

ation. He then became mathematics master at Clifton College, where he stayed until he was offered the chair of mathematics at Leeds. The appointment of a school master to a university chair was an interesting experiment, and there can be no doubt about its success. During his Clifton period, Milne wrote text-books on higher algebra, projective geometry, homogeneous co-ordinates and the calculus. But his greatest contribution to mathematics has been a number of papers, published mainly in the *Proceedings of the London Mathematical Society*, dealing with the properties of plane cubic, quartic and quintic curves, and the relations between the cubic surface and quartic curves, culminating in the properties and groupings of the 2,015 conics which touch the plane quintic curve at five distinct points. The University of Aberdeen recently conferred upon him the honorary degree of LL.D.

Prof. Milne brought into the development of the Mathematics Department of the University of Leeds a profound knowledge of conditions in schools, and a deep appreciation of the need for the greatest width of knowledge combined with the mutual mental influence of different types of students sharing life in the same institution. He believed that research should be encouraged among all university mathematical students, and this has happened with some success at Leeds. He took a considerable share in the development of the University of Leeds as a whole, and during his period as pro-vice-chancellor he presided with great success over meetings of the Senate and other committees working out a scheme of post-war development. His influence in the County of Yorkshire was exercised through the Yorkshire Branch of the Mathematical Association which he founded in 1920, and through his work in connexion with the training colleges, when his Clifton experience was very valuable.

Geology at Liverpool:

Prof. F. Coles Phillips

DR. F. COLES PHILLIPS, University lecturer in mineralogy and petrology at Cambridge, has been appointed to the George Herdman chair of geology at the University of Liverpool. Entering Cambridge from Plymouth College, he graduated in 1923, being placed in the first class in Part I of the Mathematical Tripos and in both parts of the Natural Sciences Tripos, with geology and mineralogy as his chief subjects. His first researches included investigations on the serpentines and associated rocks of the Shetlands: later, holding a research fellowship at Corpus Christi College, he was engaged in studies on progressive regional metamorphism in Cornwall and Scotland. Appointed demonstrator in mineralogy in 1928, he became University lecturer in the new Department of Mineralogy and Petrology in 1932.

More recently, Dr. Phillips has devoted his attention particularly to the field of ore microscopy, where he has developed equipment and technique for low-relief polishing of ores which have proved eminently satisfactory and have since been adopted in several research institutions at home and abroad. As an investigator in the field of structural petrology his work is well known, particularly his studies on the fabric of the Moine schists of the Scottish Highlands. These researches he is now extending into a general study of the significance of lineation in the crystalline schists of the North-West Highlands. As a teacher Dr. Phillips has been eminently successful, both in his contact with large undergraduate classes and in

the post-graduate courses he has given in his special field of research. He served for many years as secretary of the Faculty Board of Geography and Geology and as member of a number of University committees connected with the work of the science faculties at Cambridge. The ripe experience in teaching, zeal for research and conspicuous organising ability which he will bring to the chair at Liverpool augur well for the future of geological studies at the University.

University of London: Appointments

THE title of emeritus professor in the University of London has been conferred on Prof. C. L. Fortescue, recently professor of electrical engineering, Prof. C. H. Lander, recently professor of engineering, and Prof. E. F. Dalby Witchell, recently professor of mechanical engineering, at the Imperial College of Science and Technology.

The following appointments have been announced:

Dr. S. Tolansky, reader in physics in the University of Manchester, to the University chair of physics tenable at Royal Holloway College as from January 1, 1947.

Mr. A. J. Ayer, fellow and dean of Wadham College, Oxford, to the Grote chair of philosophy of mind and logic tenable at University College as from January 1, 1947.

Dr. John McMichael, formerly lecturer in human physiology in the University of Edinburgh and since 1936 Johnston and Lawrence Research Fellow of the Royal Society of Edinburgh and extra honorary assistant physician at the Royal Infirmary, Edinburgh, to the University chair of medicine tenable at the British Postgraduate Medical School.

Prof. G. C. Allen, since 1933 professor of economic science in the University of Liverpool, to the University chair of political economy tenable at University College as from April 1, 1947.

Dr. B. S. Platt, director of the Human Nutrition Research Unit of the Medical Research Council, to the University chair of human nutrition tenable at the London School of Hygiene and Tropical Medicine.

Dr. Kathleen Lonsdale, since 1945 Dewar Research Fellow at the Royal Institution, to the University readership in crystallography tenable at University College.

Dr. S. D. Elliott, since 1938 a Freedom Research Fellow in the Department of Bacteriology at the London Hospital Medical College, to the University readership in bacteriology tenable at the College.

The degree of D.Sc. has been conferred on Mr. Wilson Mandell, an external student.

Braunton Burrows

BRAUNTON BURROWS, on the north coast of Devon, a locality of unique characteristics and of great interest to the biologist and countryman, has been in use for military training during the War. This occupation seems likely to continue. In an article to *The Times* of November 2, a strong plea is made that this area should now be relinquished by the military authorities. For some two and a half centuries the Burrows have claimed the interest of men of science: the mobile dunes are of outstanding interest and provide materials not only for the plant and animal ecologist but also for the physicist, the geographer and the geologist. The flora, which is remarkably rich, includes species of rare occurrence.

