue, which is printed at



the end of his *Cælum Australe Stelliferum*: but the great mass of his observations, consisting of upwards of 10,000, have never yet been reduced, although they are of equal authority with those in the published catalogue. The execution of this work is proceeding under the direction of Professor Henderson of Edinburgh, who has been kind enough to supply the elements for the reduction, and to superintend the process of the computations: and there is every reason to believe that Lacaille's new and enlarged catalogue will, as far as the stars in the old catalogue are concerned, be more entitled to confidence (since it is founded on more accurate elements) than the original catalogue published by Lacaille himself. It will, moreover, contain a great number of other stars of equal authority, unknown to astronomers till the appearance of the recent catalogue of Sir Thomas Brisbane.

Connected with this subject is another work of great interest, likewise proposed by the British Association: namely, a revision of the nomenclature of the stars, and of their division into constellations. It is well known that much confusion at present exists in the notation that has gradually crept into practice: a notation now without order, system, regularity, or uniformity. Hevelius was the first to break in upon the arrangement of the constellations as propounded by Ptolemy: and Flamsteed (or his editors), although he did not disturb the order or number of the constellations in the catalogue of Hevelius, yet introduced some confusion by inserting stars in one constellation that had previously been considered as belonging to another: Bayer's mode of indicating the relative magnitudes of the stars in each constellation was in a great measure lost sight of; and thus the way was led for that mass of confusion which is contained in Bode's large catalogue of 17,240 stars. In the southern hemisphere, we find Halley and Lacaille introducing totally new constellations, frequently overlapping each other, and the stars themselves indicated by such a profusion of letters (many of them precisely similar and several times repeated in the same constellation), that it is often difficult and not always possible to identify them. With the view of applying a remedy to this species of scientific annoyance, the British Association has appointed a Committee, and placed funds at their disposal, for a new arrangement and classification of the stars; preserving as much as possible the old constellations, and Flamsteed's system of numerical order: but correcting gross errors in such arrangement, and confining the adopted constellations to known and definite limits. The present time appears peculiarly favourable for such an undertaking, when so many catalogues are about to be formed into one uniform system. Those only, who have had much experience in such matters, can fairly estimate the convenience and advantage to be gained by such a reform. It is to be hoped that one of the leading members of the Committee will favour this Society with his views and proposals on this subject, in order that it may have the opportunity and benefit of a free discussion, prior to the adoption of so important an alteration.