

ferred with by the configuration of the land, and except off the coast of Central America, where the south-easterly drift is again "cornered," the effect of the earth's rotation becomes more apparent. The difference due to the Pacific being closed at its northern extremity is extremely striking.

H. N. DICKSON.

THE UNIVERSITY OF LONDON.

ON Monday the Duke of Devonshire introduced a Bill in the House of Lords to make further provision with respect to the University of London. In the course of a brief statement as to the circumstances which have led to the introduction of the Bill the Duke of Devonshire explained that the Cowper Com, mission reported two years ago in favour of London University being made a teaching as well as an examining University, and recommended the appointment of a Statutory Commission to carry out the details of the scheme. It will be remembered that a Bill dealing with the question was introduced by Lord Playfair in the last Session of the late Parliament, but it was not proceeded with in consequence of the dissolution. His Lordship is reported by the *Times* to have said: "I believe that neither University College nor King's College is altogether satisfied with the scheme as sketched out in the Commissioners' report. But still more formidable opposition has manifested itself, not on the part of Convocation of London University as formally constituted, but on the part of a considerable body of members of Convocation residing for the most part in the provinces. This opposition, I believe, proceeds from an apprehension that under the proposed constitution of the University the teachers of the affiliated institutions and colleges will exercise a large and perhaps undue influence over the examinations of the University, and that students who have prosecuted their studies in independent colleges or privately will in future be placed at some disadvantage. The apprehension is that either the high standard which, it is admitted, has always been maintained by the London University will be lowered, or else that in the examinations arranged by the new body external students will compete on unfair terms as compared with students in the recognised teaching institutions. To meet objections of this kind we give in this Bill a somewhat wider discretion and larger powers to the proposed Statutory Commission than were proposed to be given in the Bill presented by Lord Playfair last year. While the Commissioners will be directed, as in the Bill of last year, to proceed upon the proposals of the late Royal Commission, they will also be directed to inquire into and have regard to the requirements of both the internal and external students. I trust that an opportunity will be afforded, by presenting this measure in a definite shape, to those who are concerned of ascertaining the real character of any opposition which may be offered to the proposed change in the constitution of the London University. Personally I am insensible to the motives which have actuated some graduates in offering considerable opposition to those proposals. After all it is the Senate of the London University which is charged with the duty, and on which rests the responsibility of watching over the interests and upholding the character of the University, and this Bill and the proposals of the Commission which it seeks to carry into effect have, I am assured, the warm approval of a large majority of the Senate of the University of London. This is a measure which practically has been recommended by two Royal Commissions, each of which was composed of men highly competent to pronounce an opinion on such a question as this. It is, I believe, supported by a very large majority of the most eminent scientific and educational authorities in the country, and it is, in my opinion, a very great anomaly, almost approaching to a scandal, that the great City of London should alone of all the great cities in the United Kingdom—and I believe I may add alone among the great cities of Europe—have remained up to this time without a teaching University. The experience during the last ten years of abortive attempts—which I have briefly recounted to your lordships—shows that almost insuperable difficulties exist to the establishment of any such teaching University in any other way than that which has been proposed by the late Royal Commission. It has been almost conclusively proved that the intervention of Parliament through the appointment of a Statutory Commission is necessary, and is the only means by which this desirable end can be effected." The Bill was then read a first time.

NO. 1393, VOL. 54]

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

THE French Senate has adopted the Bill for the establishment of district universities.

THE archaeological library of the Ashmolean Museum at Oxford was struck by lightning during a severe storm on Tuesday, and the roof was set on fire, but fortunately the valuable books in the library were not damaged.

DR. J. NORMAN COLLIE, F.R.S., Assistant Professor of Chemistry at University College, London, has been appointed Professor of Chemistry in the Pharmaceutical Society's School of Pharmacy.

IN answer to a question put by Colonel Lockwood in the House of Commons, the Vice-President of the Council said, some nights ago, that the Teachers' Registration Bill could, as far as he could see, only be proceeded with this session if it were made entirely non-contentious.

LORD CROSS, Master of the Worshipful Company of Clothworkers, on Friday will lay the foundation-stone of a research laboratory in connection with the dyeing department of the Yorkshire College, Leeds. The expense of the new buildings, £15,000, is being borne by the Clothworkers' Company.

THE arrangements for the transfer of the right of patronage to the chair of Natural History in the University of Edinburgh, now exercised by the Crown, to the curators of patronage in the University, and the transfer of the right of patronage to the chair of Botany, now vested in the curators to the Crown, have been incorporated in a Bill, and the Bill has been introduced into the House of Lords by the Government.

