

In a pamphlet published for Government at the National Printing Department, Cairo, Mr. Nicoll gives a list of the species of wild birds (other than those kept in captivity) observed in the Giza Zoological Gardens between the years 1898 and 1911 inclusive. The list includes 200 species, of which 187 are indigenous to Egypt, while the remaining 13 are foreign, and were doubtless represented by individuals escaped from captivity in Cairo. R. L.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

LEEDS.—On the recommendation of the Livesey Memorial Committee, the University Council has appointed Mr. John William Cobb to be Livesey professor of coal gas and fuel industries from the end of the present academic year, when the chair will be vacated by Dr. W. A. Bone, F.R.S., who has accepted the professorship of fuel and refractory materials at the Imperial College of Science and Technology.

On the recommendation of the advisory committee on higher commercial education, the University Council has decided to develop the teaching of geography in connection with the department of economics, and has appointed Mr. Llewellyn Rodwell Jones as assistant university lecturer in geography.

MR. F. A. DUFFIELD has been appointed demonstrator in experimental physiology and pharmacology at the University of Sheffield.

THE annual meeting of the Parents' National Educational Union will be held at University College, London, on Tuesday, May 14, when an address on "Some Educational Ideals" will be delivered by the Rev. A. A. David, headmaster of Rugby School.

THE committee of University College, London, will shortly proceed to make an appointment to the post of senior assistant in the department of zoology and comparative anatomy, which has been rendered vacant by the election of Dr. W. N. F. Woodland to the professorship of zoology in the Muir Central College, Allahabad.

THE Maryland Legislature has, we learn from *Science*, voted the sum of 120,000*l.*, to be followed by an annual grant of 10,000*l.*, to establish a school of technology in connection with the Johns Hopkins University. Our contemporary also announces a gift of 60,000*l.* to Princeton University from Mr. W. C. Proctor, of Cincinnati, for the endowment of the Charlotte Elizabeth Proctor fellowships in the graduate school. Mr. Proctor has previously given 100,000*l.* to the graduate school.

A SCHOLARSHIP of 35*l.* for one year is offered at Bedford College for Women (University of London) for the course beginning in October next. The scholar, who must hold a degree, or an equivalent certificate, will be required either to take the full diploma course at Bedford College or to pursue some special line of investigation in cognate subjects under the supervision of the lecturer in hygiene. Names of intending candidates, with particulars of previous study, should be forwarded not later than July 1 to the Principal, Bedford College, from whom further particulars may be obtained.

A CONFERENCE on diet in public secondary and private schools will be held at the Guildhall on May 13, when the Lord Mayor will preside. A provisional programme has been circulated, and it is expected the following papers will be read and discussed:—Diet

as a factor in physical, intellectual and moral efficiency, by Dr. Clement Dukes; existing methods and the main lines of reform, by Miss Robertson, Drs. Mumford and J. Sim Wallace, and Mr. Prosser; instruction in the elements of physiology and personal hygiene, by Mrs. Burn and Dr. Reddie; and problems in institutional feeding and training in institutional management, by Mrs. Stanley Hazell. Full particulars will be supplied to anyone sending a stamped addressed envelope to Mr. C. E. Hecht, National Food Reform Association, 178 St. Stephen's House, Westminster.

THE Australian Institute of Tropical Medicine is inviting applications in connection with the appointment of three new officers, one to be a laboratory expert capable of taking charge in the absence of the director, the second to be an expert in tropical hygiene and epidemiology, and the third to be a biochemist. This is the outcome of the large increase of endowment recently granted by the Commonwealth Government. Extensive new laboratories are in process of erection at Townsville, Queensland, and special wards have already been equipped in the Townsville Hospital. The first report of the director, Dr. Anton Breinl, is full of hopeful augury. An Australian diploma of tropical medicine is being established simultaneously by the Universities of Sydney, Melbourne, and Adelaide, the bulk of the teaching being entrusted to the institute. The affairs of the institute are supervised by a committee including representatives of the Governments of the Commonwealth and of Queensland, and the Universities of Sydney, Melbourne, Adelaide, and Brisbane.

THE second reading of the Education (School Attendance) Bill was agreed to in the House of Commons on April 26 by a substantial majority. The Bill provides that no child shall be allowed to leave a public elementary school below the age of thirteen, with the proviso that if a child leaves school between the age of thirteen and fourteen it shall only do so on condition that it is to enter into beneficial employment. The effect of the Bill would practically be to abolish half-time employment. It is generally admitted that the half-time system has little to recommend it so far as the great majority of districts are concerned. A recent departmental committee decided unanimously against it, and recommended its abolition. But, as the speeches in the House of Commons showed, some authorities wish to preserve the system in agricultural districts, though there has been a marked diminution of half-timers in country areas in recent years. The system is most in vogue in the textile districts of Lancashire and Yorkshire; but the debate served to demonstrate that its abolition would be greatly to the advantage of the children, and would result also in a marked improvement in the standard of the schools, where work has been retarded greatly by the regular absence from them of part of the children for a portion of the school day.

