

ratory movements and of the arterial pulsations, of examining the retina in the living eye and the larynx of a living man almost as readily as if these parts were exposed in a dissection, I cannot but conclude that this nineteenth century has already been distinguished as a very notable one for biology, and especially for physiology.

Considering that so much time is required for making a single careful observation, it is very fortunate that so large an array of inquirers and so much talent are employed upon the subjects in which we are interested, and that once a year we have this admirable opportunity of listening to the results of inquiries instituted by the most eminent men in all parts of the world, and of hearing different views advocated with the greatest earnestness and yet with perfect good humour, and a rigorous determination to rest satisfied with nothing but the truth.

SCIENTIFIC SERIALS

Proceedings of the Berwickshire Naturalists' Club.—This is the first part of a new volume of the always welcome proceedings of this almost venerable club, which, although nominally a "Naturalists' Club," concerns itself not only with all departments of natural history, but also with subjects of antiquarian, archaeological, and general historical nature. This part of the Proceedings especially contains a very large proportion of papers on the antiquities and history of the district worked by the club. As usual, the annual address of the president, Dr. Charles Stuart, consists of a summary of the proceedings of the club during the previous year, and as the proceedings take place mostly in the open air, in spring and summer, the president's address is almost always bracing and interesting, and full of information; it is so in the present case. One of the longest papers is by Dr. George Johnston, having a description of a visit to Holy Island in May 1854, and contains a great deal of interest on the history, natural history, and curiosities of that historical islet; appended is a list of the plants and animals which were seen during the visit. Mr. James Hardy has a large number of papers in this part; of his more strictly scientific contributions are the "History of some Bass Plants," "Arrival, Departure, and Local Migration of Birds near Old Cambus, 1873," "On Insects of East Berwickshire," "Contributions to the Entomology of Cheviot Hills, No. IV." Under the head of "Hawick and its Neighbourhood" we have the geology of the Hawick district by Prof. James Elliott, and its prehistoric antiquities by Dr. Bryden. Mr. John Anderson gives a list of Lepidoptera taken at various places in the south-east of Scotland in 1873, and Mr. A. Kelly the Habitats of some Berwickshire Birds. There are three contributions on *Poa Suedica* by Mr. A. Brotherton, Mr. A. Kelly, and Mr. J. Hardy. Mr. Brotherton also contributes "Zoological Notes, 1873," and a "List of Tweedside Plants, mostly of recent introduction." Sir Walter Elliot has an interesting obituary of the late Dr. T. C. Jerdon, who wrote so largely on Indian natural history. We have not space to refer to the interesting historical and antiquarian papers.

SOCIETIES AND ACADEMIES

GÖTTINGEN

Royal Society of Sciences, March 7.—M. Wieseler read a paper On the Surname "Asphaleios" as applied to Poseidon.—Dr. Drude presented a note On the Systematic Position of Schizocodon, a genus created by Siebold, to which some plants found in the highlands of Japan are referred. The author regards Schizocodon as an anomalous Primulaceae, allied to Soldanella, and clearing up the relationship between the Primulaceae and the Polemoniaceae.—Dr. Carl Fromme made a communication. On the magnetisation-function of a ball of soft iron, *i.e.* the magnetic moment obtained in a ball of unit volume by unit magnetising force.—M. Nöldeke communicated a note On the Greek Names of Susiana.—M. Bjerkesm gave a generalisation of the problem of motions produced in a still inelastic fluid by the motion of an ellipsoid.

PARIS

Academy of Sciences, Aug. 10.—M. Bertrand in the chair. The following papers were read:—On a new memoir by M. Helmholtz, by M. Bertrand.—Studies on the fossil grain found in a silicified state in the coal formation of Saint Etienne, by M. Ad. Brongniart.—Note on the isthmus of Gabès and the eastern extremity of the Saharan depression, by M. Edm. Fuchs. The

