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- Sub-Glacial Origin of Till. *GEOL. MAG.* Decade II. Vol. V. p. 335.
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- Reply to Mr. Mellard Reade. *GEOL. MAG.* Decade II. Vol. X. p. 240.
- On the Cause of the Glacial Period. *GEOL. MAG.* 1883, pp. 293-302.
- Chalk-Masses in Cromer Drift. *GEOL. MAG.* 1883, pp. 334, 335, 430.
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- On the Long Meadend Bed. *GEOL. MAG.* 1883, pp. 493-497, 573, 574.
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- Wood, Searles Valentine, and Harmer, F. W.* On the Glacial and Post-Glacial Structure of Norfolk and Suffolk. *GEOL. MAG.* 1868, Vol. V. pp. 452-456; *Brit. Assoc. Report for 1868 (Sect.)*, pp. 80-83.
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- The Kessingland Freshwater Bed and Weybourne Sand. *GEOL. MAG.* 1877, p. 386.
- Observations on Later Tertiary Geology of East Anglia. *Q. J. G. S.* 1877, pp. 74-119.
- Wood, S. V., and Rome, J. L.* On the Glacial and Post-Glacial Structure of Lincolnshire and South-East Yorkshire. *Phil. Mag.* 1867, vol. xxxiv. p. 480; *Q. J. G. S.* 1868, pp. 2-3, 146-184. [A Map of this area was separately issued.]

ALFRED TYLOR, F.G.S.

BORN, 1823. DIED, 1884.

Alfred Tylor, F.G.S., of Shepley House, Carshalton, who died on December 31st last, will be remembered as a promoter of technical education at a time when its vital importance was little recognized, and the English manufacturing mind was generally set against it. He was intimately associated with Dr. von Steinbeis, whose energy in this direction did so much to give to the little kingdom of Wurtemberg its industrial prominence in Germany, Mr. Tylor's work, "Education and Manufactures," arising out of his Jury-

report on Metal-work at the Exhibition of 1862. was translated into German, and also appeared in Swedish. Mr. Tylor sat for some years on the Council of the Geological Society. His Geological papers relate principally to the flow of rivers as connected with the erosion of valleys and the deposit of gravel-beds; they contain much systematised information, for instance, as to the mechanical action of the Mississippi and the Ganges. It is well known that his study of river-valleys and drift-gravels led him to the hypothesis of a Post-Glacial time of enormous rainfall which he called the "PLUVIAL PERIOD." The term, though not generally acknowledged, has been found of considerable use, to judge from its not unfrequent appearance in many Geological works.

Mr. Tylor's paper "On Changes of the Sea-level and on Denudation" (1853), contains a method of computing the present rate of denudation of the land from the present pluvial and marine action by estimate of the material now being carried out to sea by rivers and removed from cliffs by the sea, and the author contends that there were larger rivers, more rainfall, and greater denudation in former periods.

In his paper "On the Upper and Lower Valley-Gravels of France and England" (1866), the author enunciated the view that what were termed "High" and "Low Valley-Gravels," were of one age, and close to the Historical Period.

His paper in 1868 "On the Amiens Gravel" makes the first definite mention of the "Pluvial Period."

In Mr. Tylor's paper "On the Quaternary Gravels of England," (1869), he gives a calculation to show that the volume of the flood-waters of the Gravel-Period must have been 125 times greater than that at present in the same valleys, and the volume of the rivers 20 times as large as at present.

In his paper "On the Formation of Deltas," etc. (1869), Mr. Tylor suggests a rainfall of 300 inches in the Gravel-Period. He also treats of the law of the Parabolic Curve of River-Valleys, and the lowering of the sea-level 600 feet in the Glacial Period, etc.

In his later years he devoted much time to the consideration of Coloration in Plants and Animals in relation to their structure, as well as to the protective advantages derived by the possession of such colour-markings.

In future years Mr. Tylor will be chiefly remembered not only in the Society of Friends, but in a far wider circle, as one who had the cause of education most earnestly at heart, and still more for the generous and friendly hand which he was at all times ready to extend to help his fellow-men in any way within his power.

