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### XLVI. Notices respecting new books

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XLVI. *Notices respecting New Books.*

*An Analytical Calculation of the Solar Eclipse for the 7th Day of September 1820.* By D. MACGREGOR. Svo. pp. 46. 3s.

**T**HERE is scarcely any circumstance so well adapted to excite in the minds of the unscientific an exalted opinion of Astronomy, as the power which its professors enjoy, of predicting to the greatest nicety the various phænomena of an eclipse. And even among those who have in some degree studied this sublime science, there is no doubt a considerable number, whose attainments will not enable them to go through the various calculations which are required upon such an occasion.

We have been led to this remark, by the examination of a pamphlet recently published, entitled “An Analytical Calculation of the Solar Eclipse for the 7th of September 1820. By D. MacGregor.” Svo. pp. 46. The Author professes to have printed this work “not with the view of instructing mathematicians or astronomers; but of assisting those who are not yet sufficiently conversant in these subjects, and who are desirous of being better acquainted with them.” And certainly we have not observed in any elementary work, or Cyclopædia, a more clear elucidation of the calculus of a Solar Eclipse than is here presented to the reader.

The first step taken, is, to ascertain, nearly, the time of New Moon, which is done by Burckhardt’s formula given at the end of his Lunar Tables; and consisting of twelve terms. For the epoch thus found, are calculated (from the last-mentioned tables) the moon’s true longitude, latitude, horary motion, horizontal parallax, and semi-diameter; and from Delambre’s solar tables, the sun’s longitude, horary motion, horizontal parallax, and semi-diameter. The computed longitudes of the two luminaries being then compared together, the difference is no more than 2”; and the correction of the time of conjunction found by the formula, only +44 seconds of time.

The next step is to compute, by spherical trigonometry, the Right Ascensions and N. Polar distances of the two luminaries; and the first portion of the process is concluded by the formation of a “Table of data for the general eclipse,” in which the principal quantities already enumerated are set down for every 30 minutes of the duration of that phænomenon.

The Author proceeds, in the second part, to give formulæ for the solution of eight problems relating to the eclipse, as affecting the earth generally, but without numerical examples; and then passes to the third portion, which occupies 25 pages, and contains five general analytical solutions, which have for their object

ect the determination of the phænomena of the Eclipse *at any particular place*. These are followed by an actual logarithmic computation of every particular, so as to render the application of the formulæ clear to every one possessing but a moderate knowledge of analysis.

Upon the whole, we think that every lover of the science, who does not possess the original works from whence the formulæ are extracted, will be anxious to procure this interesting pamphlet, which, from the transient form in which it appears, will probably soon become scarce.

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*Recent Publications.*

The Characters of the Classes, Orders, Genera, and Species, or the Characteristics of the Natural History System of Mineralogy. By Fred. Mohs. Svo. 6s. 6d.

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A new and improved Map of India, on one large sheet; compiled from the latest documents, and engraved by John Walker. 16s. or on rollers 1l. 1s.

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Picturesque Scenery on the River Meuse and its Banks, from drawings made on the spot in the summer of 1818. By G. Arnold, A.R.A. No. II. 1l. 1s.

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Medical Tracts, published by the College of Physicians, with coloured Plates, Vol. VIII. 12s.

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Researches into the Nature and Causes of Epilepsy, as connected with the Physiology of animal Life and muscular Motion. By T. G. Mansford. 7s.

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*Pomarium Britannicum*: an Historical and Botanical Account of Fruits known in Great Britain; with three coloured Plates relating to the parts of Fructification. By Henry Phillips. Royal Svo. 1l. 1s.

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The Theory and Practice of Gas Lighting: in which is exhibited an Historical Sketch of the Rise and Progress of the Science, &c. By T. S. Peckston. With 14 appropriate Plates. 8vo.

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An Essay on Mercury; wherein are presented Formulæ for some preparations of this metal, including practical remarks on the safest and most effectual methods of administering them. By David Davies, M.D. 2s. 6d.

