

The following maps, published by the Military Commissariat, deserves also a short notice:—A map of European Russia, showing for each government the surplus, or the want of, rye raised within the government, as also its price, which map leads to very interesting geographical conclusions; a map showing the average crops proportionately to the population; and a map of the sheep-breeding in Russia.

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—The first award of the Smith's Prizes under the new regulations has been made. They are now given to the Bachelors of Arts who send in the best essays on any subject in Mathematics or Natural Philosophy before the end of the Lent Term in the second year after each Mathematical Tripos. Thus the competitors this year took their degree in the Mathematical Tripos of 1883-84. The Smith's Prizes this year are awarded to two essays declared equal in merit, viz. that of Mr. H. E. G. Gallop, Fellow of Trinity College, Second Wrangler in 1883, 1st Division in Part III., 1884, subject, "The Distribution of Electricity on the Circular Disk and Spherical Bowl"; and that of Mr. R. Lachlan, Fellow of Trinity College, 3rd Wrangler, 1883, 1st Division in Part III., 1884, subject "Systems of Circles." It is further announced that the essay by Mr. C. Chree, Fellow of King's College, on "Elastic Solids," and that of Mr. A. N. Whitehead, Fellow of Trinity College, on the "General Equations of Hydrodynamics," deserved honourable mention.

The Special Board for Medicine have reported in favour of the immediate appointment of a Demonstrator of Pathology, with a stipend of 100*l.* a year, to assist Prof. Roy, who now gives systematic lectures three times a week, conducts a practical course for two hours twice a week, and undertakes the autopsies at Addenbrooke's Hospital.

The Chemical Laboratory Syndicate have recommended the acceptance of Messrs. Bull, Sons, and Co.'s tender (Southampton) for 19,300*l.*

The following appointments to Syndicates and Boards have been made:—

Botanic Garden: Messrs. A. H. Cooke and W. Gardiner.  
University Library: Prof. A. Macalister.  
Museums and Lecture Rooms: Messrs. E. H. Morgan and R. T. Caldwell.  
Local Examinations: Mr. J. W. Hicks.  
Observatory: Dr. Routh and Mr. J. Larmor.  
University Press: Prof. A. Macalister.  
State Medicine: Prof. Latham and Dr. D. McAlister.  
Mathematics: Dr. Routh.  
Physics and Chemistry: Mr. C. Trotter.  
Biology and Geology: Mr. W. Gardiner.

Great opposition has been given to the new proposals as to the additional subjects of the Previous Examination required of candidates for honours. As Mr. Oscar Browning said, "dealing with this subject seemed to cast an evil influence over every one who takes it in hand." The fact is the University, containing strong elements attached to and connected with the Public School system, refuses to boldly grasp the nettle and introduce English, Modern Languages, or Physical Science into its schemes for the Ordinary Preliminary Examination, and finds itself consequently in endless difficulties whenever it touches the question.

In addition to the practical instruction in Biology (Zoology and Botany), in preparation for the Preliminary Scientific and B.Sc. Examinations at the University of London, which we have already announced as being given at Bedford (Ladies') College, York Place, Baker Street, we are informed that a class in Geology and Physical Geography has now been formed, in accordance with the requirements of the University, and that it will be conducted by Miss Mary Forster.

### SOCIETIES AND ACADEMIES LONDON

Chemical Society, November 5.—Dr. Hugo Müller, F.R.S., President, in the chair.—Mr. Leonard de Koningh was admitted a Fellow of the Society.—The following papers were read:—The influence of silicon on the properties of cast

iron, part 2, by Thomas Turner, Assoc. R.S.M.—Modifications of double sulphates, by Spencer Umfreville Pickering, M.A.—The relation of diazobenzene-anilide to amidoazobenzene, by R. J. Friswell and A. Green.—An examination of the phenol constituents of blast-furnace tar obtained by the Alexander and McCosh process at the Gartsherrie Iron Works, part 1, by Watson Smith, J. F. H. Coutts, and H. E. Brothers.—The decomposition of potassium chlorate by heat, by Frank L. Teed, F.C.S. Note on the refractive power of metacinnamene (metastyrol), by H. G. Madan, M.A., F.C.S.