The following is a List of his Geological Papers:—

- On the Occurrence of Productive Iron Ore in the Eocene Formations of (Hengistbury Head) Hampshire. *Quart. Journ. Geol. Soc.* 1850, vol. vi. pp. 133-134.
- On Changes of the Sea-Level Effectuated by Existing Physical Causes during Stated Periods of Time. *Phil. Mag.* 1853, vol. v. pp. 258-281; *Silliman's Journ.* 1854, vol. xviii. pp. 21-32, 216-229; *Quart. Journ. Geol. Soc.* 1853, vol. ix. p. 49 (abstract).
- On the Footprint of an Iguanodon, lately found at Hastings. *Quart. Journ. Geol. Soc.* 1862, vol. xviii. pp. 247-253.

- On the Discovery of Supposed Human Remains in the Tool-bearing Drift of Moulin-Quignon. *Anthropol. Review*, 1863, vol. i. pp. 166-168.
- On the Interval of Time which has passed between the Formation of the Upper and Lower Valley-Gravels of England and France. *Quart. Journ. Geol. Soc.* 1866, vol. xxii. pp. 463-468.
- On the Amiens Gravel. *Quart. Journ. Geol. Soc.* 1868, vol. xxiv. pp. 103-125; *GEOL. MAG.* 1867, Vol. IV. p. 105; *Silliman's Journ. Science*, vol. xvi. pp. 302-327.
- On the Quaternary Gravels of England. *Quart. Journ. Geol. Soc.* vol. xxiv. 1868, p. 455, and vol. xxv. 1869, pp. 57-100; *GEOL. MAG.* 1868, Vol. V. pp. 338-339.
- Discovery of a Pleistocene Freshwater Deposit, with Shells, at Highbury New Park, near Stoke Newington. *GEOL. MAG.* 1868, Vol. V. pp. 391-392.
- On the Formation of Deltas, and on the Evidence and Cause of Great Changes of Sea-Level during the Glacial Period. *Quart. Journ. Geol. Soc.* 1869, vol. xxv. p. 9 (abstract). *GEOL. MAG.* 1868, Vol. VI. pp. 576-577.
- The same Paper as above brought up to date. *GEOL. MAG.* 1872, Vol. IX. pp. 392-399, 485-500.
- On the Action and Formation of Rivers, Lakes, and Streams, with Remarks on Denudation and the Causes of the Great Changes of Climate which have occurred just prior to the Historical Period. *GEOL. MAG.* 1875, Decade II. Vol. XI. pp. 433-476.
- Denuding Agencies and Geological Depositions under the Flow of Ice and Water, with the Laws which Regulate these Actions. *Quart. Journ. Geol. Soc.* 1876, vol. xxxii. pp. 4-9; *GEOL. MAG.* 1876, Decade II. Vol. III. pp. 90-93.

JOHN GWYN JEFFREYS, LL.D., F.R.S., F.L.S., F.G.S.

BORN JANUARY 18, 1809. DIED JANUARY 24, 1885.

Dr. J. Gwyn Jeffreys was born at Swansea, January 18th, 1809, and while yet a boy showed considerable taste for natural history, by collecting the insects and shells of South Wales. When only 19 he read a paper at the Linnean Society; and from that date until his decease he has contributed by his writings to our knowledge of the Molluscan fauna of Europe, and the North Atlantic. His most important works are his "British Conchology," and a series of papers in the Proceedings of the Zoological Society, and the Reports of the British Association. At the age of 20 he was elected a Fellow of the Linnean Society, and in 1840 a Fellow of the Royal Society, and an Honorary LL.D. of St. Andrews. He was elected a Fellow of the Geological Society in 1861. He took great interest in the meetings of the British Association, and was Local Treasurer at the 1st meeting at Swansea in 1848, and a Vice-President when the last meeting was held in the same town in 1880. In 1877 he was chosen President of the Biological Section. For many years he filled the office of Treasurer of the Linnean Society, and also of the Geological Society. He took part with Dr. W. B. Carpenter and the late Sir Wyville Thomson in their researches in deep-sea-soundings made by the "Valorous," the "Lightning," and "Porcupine" expeditions. He greatly interested himself in the labours of those French, Belgian, and Italian palæontologists, who devoted themselves to the investigation of the Newer Pliocene deposits of Europe, and many of his own papers have an important bearing upon the Shells of the Glacial Beds in this country. He died at his town-residence (1, The Terrace, Kensington) on Saturday, Jan. 24, 1885, aged 76 years.
