

and the report of the thunder.—A paper was also read by Mr. A. B. MacDowall, on some suggestions bearing on weather prediction.

Geological Society, June 24.—Sir Archibald Geikie, F.R.S., President, in the chair.—The following communications were read:—On wells in West Suffolk boulder-clay, by the Rev. Edwin Hill. It might be supposed that in a boulder-clay district water could only be obtained from above or from below the clay. But in the writer's neighbourhood the depths of the wells are extremely different, even within very short distances; and since the clay itself is impervious to water, he concludes that it must include within its mass pervious beds or seams of some different material which communicate with the surface. It would follow that this boulder-clay is not a uniform or a homogeneous mass. The visible sections are only those given, at hand by ditches, and at a considerable distance north and south by pits at Bury St. Edmunds and Sudbury. The appearances in these harmonize with that conclusion. Conclusion and appearances differ from what we should expect on the theory that this boulder-clay was the product of the attrition between an ice-sheet and its bed. The reading of this paper was followed by a discussion in which Prof. Prestwich, Dr. Evans, Mr. Clement Reid, Mr. Charlesworth, Mr. Topley, Mr. Goodchild, the President, and the author took part.—On the melaphyres of Caradoc, with notes on the associated felsites, by Frank Rutley.—Notes on the geology of the Tonga Islands, by J. J. Lister. (Communicated by J. E. Marr, F.R.S.)—On the Inverness earthquakes of November 15 to December 14, 1890, by C. Davison. (Communicated by Prof. Chas. Lapworth, F.R.S.) In this paper the author gives reasons for supposing that the Inverness earthquakes of last year were due to the subsidence of a great wedge of rock included between a main fault and a branch one; and he considers that there is little doubt that these recent earthquakes were the transitory records of changes that, by almost indefinite repetition in long past times, have resulted in the great Highland faults.—The next meeting of the Society will be held on Wednesday, November 11.

PARIS.

Academy of Sciences, June 29.—M. Duclartre in the chair.—On persulphates, by M. Berthelot. Some new facts are stated in proof of the existence of persulphuric acid not merely as an anhydride, S_2O_7 , but also as a compound capable of forming distinct salts, similar as regards composition to permanganates, perchlorates, permolybdates, and pertungstates.—Experiments on the mechanical actions exercised on rocks by gas at high pressures and in rapid motion, by M. Daubrée. The author shows that volcanoes of the same group have approximately the same height, and points out that it is probable that each group is the result of internal action at one centre. These considerations are applied to old volcanic rocks, which often exhibit a marked tendency to equality of level. The experiments which throw light on the disturbances investigated were previously described.—Action of sodium alcohols on camphor: new method of preparation of alkyl camphors, by M. A. Haller.—On a cryptogam parasite of locusts, by M. Charles Brongniart.—On surfaces possessing the symmetry of plane systems, by M. S. Mangeot.—On homogeneous finite deformations: energy of an isotropic body, by M. Marcel Brillouin.—On the biaxial character of compressed quartz, by M. F. Beaulard.—The photogenic efficiency of different sources of light, by M. A. Witz.—On an electro-magnetic bell, by MM. Guerre and Martin.—Contribution to the study of atmospheric electricity, by M. Ch. André. It is generally admitted that atmospheric electricity is subject to a diurnal variation. A discussion of the observations made by M. Mascart at Lyons since 1884 shows that electric potential varies in much the same manner as barometric pressure and relative humidity. In fact, curves showing the annual variations of relative humidity and electric potential have precisely the same form.—On the oxidation of azo-compounds, by M. Charles Lauth.—On the formation of the mesentery and the intestinal canal in the embryo of the fowl, by M. Dareste.—On the sting of *Heterodera Schachtii*, by M. Joannes Chatin.—On Cladosporia Entomophyte, a new group of parasitic fungi of insects, by M. Alfred Giard.—Contribution to the study of the differentiation of the endoderm, by M. Pierre Lesage.—On the destruction of *Pero-nospora Schachtii* of the beetroot, by means of compounds of copper, by M. Aimé Girard.—Influence of muscular exercise on the excretion of urinary nitrogen, by M. Chibret.

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BRUSSELS.

Royal Academy of Sciences, April 4.—M. F. Plateau in the chair.—On the characteristic property of the common surface of two liquids under their mutual affinity, Part iii., by M. G. Van der Mensbrugge. The observations given in the first paper indicated that the common surface of two liquids which act upon one another is subjected to a force whose direction is away from the centre of curvature. In the present note the author gives some new facts which appear to render this force *d'extension* very manifest. When a drop of olive oil is put upon the surface of distilled water, it slowly breaks up into a lens-shaped drop on the water surface and a spherical drop which descends to the bottom of the containing vessel. It is shown that a slow diminution occurs of the tension of the surface common to the oil and water. This diminution apparently arises from a slow chemical action between the two liquids, and which, if sufficiently prolonged, is manifested by the formation of a thin pellicle separating them. Many such phenomena as these are stated and explained according to the new theory.—Fourth note on the structure of the equatorial bands of Jupiter, by M. F. Terby. The author remarks that he was the first to comment upon the structure of Jovian equatorial bands, and to make known the fact that it is observable in small instruments. In a recent publication Mr. Keeler has overlooked these observations, and rendered this rectification necessary.—On the number of invariant functions by M. Jacques Deruyts.—*A propos* the rotation of the planet Venus, by M. L. Niesten (see NATURE, June 18, p. 164).—Geometrical calculation of the distances of remarkable points of triangles, by M. Clément Thiry.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Saturn's Kingdom: C. M. Jessop (Paul).—Collection de Mémoires relatifs à la Physique, tomes i. to iv. (Paris, Gauthier-Villars).—Charles Darwin: C. F. Holder (Putnam).—Solutions of Examples in Elementary Hydrostatics: Dr. W. H. Besant (Bell).—Practical Electro-Therapeutics: A. Harries and H. N. Lawrence (Low).—Popular Astronomy: Sir G. B. Airy; new edition (Macmillan and Co.).—The Electrician Primers, 2 vols. (Electrician Office).—Report on the Cahaba Coal Field: J. Squire (Montgomery, Ala.).—A Vertebrate Fauna of the Orkney Islands: T. E. Buckley and J. A. Harvie-Brown (Edinburgh, Douglas).—Manuel Pratique d'Analyse Bactériologique des Eaux: Dr. Miquel (Paris, Gauthier-Villars).—Outlines of Field Geology, 4th edition: Sir A. Geikie (Macmillan and Co.).—The History of Human Marriage: E. Westermarck (Macmillan and Co.).—Memorials of John Gunn: edited by H. B. Woodward and E. T. Newton (Norwich, Nudd).—Michigan Mining School Report 1886-91 (Marquette, Mich.).—Sommaire de Photogrammétrie: V. Legros (Paris).—Die Indo-Malayische Strandflora: A. F. W. Schimper (Jena, Fischer).—Vorlesungen über Maxwell's Theorie der Electricität und des Lichtes, 1 Theil: Dr. L. Boltzmann (Leipzig, Barth).

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