

*February 7, 1889.*

Professor G. G. STOKES, D.C.L., President, in the Chair.

The Presents received were laid on the table, and thanks ordered for them.

The following Papers were read:—

- I. "Second Series of Results of the Harmonic Analysis of Tidal Observations." Collected by G. H. DARWIN, LL.D., F.R.S., Fellow of Trinity College and Plumian Professor in the University of Cambridge. Received January 18, 1889.

[Publication deferred.]

- II. "The Principles of training Rivers through Tidal Estuaries, as illustrated by Investigations into the Methods of improving the Navigation Channels of the Estuary of the Seine." By LEVESON FRANCIS VERNON-HARCOURT, M.A., M.Inst.C.E. Communicated by A. G. VERNON-HARCOURT, F.R.S. Received January 19, 1889.

[Publication deferred.]

- III. "Note on the Spectrum of the Rings of Saturn." By J. NORMAN LOCKYER, F.R.S. Received and read February 7, 1889.

The acknowledged meteoritic constitution of the rings of Saturn rendered it important to obtain a photograph of their spectrum, in order that it might be determined whether collisions there were of sufficient intensity to produce incandescent vapours. It has long been known that the rings appear much more luminous than the planet, and the magnificent photographs obtained by the Brothers Henry show that this is truer for the blue light than for the visual rays.

The weather has been so bad that only one long exposure photograph has been taken. Although the instrument was not in perfect

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adjustment, owing to a recent accident, I submit it to the Society because there appears to be evidence of bright lines in the photograph. It is altogether too early to announce this as an established fact, but I think it well to send in this note, in order that other observers with more powerful optical appliances and a better climate than that of London may investigate the question.

The photograph exhibited was taken on the 2nd instant by Mr. Porter, Computer to the Solar Physics Committee. The instrument employed was the 10-inch equatorial of the Science Schools, and a spectroscope of two prisms of 60°.

Other considerations point to the possibility that bright lines or bands may be found in the spectrum of Uranus.

*Presents, February 7, 1889.*

Transactions.

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Helsingfors:—Societas pro Fauna et Flora Fennica. Acta. Vols. III–IV. 8vo. *Helsingfors* 1886–88; Meddelanden. Vol. XIV. 8vo. *Helsingfors* 1888. The Society.

Liverpool:—Astronomical Society. Journal. Vol. VII. No. 3. 8vo. *Liverpool* 1888. The Society.

London:—Iron and Steel Institute. Journal. 1888. No. 2. 8vo. *London*. The Institute.

Pharmaceutical Society of Great Britain. Calendar. 1889. 8vo. *London*. The Society.

Quekett Microscopical Club. Journal. Vol. III. No. 23. 8vo. *London* 1889. The Club.

Melbourne:—Royal Society of Victoria. Transactions. Vol. I. Part 1. 4to. *Melbourne* 1888; Transactions and Proceedings. Vol. XXIV. Parts 1–2. 8vo. *Melbourne* 1887–88. The Society.

Moscow:—Société Impériale des Naturalistes. Bulletin. Année 1888. No. 3. 8vo. *Moscou*. The Society.

Penzance:—Royal Geological Society of Cornwall. Transactions. Vol. XI. Part 3. 8vo. *Penzance* 1889. The Society.

Pesth:—Académie Hongroise des Sciences. Almanach. 1888. 8vo. *Budapest*; Ungarische Revue. 1887. Heft 8–10. 1888. Heft 1–6. 8vo. *Budapest*. With various other publications of the Academy. The Academy.