Zoological Society, November 17.—Prof. W. H. Flower, F.R.S., President, in the chair.—The Secretary exhibited to the meeting two curious Millipedes, believed to be *Spirostreptus annulipes*, which had been sent home from the Cape by Mr. Fisk for the Insect House.—An extract was read from a letter addressed to the Secretary by Major S. W. Yerbury, respecting the exact locality of a Chameleon (*Chamaleon calcarifer*) presented to the Society by that gentleman in June, 1885. Major Yerbury had obtained this specimen near Aden.—Mr. Sclater exhibited and made remarks upon two Newts (*Molge vittata*) transmitted to the Society by Dr. E. B. Dickson, of Constantinople, C.M.Z.S., by whom they had been obtained from Brussa, Asia Minor.—Mr. H. E. Dresser exhibited and made remarks on a female specimen of the Kildeer Plover (*Egialitis vocifera*), killed, in January, 1885, by Mr. Jenkinson on the Scilly Isles; and a young female Desert-Chat (*Saxicola deserti*) obtained near Spurn Head, Lincolnshire, in October, 1885.—Prof. F. Jeffrey Bell exhibited and gave an account of a specimen of a species of *Balanoglossus* obtained by Mr. Spencer at Herm, Channel Islands, being the first recorded instance of the occurrence of this Hemichordate in any part of the British seas.—Mr. F. E. Beddard read the first of a proposed series of notes on the visceral anatomy of birds. The present paper treated of the so-called omentum of birds and its homologies. It was pointed out that this structure, present in many birds, but apparently absent, or only present in rudiment, in a few others, was represented by a structure having similar relations in the Crocodile, but in no other reptile.—Mr. Oldfield Thomas read a description of *Heterocephalus philippii*, an extremely remarkable burrowing Rodent from Somali-land, belonging to a genus of which the only other known species was based upon a single specimen obtained by Rüppell's collector in Schoa. Mr. Thomas considered the affinities of this Rodent to be with *Georchus* and *Bathyergus*.—Mr. Sclater read a paper containing a description of an apparently new species of Tanager of the genus *Calliste*, based on a specimen formerly in the Gould Collection, now in the British Museum. Mr. Sclater proposed to dedicate this bird to its former owner as *Calliste gouldi*.—Mr. Boulenger gave the description of a new frog from Perak, Malacca, which he proposed to name *Megalophrys longipes*.

Physical Society, November 14.—Prof. Guthrie, President, in the chair.—Mr. G. M. Whipple described and demonstrated experimentally the process of testing thermometers at and near the melting-point of mercury, as carried on at Kew. About 20 lbs. of mercury are poured into a wooden bowl and frozen by carbonic-acid-snow and ether; the mercury is stirred with a wooden stirrer, and the snow is added till the experimenter feels, by the resistance to stirring, that the mercury is freezing. The stirring is continued for some time, which causes the mercury to become granular instead of a solid mass. The thermometers are then inserted, together with a standard, and compared. About 100 mercury or 40 spirit thermometers can be thus examined in half an hour, using about 200 gallons of carbonic acid gas compressed sufficiently to form the snow. The bowl, ether, and mercury are cooled first to  $-10^{\circ}$  C. by an ordinary freezing-mixture. The average correction at the melting-point of mercury is now less than  $1^{\circ}$  F.; when the process was introduced in 1872 it amounted to  $5^{\circ}$ , but has steadily decreased.—On the electromotive force of certain tin cells, by Mr. E. J. Herroun. Mr. Herroun has examined the electromotive forces of cells in which tin in a solution of its salts was opposed to copper, cadmium, and zinc in solutions of their corresponding salts, the solutions being of equal molecular strengths. The salts used were sulphates, chlorides, and iodides, and the cells were of the ordinary "Daniel" form, with a porous vessel. To prevent the formation of basic salts it was necessary to add a little free acid to the solution of the tin salt, and, to counter-balance the influence of this acid upon the E.M.F. as far as possible, an equal proportion of free acid was added to the other