

physiognomy was produced by the cylindrical prolongation of the premaxillary bone beyond the teeth, and a similar flat prolongation of the extremity of the dentary. He referred the species to *Macrasaurus* Owen, under the name of *M. prviriger*. The specimen he stated belonged to Prof. Agassiz, who obtained it from Western Kansas, probably from the No. 3 of the Upper Cretaceous of Hayden. The following paper was presented for publication:—"Description of new Carboniferous Fossils from the United States"; by F. B. Meek and A. H. Worthen.

June 8.—The following paper was presented for publication: "On the production of Bractæ in *Larix*"; by Thos. Meehan.

June 22.—The following paper was presented for publication: "Notice of certain obscurely known species of American Birds, based on specimens in the museum of the Smithsonian Institution"; by Robert Ridgway.

June 29.—The report of the Biological and Microscopical Section was presented, and referred to the Publication Committee. On permission being granted, Mr. Warner spoke upon the mathematical representation of organic forms. Such limitations, he said, might seem to narrow the field of research into the physical causes of organic forms, and perhaps furnish the suggestion of a rational theory of these causes. If no other advantage were desirable from investigations of this kind, they might, he thought, be useful for description and classification. He exhibited a representation of the longitudinal section of an egg by a curve which he called the hyper-ellipse, and of the section of an embryo by another curve, which he termed a deformed lemniscate. Of the egg curve he said that it very closely resembled an ideal section of an egg, taken from a standard modern work. Of the curve representing the embryo he said that it not improbably marked the boundary of matter lying within it in a different state of temperature, density, or tension from the matter lying without. These representations were verified by the members present. The speaker expressed the intention of making these representations the subject of a future paper, in which he would give drawings and formulæ.

July 18.—Mr. Thos. Meehan presented leaves of the peach and cherry, and said it had fallen to him to point out that the leaf-blades of plants were developed in proportion as vigorous vitality was released, and that they were adherent or decurrent in proportion as vigorous vitality was thoroughly developed in the central axis or stem. By following out the same line of observation he had discovered the law which governed the production of sexes in plants, and he now wished to call attention to the operation of the same cause in the production of glands on the leaf-stalks of the peach and cherry. A careful examination of the gland-bearing variety of either of these would show that these glands were simply germs of the cellular matter which formed the leaf-blade. They might be seen in every stage of development, from dense full globes on the petioles to very small dots on the apex of the tolerably well-expanded matter, and it would be further seen that in proportion as vitality was weak were these germs and glands developed. Leaves from the shaded centre of the tree, or from shoots weak or enfeebled from any other cause, produced glandless leaves, while the stronger the shoot the stronger and more numerous were the glands or undeveloped parts. Remembering that these glands were but undeveloped leaf-blades, and that it had been previously proved by the author that plants developed these less freely in proportion to a vigorous axial or stem growth, it should necessarily follow that a weakened vitality would be indicated by an absence of glands. That this was so in the cases referred to, the weak and glandless leaves showed. The author had had a very remarkable confirmation of these recent physiological discoveries. Many varieties of peaches have no glands, and these had been found by the growers of southern Illinois, as he was informed by Dr. Hull, of Alton, in all cases to be the first to succumb to diseases or unfavourable circumstances. It was very seldom that the developments of science and untutored observations went along together, and so thoroughly accorded. To the author it was one of the most interesting facts he had met with in support of his theory, that the degree of separation of the leaf-blade from the main stems was wholly a question of vitality.—Mr. Meehan exhibited some fibre obtained from Mr. Roedel, of Vera Cruz, which was finer and stronger than that furnished by the "Ramie." Mr. Roedel obtained it from a plant which he had found in the Alleghanies, and which he believed to be a new species of *Boehmeria*. Mr. Meehan had, however, since found it abundantly along the Missouri River, and it proves to be only *Urtica purpurascens*, Nuttall.