It also affords materials for the study of adaptation to the extreme conditions presented by the wind-blown dunes. The fauna, not less attractive, contains among other things many local varieties and species of invertebrates. As the author states: "It is the whole complex of plant and animal populations and the special conditions in which they live that give this place such high scientific value both for urgently needed research and for education, and indeed make it unique in its kind".

Britain's Contribution to the War Effort

The third and final report on Mutual Aid (Cmd. 6931. London: H.M. Stationery Office. 2d. net), with its record of mutual aid from July 1, 1944, to the termination of the various agreements, and with its statistical report of mutual aid throughout the War, has been published opportunely. It is fitting that this record of the magnitude of the assistance which Great Britain gave to the United States, the U.S.S.R. and other allies, as well as received, should be made public now that fresh demands are being made to avert a possible collapse of Western Germany. At the height of the War, the United Nations were aiding each other freely on the scale of about £4,500 millions a year, and over the three years up to the end of the War, mutual aid was extended by the United Kingdom to fourteen countries, and totalled £2,078,500,000. Excluding oil obtained under Lend-Lease, the value of supplies, services and capital received by the Allies amounted to 8 per cent of the national income of Great Britain and 16 per cent of her total war expenditure. The largest proportion of this—60 per cent—went to the United States, 15 per cent went to the U.S.S.R. and the remainder to European allies and China. The total value of reciprocal aid to the United States up to September 1, 1945, is estimated at £1,241,402,500, and of this total 26 per cent took the form of servicing U.S. Forces, 18 per cent is accounted for by the cost of building capital installations, the remainder being in respect of food, materials and equipment. More than half the services provided to American Forces is accounted for by shipping services.

In 1943, reciprocal aid was extended to include raw materials and foodstuffs, and from June 1943 until the end of the War, raw materials to the value of £31,351,000, two thirds of which was rubber, chiefly from Ceylon, were shipped from British Colonies to the United States on United Kingdom account. A total of 615,000 tons of bulk foodstuffs was also exported from the Colonies to the United States under reciprocal aid. Mutual aid to the U.S.S.R. totalled £318 million, of which motor transport (£118,856,000) and aircraft (£128,893,000) were the largest items. Mutual aid figures for other countries are less complete, but the estimated total of at least £519 millions includes £11 millions to China, £106 millions to France, £228 millions to Poland, £34 millions to Greece, £30 millions to Czechoslovakia, £24 millions to Belgium, £14 millions to Yugoslavia, and £32 millions to Turkey. These mutual aid arrangements have now ceased and trading is again on a cash basis. The vast flow of commodities and services exchanged and consumed in fighting the common enemy are not being left standing as monetary liabilities, but are being cancelled by common consent. This record of aid rendered by the United Kingdom provides a measure of an impressive aspect of her war effort which it is appropriate to recall at the present moment.

Health of University Students in Italy

THE substance of an address delivered by Marc Daniels at a conference held in Italy in connexion with the National Council of Research in 1945 has been published (*Ric. Sci. e Ricostruz.*, March-April 1946). He points out that university students are potentially the most precious possession of a nation, because they represent the intellectual and professional leaders of the future; but they are susceptible to various maladies during their period of study. It is remarkable that in the past so little care has been exercised on their behalf, not only in Italy but also in other countries. Daniels regards tuberculosis as the most serious problem confronting them because it is responsible for more deaths among the young people of both sexes than any other disease. During the War the mortality from tuberculosis increased considerably and in some parts of Italy was doubled, while in London it increased by 70 per cent among the young in the first year of the War. After tuberculosis, venereal disease assumed alarming proportions during the War in different countries, and there is no reason to think that Italy is an exception. A short description is given of the efforts that have been made to combat tuberculosis among students in the United States, Great Britain and France. The latter country has a special anti-tubercular service for university students, of which the author, who had first-hand knowledge of its working when it was initiated in 1932, speaks most highly. Although he does not think that in existing circumstances a national medical service in Italy is possible, he is convinced that every university in the country should regard the organisation of such a service for its students as lying within the limits of possibility. Medical attention at the beginning of a student's career and subsequent attention annually should form a chief part of the prophylactic services. Given a sufficient number of men of good will in the faculty of medicine, prepared to collaborate in the preparation of a medical programme, and given the co-operation of other faculties and also of students' organisations, the University of Rome should be able to institute a medical service for the students which would serve as a model for the assistance of the young people of Italy, on whom depends the future of the country.

A Welsh Folk Museum: St. Fagans Castle

A FULL description of the Earl of Plymouth's magnificent gift of St. Fagans Castle, together with 18 acres of land, to the National Museum of Wales appears in the *Museums Journal* of September. Following this gift (which was made this year) Lord Plymouth has arranged, "on very acceptable terms", the transfer to the Museum of an extra 80 acres of the park-land adjoining the gardens. This additional acquisition was essential in view of the development of St. Fagans as a folk museum. The establishment of a Welsh Folk Museum as an extension of the National Museum's services has been a long-felt need. In 1943 the Welsh Reconstruction Advisory Council provided an opportunity for publicly pressing the adoption of the proposal, and upon this the Museum Council submitted a recommendation that an open-air museum was an essential auxiliary to the National Museum of Wales. This recommendation was adopted by the Advisory Council, and now, in 1946, the scheme proposed materializes through the generosity of Lord Plymouth.