

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

BIRMINGHAM.—At the annual meeting of the Court of Governors, held on February 24, the Vice-Chancellor referred to the services rendered by the University to the country in the prosecution of the war. Not only was the staff able to render valuable help in undertaking scientific work and serving on public bodies, but in addition something like 500 present and past students had joined the Services, and of these nearly 10 per cent. had already lost their lives.

The principal, Sir Oliver Lodge, referring to the unwisdom of false economy in education and scientific training and investigation, said:—"It has certainly been one of our dangers that the country as a whole has not been wide awake in this direction, and has been contented with a singular kind of ignorance on the part of otherwise educated people—even of people in high position. The services which the universities of the country have been able to render during the war have been already very marked, and might have been greater had they had facilities from the first. It seems unlikely that the country will allow these institutions to drop back into a position continuously handicapped by inadequate resources. They are not only educational; they are repositories of learning and of a special kind of ability not elsewhere cultivated. Knowledge is not a thing to be merely passed on to a coming generation, it is a thing to be utilised and increased and applied by every generation; and if the occupants of university posts—especially the younger members—are prevented from doing their duty and realising their privilege in this respect, the country cannot keep its place in the van of civilisation."

In view of the increased intercourse between this country and Russia which may be anticipated after the war, it is hoped that the teaching of Russian may be undertaken by the University, but shortage of funds will not allow this step at present.

The treasurer reported that the income was reduced by 9200*l.* owing to the war, and of this amount 7700*l.* was due to loss of fees.

The following were elected members of the council:—The Bishop of Birmingham, Mr. Richard Threlfall, Miss S. M. Fry, and Dr. F. D. Chattaway.

CAMBRIDGE.—The Raymond Horton-Smith prize has been awarded to Dr. E. Mellanby for a thesis entitled "An Experimental Investigation into the Cause and Treatment of Diarrhoea and Vomiting in Children."

The Degree Committee of the Special Board for Mathematics is of opinion that the work submitted by Mr. S. Ramanujan, of Trinity College, entitled "Highly Composite Numbers," together with six other papers, is of merit as a record of original research; this gentleman was sent to the University by the Indian Government on account of his remarkable mathematical powers.

The Vice-Chancellor has given notice that the subject for the Sedgwick prize essay for the year 1916 is "The Lower Palæozoic Rocks of Some British District."

OXFORD.—The subject of Prof. Mark Baldwin's Romanes lecture is "The Super-State and the 'Eternal Values.'" The lecture will be delivered in the University Museum on Wednesday, March 15, at 2.30.

Like other departments of the University, the school of forestry has been seriously affected by the war. Eight students, however, have received the diploma in the course of 1915, and the professor has conducted visits to the Forest of Dean, the Tintern Crown Forests, and other areas, in addition to the usual excursions for instruction to Bagley Wood. Planting and thinning has continued in the experimental plots,

and Mr. W. E. Hiley has continued his research on fungal diseases of trees. The publication of his work on the diseases of the larch may suffer some delay from the fact that Mr. Hiley has accepted a commission as scientific worker at Woolwich Arsenal.

It has often been thought by many of those who are interested in the progress of science at Oxford that the examinations for honours in natural science were framed too much on the model of those belonging to the older academic subjects. A statute which will come before Congregation on March 7 marks a new departure in this respect, so far as concerns the honour school of chemistry. The object of the statute is to ensure that every candidate for honours in chemistry shall not only be examined in paper and practical work as at present, but must also produce records of experimental investigations carried out under the supervision of the Waynflete or Lee's professor, or of other approved persons. This provision is in accordance with a memorandum lately drawn up by the Board of Natural Science, in which it is pointed out that some practical acquaintance with the methods of research is an essential part of the training of every chemist. The statute is regarded by many as a long step in the right direction, and it is to be hoped that no obstacles will be thrown in the way of its passing.

A PLAN for the development of the University of California Medical School has been adopted by the regents of the University of California. We learn from the issue of *Science* for February 4 that the University of California has now increased to a total of 32,400*l.* per annum its expenditure on medical instruction, over and above the hospital receipts, and within the next few months it will complete the erection, at a cost of 123,000*l.*, of a new 216-bed teaching hospital. The regents have now outlined as the immediate future needs of the medical school a new laboratory building for anatomy and pathology, to cost 30,000*l.*; an "out-patient" building in conjunction with the new teaching hospital, to cost 20,000*l.*; and a nurses' home for 100 nurses, to cost 20,000*l.*

THE second annual report, for the year ending December 31, 1915, of the executive committee to the trustees of the Carnegie United Kingdom Trust has now been circulated. The trust deed expressly prohibits "any part of the trust funds from being used in any way which could lend countenance to war or to warlike preparations." This fact prevents the trustees, in their corporate capacity, taking any part in the activities in which the country is chiefly involved at present. Prior to the date of the last annual report a total sum of 550,000*l.* had been expended or promised for the provision of church organs; when to this sum is added the grant promises made during the year, a total sum of about 600,000*l.* will have been expended in this way and about 3800 organs will have been procured. No further applications for organs are to be entertained. The executive committee has decided that the library movement which is being carried out can best be dealt with under the heads: rural library grants, grants for special libraries of a national character, loan charge grants to public libraries, and grants for public library buildings. In the case of rural libraries, a number of experimental schemes have been set on foot of which particulars are given in the report. During the year the committee has assisted in the establishment of a central lending library for students, has rendered assistance to the agricultural library attached to the Rothamsted Experimental Station, and has promised assistance towards the more commodious housing of the British Library of Political Science attached to the London

School of Economics. Among miscellaneous grants made during the year may be mentioned a sum of 1500*l.* to the United Irish Women, and 4000*l.* to the Women's Industrial Council towards the cost of building a nursery training school; and to provide an aquarium for the gardens of the Zoological Society of Scotland 10,000*l.* is to be given.