author speaks in unfavourable terms of the scheme for establishing a central sea in Algeria.—Fifth note on the conductivity of ligneous bodies, by M. Th. du Moncel.—Researches on explosive bodies; explosion of powder; by MM. Noble and F. A. Abel. Second memoir.—Actual state of the invasion of *Phylloxera* in the Charente provinces: extract from a letter from M. J. Girard to the perpetual secretary.—On the employment of flax waste against *Phylloxera*: a letter from M. La Ferre de Roo to M. Dumas.—Vines attacked by *Phylloxera* treated by sand: extract from a letter from M. L. Faucon to M. Dumas.—Note on Coggia's comet, by MM. Wolf and Rayet. The authors made two determinations of the wave-length of the central and most brilliant band in the spectrum. The results are—July 1st, 5161; July 6th, 5165.—Observations of Coggia's comet (III. 1874) made with the Secrétan-Eichens equatoreal, by M. Baillaud.—Observations of Borrelly's comet (IV. 1874) made with the Secrétan-Eichens equatoreal, by M. Wolf.—On the application of gilding on glass to the construction of the camera lucida, by M. G. Govi.—Stratification of the electric light, by M. Bidaud.—On decolorising charcoals and their artificial production, by M. Melsens.—On the constitution of clays (second note), by M. Th. Schloësing.—Estimation of tannin, by MM. A. Muntz and Rampacher. The authors allow the tanning solution to pass through a piece of hide, and estimate the amount of matter removed by loss.—Note relating to the action of muscarine (toxic principle of *Agaricus muscarius*) on the pancreatic, biliary, and urinary secretions, by M. J. L. Prevost.—On an arrangement of apparatus permitting the recovery of the iodine which is disengaged during the manufacture of "superphosphate of lime," by M. P. Thibault.—On the etherification of glycol, by M. Lorin.—On a solid polymeride of the essence of terebenthene, tetraterbenthene, by M. J. Ribau. This substance is obtained by the action of antimonious chloride upon terebenthene.—On the albumens of the white of egg, *à propos* of a reclamation of M. Arm. Gautier, by M. A. Béchamp.—Analysis of different pieces of beef sold in the Paris market in 1873, by M. Ch. Mène.—On the Annelids of the Gulf of Marseilles, by M. A. F. Marion.—On the Echini from the environs of Marseilles, by M. V. Gauthier.—On the dressing of wounds with phenic acid (according to Dr. Leister's process), and on the development of vibrios in the wounds, by M. Demarquay.—On the scales of the lateral line in different percid fish, by M. L. Vaillant.—On the influence of forests on the quantity of rain which a country receives, by MM. L. Fautrat and A. Sartiaux.—On the age and position of the white statuary marbles of the Pyrenees and Alps, by M. H. Coquand.

BOOKS RECEIVED

BRITISH.—British Wild Flowers, Part I.: Sowerby and Johnson (Van Voorst).—Reclamation and Protection of Agricultural Land: David Stevenson (Black).—Proceedings of the Manchester Literary and Philosophical Society, vols. viii. ix. x.—Memoirs of the Manchester Literary and Philosophical Society, vol. iv., 3rd series.—How I found Livingstone in Central Africa: H. M. Stanley. Cheap Edition (Low).—Twelfth Annual Report of the Birmingham Free Libraries Committee.—On the Modern Hypothesis of Atomic Matter and Luminiferous Ether: H. Deacon.—Proceedings of the Bristol Naturalists' Society, 1873.—Divine Revelation; or, Pseudo-Science: R. G. Suckling Browne (Longmans).—Tyer's Block Telegraph and Electric Locking Signals. 5th edit. (Tyer & Co.).—The Human Eye: W. Whalley (J. and A. Churchill).—Physiology of the Circulation: Dr. Bell Pettigrew (Macmillan & Co.).—Researches in the Life History of the Monads: W. H. Dallinger and J. Drysdale, M.D.—Journal of the Iron and Steel Institute, vol. 1. (Newcastle).—Treasury of Natural History. New Edition (Longmans.)

CONTENTS

	PAGE
SCIENTIFIC WORTHIES, IV.—JOHN TYNDALL. By Prof. HELMHOLTZ (<i>With Steel Engraving</i>)	299
GROVE'S "CORRELATION OF PHYSICAL FORCES." By Prof. J. CLERK-MAXWELL, F.R.S.	302
FIRST FORMS OF VEGETATION	304
LETTERS TO THE EDITOR:—	
Bright Meteors.—Prof. P. G. TAIT, F.R.S.E.	305
Mr. Herbert Spencer and Physical Axioms.—Prof. F. GUTHRIE, LL.B.	305
ORGANISATION OF THE FRENCH METEOROLOGICAL SERVICE	306
NOTES	306
THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE	308
Inaugural Address by the President	309
Section A.—Opening Address by the President	319
Section C. do. do. do.	324
Section D. do. do. do.	327
SCIENTIFIC SERIALS	330
SOCIETIES AND ACADEMIES	330
BOOKS RECEIVED	330