EDW. D. COPE, *Corresponding Secretary.*

DIARY

THURSDAY, NOVEMBER 25.
ROYAL SOCIETY, at 8.30.—Preliminary Report of the Scientific Exploration of the Deep Sea in H.M. surveying vessel *Porcupine*, during the summer of 1869, conducted by Dr. Carpenter, V.P.R.S., Mr. J. Gwyn Jeffreys, F.R.S., and Prof. Wyville Thompson, LL.D., F.R.S. (conclusion). Spectroscopic Observations of the Sun; No. 5; J. N. Lockyer, F.R.S. Researches on Gaseous Spectra in Relation to the Physical Constitution of the Sun, Stars, and Nebulæ. Note 3: Dr. Frankland, F.R.S., and J. N. Lockyer, F.R.S. And other papers.
SOCIETY OF ANTIQUARIES, at 8.30.—Ancient British Barrows of Wiltshire and the adjacent counties: J. Thurnam, M.D., F.S.A.
ZOOLOGICAL SOCIETY, at 8.30.—Notes on some Spiders and Scorpions from St. Helena, with descriptions of new Species: Rev. O. P. Cambridge. On a small collection of Birds from the Tonga Islands: Dr. O. Finsch and Dr. G. Hartlaub.
MATHEMATICAL SOCIETY, at 8.
LONDON INSTITUTION, at 7.30.—Architecture: Prof. R. Kerr.
PHILOSOPHICAL CLUB, at 6.

FRIDAY, NOVEMBER 26.
QUEKETT MICROSCOPICAL CLUB, at 8.
SATURDAY, NOVEMBER 27.
ROYAL BOTANIC SOCIETY, at 3.45.
MONDAY, NOVEMBER 29.
INSTITUTE OF BRITISH ARCHITECTS, at 8.
INSTITUTE OF ACTUARIES, at 7.—Translation by Mr. Bumsted of "Suggestions for a Law to regulate the Calculation and Investment of the Reserve in Life Assurance Companies:" Herr Hopf.
MEDICAL SOCIETY, at 8.
ROYAL ASIATIC SOCIETY, at 3.
LONDON INSTITUTION, at 4.—Elementary Physics: Prof. Guthrie.

TUESDAY, NOVEMBER 30.
ROYAL SOCIETY, at 4.—Anniversary.
INSTITUTE OF CIVIL ENGINEERS, at 8.—Renewed Discussion upon Mr. Gardard's paper on the Strength and Resistance of Materials. On the Public Works of the Province of Canterbury, New Zealand: Mr. Edwd. Dobson, Assoc. Inst. C.E.
ANTHROPOLOGICAL SOCIETY, at 8.—The Shina People (described for the first time): Dr. G. W. Leitner.

WEDNESDAY, DECEMBER 1.
PHARMACEUTICAL SOCIETY, at 8.
OBSTETRICAL SOCIETY, at 8.

THURSDAY, DECEMBER 2.
LINNEAN SOCIETY, at 8.30.
CHEMICAL SOCIETY, at 8.30.

BOOKS RECEIVED

ENGLISH.—Dictionary of Scientific Terms: Dr. Nuttall (Strahan and Co.)
Dr. Buckland's Bridgewater Treatise: Geology and Mineralogy as exhibiting the Power, Wisdom, and Goodness of God, fourth edition, edited by Francis T. Buckland (Bell and Daldy).—The Development of the Idea of Chemical Composition: Prof. A. Crum Brown (Edinburgh: Edmonston and Douglas).—Country Walks of a Naturalist with his Children: Rev. W. Houghton (Groombridge and Sons).—Hereditary Genius; and Inquiry into its Laws and Consequences: Francis Galton, F.R.S. (Macmillan).—The Origin of the Seasons considered from a Geological Point of View: Samuel Mossman (Blackwood and Sons).—As regards Protoplasm in relation to Prof. Huxley's Essay on the Physical Basis of Life: James Hutchinson Stirling (Blackwood and Sons).

FOREIGN.—Manuel de Chimie Médicale et Pharmaceutique: Alfred Riche.—Des Bases Organiques, naturelles et artificielles, au point de vue chimique, physiologique et médicale: Dr. A. Lacote.—Ein Jahr auf den Sandwich-Inseln: Dr. J. Bechtinger.—Bryologia Silesiaca: Dr. Julius Milde.—Lehrbuch der Chemie: A. Geuther.—Leçons de Chimie: A. Riche.—Neue Probleme der vergleichenden Erdkunde als versuch einer Morphologie der Erdoberfläche: Oscar Peschel.—Etude sur la Physique du Globe: R. Bruck.—Die Abhängigkeit der Pflanzengestalt von Klima und Boden. (Through Williams and Norgate.)

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