AT the annual summer meeting of the Incorporated Association of Head Masters, which was opened on Friday last at Leicester, it was moved: "That to ensure the proper organisation of secondary education it is essential that, with the exception of non-local schools, every school or department of a school providing secondary education should be placed under a county authority administering secondary education." It was further agreed that the "local authority for secondary education should in no case administer a smaller area than that of an administrative county as defined by the Local Government Board."

REFERRING to the cost of education in Switzerland, Her Majesty's Secretary of Legation at Berne points out that it is much less than in England. In 1893 there were 8390 primary schools in Switzerland, with 469,800 children, and an average of 50 pupils per teacher, of whom there were 6290 masters and 3180 mistresses. The expenses of the cantons were, on an average, 50 francs (£2) per pupil, or 8 francs (6s. 8d.) per inhabitant. In the Polytechnic School of Zürich, to which the Federal Government makes an annual grant of £36,800, there are 720 pupils, of whom 309 are foreigners. Instruction is given in architecture, civil engineering, mechanics, chemistry, forestry, and training of teachers. The fees are about £8 10s. per pupil. There are commercial schools in six cantons, where the average expense to the pupil is £18 10s. per head. There are seven universities, with a total of 3742 male and 491 female students in theology, law, medicine, &c., among whom are many foreigners. There are, moreover, technical schools of all sorts for instruction in farming, dairy work, vine culture, &c., established throughout the country. In 1893, in the twenty-five cantons of the confederation, the expenses on account of education were, by the State, £660,200, and by the communes £839,960, making a total of £1,500,160, or an average of about 10s. per inhabitant. Under the heading of technical instruction £1,575,000 was spent in 1894.

THE Committee of Council on Education have decided to modify the existing rules for grants for instruction in science and in art, contained in the Science and Art Directory and the Minute of August 21, 1895, as follows, except as regards organised science schools and training colleges, to which these alterations do not apply:—In place of payments on the results of examination an attendance grant, except as stated below, will be made, on the certificate of the Committee of the

school, for each attendance of *at least* an hour's duration on the part of a student who has given not less than ten such attendances during the session. The minimum grant specified will be allowed if the inspector of the department reports that the teaching and equipment of the school are satisfactory, and that the class or classes are not too large for instruction by the staff of teachers. But these grants may be increased in any subject for efficiency up to the maximum specified; the efficiency being determined by the inspector's report and the success of the class in that subject at the May examination. The grants for science will be:—*2d.* to *6d.* for each attendance in a night science class in the elementary stage, and *4d.* to *1s. 4d.* in the advanced stage; and for each attendance of $1\frac{1}{2}$ hours' duration given to practical work in chemistry, physics, metallurgy, or biology, in a properly equipped laboratory, *3d.* to *9d.* in the elementary stage, and *6d.* to *1s. 4d.* in the advanced stage. The payments for attendance in a day science class will be at half the above rates. No student may be registered in the advanced stage of any subject until he has passed the examination of the department in the elementary stage, or has passed some corresponding examination which is considered by the department to sufficiently meet the requirements of the case. No student may be registered for more than two years for attendances in either the elementary or the advanced stage of any one subject. The grants will only be made if the student is of the industrial class as defined by the Science and Art Directory, and if the attendances for which the grant is claimed are such as can be legitimately registered under the rules. Grants for honours in the science subjects of the Department of Science and Art will continue on the same scale as at present.

AN excellent survey of the systems of technical education in Austria, Germany, France, and Switzerland, compared with what is done in England and Ireland, is contained in a pamphlet entitled "Technical Education: a National Necessity, its Uses and Advantages," by Prof. Henry Corby, published by J. Mahony, Cork. Prof. Corby shows what technical education has accomplished on the continent, and points to the comparative neglect of it in England, the result being a loss of commercial supremacy. As to Ireland, technical education is almost unknown there. There is only one technical school of note, and that has been established within the past few years in Dublin. In Cork something has been done; but it is disjointed and fragmentary. However, it tends in the right direction, and we hope with Prof. Corby that it may yet prove to be the mosaic pavement on which will be raised a large and comprehensive technical school, which will be worthy of the commercial enterprise of the capital of the South of Ireland. It is suggested that good would come if Cork were raised to the dignity of a university city. Why not have a university for the South of Ireland in the capital of the South? At present, Prof. Corby points out, there are only two universities in Ireland, both located in Dublin, while Belgium, with a population almost exactly the same, has four universities; Scotland also has four, and in scientific Germany there are as many as thirty-one universities. To show what a thorough general and technical education can do for a country, it is only necessary to refer to Switzerland, which, though only about half the size of Ireland—and, as fully one-half of its soil is entirely unproductive, it may be regarded as only about one-fourth the size of Ireland—is able to maintain three million inhabitants, whilst the population of all Ireland is little more than four and a half millions. Prof. Corby describes what some continental nations have done for agriculture, and then he asks how can the smaller farmers of Ireland—many of them poor and half-educated—attempt to compete with such rivals? It has been urged that Ireland ought to have a Minister of Agriculture, but it is suggested that a Minister of General and Technical Education, who would give special attention to agriculture, would be better. If national teachers were trained at agricultural schools, and students were given practical instruction in agriculture, if chairs of Agriculture were established in all the higher colleges, and special lectures delivered in the auxiliary sciences, such as chemistry, zoology, botany, and mineralogy, then, thinks Prof. Corby, the hope might be entertained that the vast tracts of waste land in Ireland would be reclaimed, and a large scheme for reforestation undertaken with every prospect of success. We trust that his admirable pamphlet will be the means of giving an impetus to the cause of technical education in Ireland.

