

that of the Morse telegraph instrument as worked in America. The tape is drawn by a clock at the uniform rate of 6 inches per hour. As it passes over a grooved brass roller, holes are punched in by a sharp steel point, drawn down by an electro-magnet whenever the electric circuit is completed, and drawn back by a spiral spring when the contact is broken. There are two grooves in the roller and two electro-magnets, one of which is worked by the anemometer, and the other by the rain-gauge. Thus, when both magnets are in operation, two parallel rows of holes are punched in the tape.—“On the Madras Cyclone of May 2, 1871,” by Captain H. Toynbee, F.R.A.S. After giving extracts from several logs containing data taken during the time of the hurricane, and observations taken at the Madras Observatory; the author says it seems fair to conclude that the centre of this cyclone passed to the W. and probably to the N. W. between the parallels of 10° and 13° N.; that its route was probably much interfered with by the high land to the W. and S.W. of Madras; but that it caused very disturbed weather on the west coast of India. The paper concludes with some practical suggestions as to how ships might more safely ride out a gale.—“On the character of the storm of August 21 and 23, 1868, over the British Isles,” by Captain T. O. Watson.

PARIS

Academy of Sciences, Feb. 17.—M. de Quatrefages, president, in the chair. A decree of the President of the Republic authorising the election of M. Janssen to the Academy was read, and M. Janssen admitted. M. Faye read the termination of his answer to Fathers Secchi and Tacchini; it was devoted to the refutation of Secchi's statement that spots were solar eruptions and the proof that they were down-rushes caused by cyclones.—M. A. Trecul read a paper on the carpellary theory as regards *Martynia fragrans*.—M. A. de Caligny contributed a further paper on hydraulic engineering, &c.—Colonel H. Levret sent a note on the determination of geographical position on any ellipsoid, and M. Boutin a note on the presence of nitre in *Amarantus Blitum*; the dried plant contains 11.68 parts per cent. by weight of potassic nitrate.—M. T. Tissandier presented a description of some meteorological observations made in a balloon.—M. L. Hugo sent a note on two antique dodecahedra in the Louvre, and M. Brachet two microscope lenses made of spinelle ruby; he believes that these will act better than the portion of the object-glass which is usually made of crown glass. A letter from P. Tacchini with a drawing of the remarkable appearance of Jupiter during January was received.—M. J. Bourget sent a paper on the mathematical theory of Pinaud's experiments on the sounds produced by heated tubes.—M. Wurtz presented a note from Dr. L. C. de Coppet on the recent communications of MM. Gernez and Vander Mensbrugge on super-saturated solutions.—M. Bussy communicated a note from M. Lefranc on atracylic acid; this acid occurs in *Atracylis gummiifera* L.—MM. Schützenberger and Risler sent a paper on the oxidising power of blood.—The eighth note of M. P. Bert on experimental researches on the effect of changes of barometric pressure on life, was received.—M. Laboulbène communicated a note on the cause of the elevation of central temperature in cases of acute pleurisy, &c.—M. E. Rivière sent a note on the pre-historic station of Cape Roux.—From M. Champouillon a note on certain imperfections in the official report on recruiting in France was received.—M. Guerin sent a note on silkworm disease; he finds that both healthy and unhealthy moths lay sound eggs.

Feb. 24.—M. de Quatrefages, president, in the chair.—M. Pasteur read a note on M. Cornalia's report on silkworm cultivation. M. Pasteur believes that his system of preserving the healthy eggs will produce good results.—M. Dumas reported on Mr. Fayer's book on Indian poison snakes.—M. J. Raulin presented a paper on the silkworm disease, and M. Hugo a note on a necklace of polyhedral beads in the Louvre. M. Éd. Weyer a note on left-handed curves of the sixth order. M. de Rebaucour on the cyclic systems, MM. Troost and Hautefeuille on the “solution” of gases in cast and wrought iron and in steel. The authors believe that the gases given off in the “boiling” of iron are due to decompositions in the iron itself.—M. Ch. Violette sent a note on the compound of sugar with potassic chloride, and M. Grimaux one on the solidifying points of solutions of acetic anhydride in water.—M. Bidaud sent a note on the flame reaction of boric anhydride. He finds it to be excessively delicate, with a coal-gas bunsen flame.—M. L. Ranvier sent a paper on the regeneration of cut nerves.—MM. D. Tommasi and G.