How unwise it would be if the present demand for national retrenchment led to any reduction of State aid to our modern universities can be gathered from an inspiring article by a special correspondent in the issue of the *Times* for February 9. The impressive array of facts as to the value of the application of research to the purposes of the war which the article provides shows that those nations will take the first rank in peace and war alike which utilise most completely the resources which science has placed at the disposal of mankind. The article deals more especially with the four universities of the North of England, and we select the following instances from the numerous examples cited:—Distillations from coal tar, testing of steel and explosives, calibrating of aeroplane recording instruments, and the production of pharmaceutical drugs are included among the special war enterprises of Manchester University. Liverpool University has given expert advice in the manufacture of explosives, and has undertaken the analysis of explosives in a district extending from Ruabon to Fleetwood. The equipment and *personnel* of the tinctorial chemistry and dyeing department of Leeds University were put at the disposal of the Government in 1914, and the department has done valuable research work in relation to dye-stuffs and raw materials not hitherto made in England. Another department of this University is conducting the recovery of toluene from coal gas in Lincolnshire and Yorkshire, and is inspecting the production of high explosives in Yorkshire. The chemists of the University have furnished a large supply of the anæsthetic novocaine, which we formerly imported from Germany, and have prepared about a hundred antiseptic compounds for the military hospitals. In regard to the University of Sheffield, valuable and confidential work has been done there in relation to the science of steel, and the Scientific Advisory Committee of the University has given local manufacturers expert guidance in their efforts to replace exports from Germany. Thus, advice has been given on the processes of hardening steel, on materials for polishing razors, on the contact process of procuring sulphuric acid, and so forth. Steps have been taken also to encourage the revival of the old glass industry of South Yorkshire.

SOCIETIES AND ACADEMIES.

LONDON.

Mathematical Society, February 10.—Sir Joseph Larmor, president, in the chair.—J. H. Grace: (i) Theorems on straight lines intersecting at right angles. (ii) The classification of rational approximations.—Mrs. G. C. Young: Infinite derivatives.—E. H. Neville: The bilinear curvature and other functions of independent directions on a surface.—Dr. S. Brodetsky: The attraction of equiangular spirals.—J. Proudmán: Additions and corrections to a former paper, "Limiting forms of long-period tides."—R. E. Powers: Certain composite Mersenne's numbers.—Prof. H. F. Baker: Note on a formula connected with the theory of spherical harmonics.—Dr. T. J. P. A. Bromwich: Note on Dr. Baker's formula.—J. Hammond: Notes on the arithmetic of prime numbers.

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Royal Meteorological Society, February 16.—Major H. G. Lyons, president, in the chair.—C. E. P. Brooks: The rainfall of Nigeria and the Gold Coast. The paper dealt with the rainfall on the Guinea Coast and its hinterland for the ten years 1904-13. The driest month is January, with scarcely any rain, the wettest is June, and the monthly maps show how the rainy belt travels inland as the wet season comes on. In August it reaches its northernmost position, and the coast is drier during that month than in July and September. The coast is very rainy, the annual fall averaging 160 in., and reaching 200 in. in wet years at some stations in the Niger delta. The interior merges into the desert, with a rainfall of less than 10 in. annually. The variation of the rainfall from year to year is governed by the development and movements of the equatorial belt of low pressure and the subtropical "highs," while it is the alternation of dry and wet seasons which governs the temperature and humidity, rather than the position of the sun, and the dominant factor in Nigerian climatology is not temperature, but rain.—Dr. J. R. Sutton: South African coast temperatures. This paper dealt with the normal monthly mean temperatures at selected stations on the coast of South Africa, a few miles inland, and on the tableland, and the author endeavoured to connect the retarding of the maximum and minimum temperatures at certain stations with the moderating effect of the temperature of the sea and of the direction and force of the wind.

Linnean Society, February 17.—Prof. E. B. Poulton, president, in the chair.—Miss C. Herring-Browne: John Bartram, the pioneer American botanist. Bartram was born on March 23, 1699, near Darby, in County Delaware, Pennsylvania. In 1731 his friend, James Logan, procured a copy of Parkinson's "Theatrum" from England as a present for Bartram, and this decided him to make excursions after plants into Maryland and Delaware. To receive and grow his discoveries he began before the end of the year to lay out the garden, the charm of which was felt by Washington, Jefferson, and Franklin. Many of the American trees were first sent to Europe by Bartram, amongst them being the *Taxodium distichum*, still extant at Mill Hill, in Collinson's old garden. An even finer specimen, which died a few years ago, was 150 ft. high, and 27 ft. in girth; the trunk still stands in the Bartram Garden Park, Philadelphia. Bartram died on September 22, 1777. His life was shortened by the apprehension that his cherished garden might be laid waste by British troops, but his fears were not realised. This garden is now the property of the city of Philadelphia, and is supported as a public park.—E. P. Stebbing: The infestation of bamboos in tidal waters by *Balanus amphitrite* and *Teredo navalis* in Tenasserim. The rapid destruction of bamboo piles is a serious loss, and investigation shows that up to now no species of bamboo is immune; research is to be continued.

Institution of Mining and Metallurgy, February 24.—Sir T. K. Rose, president, in the chair.—E. T. Mellor: The conglomerates of the Witwatersrand. Of the various theories which have been from time to time advanced to account for the association of the gold with the conglomerates of the Rand, two now hold the field: the infiltration theory and the theory which regards the conglomerates as placer deposits modified by subsequent recrystallisation of many of the constituents. In view of recent extensive developments in prospecting by boreholes and mining, and the evidence accumulated as the result of a survey of the Witwatersrand system during the past five