NO. 1393, VOL. 54]

SCIENTIFIC SERIALS.

The Reliquary and Illustrated Archaeologist maintains its reputation for the beauty of its illustrations. In a late number (vol. ii. No. 2) an elegantly carved wooden Egyptian toilet-spoon of the eighteenth dynasty is reproduced in collotype.—The editor, J. Romilly Allen, has carefully studied the cup-and-ring sculptures of Ilkley in Yorkshire, and gives numerous illustrations of these still mysterious markings. All that we know about them is that they are religious symbols, and that they mostly belong to the Bronze Age, although cups only may possibly have been used at the end of the Neolithic period.—The much-discussed "Dwarfie Stone" of Hoy, Orkney, has been investigated by Mr. A. W. Johnston in a very thorough manner; he comes to the conclusion that it was originally a sepulchre with a stone door.

Internationales Archiv für Ethnographie (Heft 2, Bd. ix.)—The question of alleged native writing in Borneo is discussed by Mr. H. Ling Roth and Prof. H. Kern; inscriptions in one or two scripts are known, but there is no evidence that any form of writing was known to the Dyaks. Heer M. C. Schadee, in collaboration with Herr Schmeltz, has a communication on the ethnography of Western Borneo, which is illustrated in the characteristically excellent style of this journal. In the current number (Heft 3) Schmeltz continues his erudite notes on ethnographical objects from New Guinea. In a note entitled "Prudery in Scientific Matters," the same author states, on the authority of Prof. Brigham of Honolulu, that "the Government of New Zealand has not only prohibited the importation of the well-known phallic chalk idols from New Ireland, but in the Government Museum of Auckland all ithyphallic idols and figures have been castrated and mutilated." We hope that the Curator of the Museum will state how far this is or is not the case.

IN the second number of the useful *Centralblatt für Anthropologie Ethnologie, &c.*, is an article on the Necropolis of Novilara near Pesaro. According to Dr. P. Orsi the civilisation of Novilara was partly similar to and synchronous with that of Villanova. Three different culture streams have overlaid themselves, as it were, on the local substratum, and have contributed to give the Picinian culture its final form. One stream came from the north and west over the Apennines. The second came from the south, bringing with it the geometric vessels, which are wanting at Villanova, but appear in Istria; later this culture stream, which may be called the Greek one, brought Tarentinian silver coins and vases painted with black figures. The third stream is the Phœnician (partially also archaic Greek) associated with figures of Astarte, glass beads and sepulchral steles with representations of naval war. The Necropolis belongs to the ninth to the seventh century B.C.

Bulletin de la Société des Naturalistes de Moscou, 1895, No. 4.—On adhesion of different metals to glass and other substances, by J. Weinberg, second article, in German.—On the winter flora of Nice, note by H. Trautschold.—Report on herborisation in the government of Smolensk, by A. Jaczewski.—The primary skeleton of the ventral fins of the Teleostei, by N. K. Kolzoff, in German, with illustrations; based on the study of thirty-six species.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, June 4.—"The Hysteresis of Iron in a Rotating Magnetic Field." By Francis G. Baily.

By deduction from the Weber-Maxwell-Ewing theory it has been surmised that the hysteresis in magnetic metals under the influence of a constant rotary magnetic field will be less than that in an alternating field in which the magnetising force passes through a zero value. It is supposed that residual magnetism is due to the combination of molecular magnets in stable magnetic arrangements, and that the energy dissipated in any magnetic change corresponds to the work done in breaking up these arrangements. Hence any movement of the molecular magnets during which the formation of new combinations is checked or prevented will take place with considerable reduction in the energy loss due to this cause. Such a condition is realised when the magnetic substance is subjected to a rotary magnetic