Quesneville on the action of zinc on acetylic chloride; M. G. Perry, notes on the third ray in triple refracting crystals and on the variability of the co-efficient of elasticity and dispersion.

DIARY

THURSDAY, MARCH 6.

ROYAL SOCIETY, at 8.30.—On the Vapour Density of Potassium: J. Dewar and W. Dittmar.—On New Sources of Ethyl and Methyl Aniline: J. Spiller.

SOCIETY OF ANTIQUARIES, at 8.30.—On the Troad: Sir John Lubbock.

LINNEAN SOCIETY, at 8.—On the Perigynium of Carex: G. Benth.

CHEMICAL SOCIETY, at 8.—On the Action of Hydrochloric Acid on Codeine: Dr. C. R. A. Wright.—New Process of Mercury Estimation, with some Observations on Mercury Salts: P. Hannay.—On a Method of Estimating Nitric Acid: T. E. Thorpe.—Note on the Action of Acetates upon Solutions of Plumbic Salts, with Remarks on the Solubility of Plumbic Chloride: F. Field.

ROYAL INSTITUTION, at 3.—Forces and Motions of the Body: Prof. Rutherford.

FRIDAY, MARCH 7.

ROYAL INSTITUTION, at 3.—On the Temperature of the Sun and the Work of Sunlight: James Dewar.

GEOLOGISTS' ASSOCIATION, at 8.—On the Geology of Brighton: James Howell.—On some Fossils from the Margate Chalk: W. Wetherell.

ROYAL COLLEGE OF SURGEONS, at 4.—Extinct Mammals: Prof. Flower.

SATURDAY, MARCH 8.

ROYAL INSTITUTION, at 3.—On the Philosophy of the Pure Sciences: Prof. W. K. Clifford.

SUNDAY, MARCH 9.

SUNDAY LECTURE SOCIETY, at 4.—The Education of Women: Mrs. Fawcett.

MONDAY, MARCH 10.

ROYAL COLLEGE OF SURGEONS, at 4.—Extinct Mammals: Prof. Flower.

LONDON INSTITUTION, at 4.—Physical Geography: Prof. Duncan.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Notes of a Journey in Southern Formosa: J. Thomson.

CANTOR LECTURES, at 8.—On the Energy of Light, with especial reference to the Measurement and Utilisation of it: Rev. Arthur Rigg.

TUESDAY, MARCH 11.

PHOTOGRAPHIC SOCIETY, at 8.—On the Development of Negatives and Transparencies: Col. Stuart Wortley.—On the Photographic Operations for observing the coming Transit of Venus: Lord Lindsay.

ROYAL INSTITUTION, at 3.—Forces and Motions of the Body: Prof. Rutherford.

WEDNESDAY, MARCH 12.

SOCIETY OF ARTS, at 8.—On Signalling at Sea, with special reference to Signals of Distress: Capt. Colomb.

GEOLOGICAL SOCIETY, at 8.—On the Solfatara and some Sulphur-deposits at Kalamaki, near Corinth: Prof. Ansted.—On the Origin of Clay-ironstone: J. Lucas.—Note in vindication of Leptophloeum rhombicum and Lepidodendron gaspianum: Principal Dawson.—Synopsis of the younger formations of New Zealand: Captain F. W. Hutton.

ARCHAEOLOGICAL ASSOCIATION, at 8.

LONDON INSTITUTION, at 7.—Fresco and Siliceous Painting: Prof. Barff.

ROYAL COLLEGE OF SURGEONS, at 4.—Extinct Mammals: Prof. Flower.

BOOKS RECEIVED

ENGLISH.—The Student's Manual of Comparative Anatomy and Guide to Dissection, Part 1, Mammalia: G. H. Morrell, M.A.—The Romance of Astronomy: R. K. Miller (Macmillan).—Columbia (Trübner).—A Course of Qualitative Chemical Analysis: W. G. Valentin (Churchill).—Exalted States of the Nervous System. 3rd Edition: R. H. Collyer (Renshaw).—The Story of the Earth and Man: J. W. Dawson (Hodder and Stoughton).
FOREIGN.—Einleitung in die Theoretische Physik: V. Von Lang (Williams and Norgate).

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