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A History of the High Operation for the Stone. By T. Carpue, F.R.S. 8s. 6d.

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Sketches, representing the Native Tribes, Animals and Scenery of Southern-Africa, from Drawings made by the late S. Daniell, engraved

engraved by W. Daniell. Royal 4to. 3l. 3s. boards, or 4l. 4s. with the plates on India paper.

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*Preparing for Publication.*

An Appendix to Dr. Gilchrist's Guide to the Hindostanee, in which every word in that valuable work will be explained, and its derivation pointed out. By Alexander Nivison, Teacher of the Oriental Languages, Edinburgh.

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Illustration of Phrenology. By Sir George S. Mackenzie, Bart. F.R.S. L. & E., in one volume Svo., with 16 engravings. This work is undertaken for the purpose of giving a succinct, and, as far as possible, a popular view of the new system of philosophy, and of furnishing the student with the means of satisfying himself of its truth, by instructing him in the art of observing.

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A Treatise on the Plague, designed to prove it contagious, from facts, founded on the author's experience, during the visitation of Malta in 1813; with observations on its prevention, character, and treatment. By Sir A. B. Faulkner, M.D. &c.

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Mr. Godwin's Work on *Population*, being an answer to Malthus, will appear in a short time.

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Travels in Syria and Mount Sinai. By J. L. Burckhardt.

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Practical Observations on Midwifery, with a selection of Cases. By Dr. Ramsbotham.

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The Works of the late Professor Playfair, of Edinburgh, in 4 vols.

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The Conchology of Great Britain and Ireland. By Thomas Brown, Esq. F.R.S.E.

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An Appendix to the Midland Flora. By T. Purton: embellished with numerous coloured plates. By James Sowerby, F.L.S.

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Rome in the Nineteenth Century, containing a complete Account of the Ruins of the ancient City; the remains of the middle Ages, and the Monuments of modern Times, &c. in a Series of Letters written in 1817 and 1818.

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Illustrations of the Geology, Antiquities and Scenery of the Shetland Islands. By S. Hibbert, M.D. F.R.S.E.

Mr. Ackerman has announced for publication by subscription a Picturesque Tour of the Seine from Paris to the Sea, to be comprised in 6 monthly Parts, containing 24 highly coloured engravings.

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The Book of Nature laid open, in a popular Survey of the Phænomena and Constitution of the Universe, and the Appearances of Nature during each Month of the Year. By the Rev. W. Hutton. 12mo.

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XLVII. *Proceedings of Learned Societies.*

ROYAL GEOLOGICAL SOCIETY OF CORNWALL.

THE anniversary meeting of this Society was held in the Museum, Penzance, on Tuesday, October 3, and was, as usual, numerously attended by most of the gentlemen in the western part of Cornwall. Owing to the inconvenience of frequent sittings, to members residing at great distances from each other and from the apartments of the Society, as must happen in all associations in the country, the monthly and quarterly meetings have in a great measure given way to the general annual meeting in autumn. At least, for the last few years all the principal memoirs presented have been reserved for the anniversary meeting.

On the present occasion this was well attended, and many interesting and valuable papers were read. The following is a brief notice of some of the more interesting of these: 1. The Secretary, Dr. Forbes, read a very elaborate memoir On the Temperature of Mines; a subject which of late years has attracted much attention, but which had received little or no notice in Cornwall previously to the institution of this Society. In this paper the author in the first place detailed the result of thermometrical observations, made by himself and others, in numerous mines, as well in Cornwall as in other countries; from all of which it resulted that the temperature of the air, water, and earth in mines, as shown by the thermometer, progressively but irregularly increased from a few hundred feet beneath the surface to the greatest depths yet attained by the miner: the maximum temperature in the deepest mines of Cornwall (1300 to 1400 feet) being about 80 degrees of Fahrenheit, or 28 degrees above the mean  
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