THE fourth annual report of the governing body of the Imperial College of Science and Technology, for the year ended August 31 last, has now been published (Cd. 6132). It provides interesting particulars of the progress already made in the provision of adequate accommodation for the extended work and activities of the college. The governing body has had under consideration its position as regards the Royal Commission on University Education in London, so far as it has reference to the work of the Imperial College, and has resolved that the autonomy of the Imperial College should be maintained and incorporation with the University of London should

not take place; also that some means should be found, either by the establishment of an independent department or faculty of technology or otherwise, by which students of the Imperial College who satisfactorily complete the associateship courses of the college, and students duly qualified by research, advanced study, or in other approved ways, may obtain degrees without further examination. To maintain the departments of applied science in the college, so that they may be of the greatest possible usefulness to their related industries, small committees of experts are being formed with the express object of keeping the college specially informed as to the needs of that industry. Throughout the report there are many instances of the strenuous endeavours of the governing body to equip and maintain the college in a manner worthy of its name.

In a paper read before the Royal Colonial Institute on April 23, Mr. A. E. Shipley, Master of Christ's College, Cambridge, dealt with the problem of fitting men for their practical post-academic life. The Americans, he pointed out, set great store by the practical nature of education. Not infrequently boys who in the ordinary course of events would leave school at fourteen or so, go up to the high school, where they maintain themselves, altogether or partly. The path from the school to the university is a straight one. But the system in America is beset by many grave disadvantages. The teaching staffs of some of the great universities are far from adequate, and the priceless feature of individual instruction and attention is neglected. College degrees may, he said, be "crammed" for, and the system stifles originality. Several Americans have told Mr. Shipley that comparatively few things are actually invented in America—that most inventions come from abroad, but are eagerly taken up and exploited in the States. Where the American really shines is not as an inventor, but as a manufacturer. Originality is rare in America, and this must be accounted for by the educational system. The remedy is either a gigantic increase in the teaching staffs of the universities or else a rigorous elimination of the first-year students. At present, he continued, the older English universities are producing the best men, but the field from which they draw is small. By making slight reforms, America could be on the same footing as the English universities, with the added advantage of a universal field from which to select the raw material.

THE completion of another important addition to the many departments housed under the roof of the Battersea Polytechnic was inaugurated on Monday, April 22, when his Honour Judge Benson (Master of the Worshipful Company of Drapers) attended for the purpose of opening the new hygiene and physiology laboratories, presented by that body as a further step towards the thorough equipment of the polytechnic. The new laboratories with their classrooms are equipped and arranged on the latest principles for the study of hygiene, physiology, bacteriology, and geology. Dr. Rawson, principal of the polytechnic, presented an interesting report on the work of the past year, in the course of which he pointed out that the number of both day and evening students showed a gratifying increase. In the matter of examination results, thirty-eight scholarships and exhibitions (to the value of 2115*l.*) had been gained during the year, together with nine medals and sixteen prizes, and other awards. The number of university students and their successes at the university examinations also showed a great increase over previous years. In conclusion, Dr. Rawson referred to the great help the new laboratories given to the

polytechnic by the Drapers' Company would prove. In the past, so far as the study of hygiene and physiology was concerned, the work had been seriously hampered for want of accommodation, but that has now been remedied. Judge Benson then distributed the prizes and formally opened the new laboratories. Later he delivered an address, in which he contrasted the present educational system with the opportunities which existed in his youth, and urged the students in their efforts to perfect themselves in technical arts and crafts, not to neglect that general culture which is necessary to the proper development of the human intellect.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, April 25.—Sir Archibald Geikie, K.C.B., president, in the chair.—J. S. Townsend: The diffusion and mobility of ions in a magnetic field. The mobility and diffusion of ions in a magnetic field is investigated on the same principles as those employed in the ordinary kinetic theory by considering the motion of an ion along its free paths between collisions with molecules. If U and K be the mobility and coefficient of diffusion when the magnetic force is zero, U_h and K_h the corresponding quantities in directions at right angles to a magnetic force H , then

$$U_h = \frac{U}{1 + \omega^2 T^2} \quad \text{and} \quad K_h = \frac{K}{1 + \omega^2 T^2},$$

where $\omega = He/m$ and T the mean interval between collisions. The magnetic deflection θ of a stream of ions moving with a constant velocity in an electric field is also investigated, and a method is indicated of determining the velocity U due to an electric force X . When θ is small, $\tan \theta = HU/X$, and when θ is large, $\tan \theta X = HU_h$.—J. J. Manley: The observed variations in the temperature coefficients of a precision balance. In this paper is given an account of experiments which supplement and extend an earlier research (Phil. Trans., A, cxx., p. 387) dealing with changes which may be observed in the resting points of precision balances. Attention is directed to the following:—(a) the possibility of the change from a positive to a negative value for the temperature coefficient of a balance; (b) the *critical temperature range* of a balance; (c) the various causes tending to give rise to a temperature coefficient; (d) the necessity for the "ageing" of a beam either naturally or artificially. In addition to the above, certain minute and temporary lateral displacements of the whole beam are investigated. A method for measuring these movements is given, and their origin disclosed.

—Dr. Guy Barlow: The torque produced by a beam of light in oblique refraction through a glass plate. In accordance with the principle that light carries with it a stream of momentum, the passage of a beam of light through a refracting plate should give rise to a torque on the plate, it being supposed that the reaction is on the matter through which the beam is passing. In 1905 Prof. Poynting and the author made experiments which confirmed this result, but as disturbances, due to gas action, were not eliminated, more exact measurements appeared desirable. In the present experiment the original double-prism arrangement was abandoned in favour of a single cube. A glass cube, of 1 cm. edge, was suspended axially by a fine quartz fibre. A strong beam of light was sent obliquely through the cube, the angle of incidence having been so adjusted that the beam entered through one half of one face, and emerged through the half-face diagonally opposite. The torque was