

Gifts for the University of Cambridge.

THE Vice-Chancellor of the University of Cambridge has announced that in answer to the University's application, a formal letter of gift is being prepared by the International Education Board, offering £700,000 to the University on the conditions and for the objects already announced (*NATURE*, Oct. 20, p. 632). One condition is the raising by the University from other sources of a sum of £229,000, and the Vice-Chancellor is able to announce munificent offers from the Government, the Empire Marketing Board, and the Royal Agricultural Society, amounting to £101,000 in all, of which £85,000 goes towards the sum required. The offers are conditional upon the remaining £144,000 being secured, but they will come as the greatest possible encouragement to the Committee charged with the task of securing to the University the magnificent opportunity presented to it by the munificent offer of the Rockefeller International Education Board.

The Right Hon. Walter Guinness, Minister of Agriculture and Fisheries, in communicating the Government's offer, writes as follows:

"The Board's generous benefaction recognises the position of the University as a great international institution of education and research; His Majesty's Government recognise equally that the University is a great national and a great imperial institution. Again, the particular purposes to which the benefaction is to be applied—primarily the advancement of agriculture and of the fundamental sciences on which agriculture

depends—are such as must command the unhesitating support of His Majesty's Government in relation both to this country and to the interest of the Empire overseas. . . . They believe that the highest national as well as imperial interests demand that the scheme agreed between the Universities and the International Education Board should be fully carried into effect. The Government offer a sum of £50,000 in respect of expenditure directly attributable to the School of Agriculture in the strictest sense."

The Right Hon. L. S. Amery, Principal Secretary of State for Dominion Affairs and for the Colonies, in making an offer of £50,000 on behalf of the Empire Marketing Board, writes as follows:

"In a review which has now extended over more than two years, the Board have come to appreciate the great contribution which the University of Cambridge is already making to scientific agricultural research in the Empire at home and overseas. This offer, they are satisfied, holds out the promise of a development of high significance to every Empire country."

This substantial Government support, taken as an indication of the official attitude to research, will be most gratifying to scientific workers generally.

The Council of the Royal Agricultural Society has also made a generous offer of £1000. Cambridge men may be looked upon loyally to support the endeavours being made to raise the balance remaining, £144,000.

Structure of the Great Barrier Reef.¹

THE results being accumulated by the Great Barrier Reef Committee of Australia, the activities of which are directed by Prof. H. C. Richards, are highly creditable, but the task of closely investigating about $\frac{1}{4}$ million square miles of land, reef, and water is herculean. Investigations have to be governed by finance and the number of researchers available. The result here is a lack of system, which, however, has had its parallel in the investigations of the coasts of Great Britain and elsewhere.

Past earth movements may be studied in the topography of land surfaces, but we are glad to see that in addition a boring was put down near Cairns, a coral island within the barrier reef being selected. The same difficulties were met with as at Funafuti, insufficiently consolidated and irregular material making drilling difficult. The boring log showed coral material to 113 ft., ooze and mud to 213 ft., coral again to 241 ft., followed by ooze to 427 ft., and then glauconitic material with quartz sand to 600 ft. It is suggested that this is to be interpreted as indicating subsidence of 600 ft., but we cannot accept this until we know what were the foraminifera obtained and have certain evidence that they exist only under quite shallow water conditions. The glauconite must have formed at the time of deposition, and the depth at which it occurred appears to us about the usual depth at which it commences to be formed. We trust that this core will be closely compared with the bottom deposits obtained by Dr. Yonge's expedition, which is working in the same region. Either this deposit was formed before the outer barrier grew up or is the filling up of the lagoon behind the same, as subsidence or other change of level took place, and we find difficulty in accepting either interpretation. A comparison with the deposits near Great Sandy Island at the south end of the Great Barrier Reef might perhaps be interesting.

Mr. Stanley's study of the physiography of the Bowen district, 20°-21° S., is an important contribution to the interpretation of the formation of the Great Barrier Reef. Here there are lines of high islands running almost parallel to the mainland with the shelf-like surface of the Great Barrier Reef outside, 33-50 fm. deep. The chief of these islands is Whitsunday, which gives its name to a Passage on its landward side, a trench varying up to 50 fm. deep. The trend lines of the islands, of which seventeen are described, are much interrupted and the channels between the lines may be rather trough-like. The basal rocks are granites and palæozoic volcanics, figuring equally, and this is true of the coastal ranges. Many of the islands are deeply dissected and there are pronounced embayments, the cliffing being relatively small, this suggesting a long period of subærial erosion followed by submergence. Along some of the trend lines recent elevation is well marked, and, as it may be absent on their western sides, tilting is suggested. In various bays coral reefs are growing, but these would appear to be in process of formation, and not contemporaneous with, or of the same structure as, the barrier formations to seaward.

It is difficult to follow the author without an adequate chart of depths, in addition to his series of plans and drawings. He gives evidence to show that the relative resistance to weathering and to subsurface marine action cannot have acted as producing the systematic arrangement of the island lines. Hence warping is postulated, parallel to the present coast line, accompanied by the formation of huge parallel fault blocks, cross faulting limiting their extension and causing breaks. This took place subsequent to almost mature subærial dissection, and the barrier flat to the east is hence a drowned land and its even surface due to marine cutting down and filling in of inequalities. Daly's Glacial Control Theory, a former lowering of sea-level by 30-50 fm., is called in to explain its

¹ "Reports of the Great Barrier Reef Committee," vol. 2. Pp. xvi+114+12 plates. (Brisbane: A. J. Cumming, 1928.) 10s.

submergence, but this is of relatively little importance, if the geological evidence from the coast and islands is to be interpreted as postulating crustal movements extending to the steep fall of the outer reef to ocean depths, a matter also considered in a separate paper by Dr. Bryan on the Queensland Continental Shelf.

Excellent as his work is, we could wish that Mr. Stanley had examined the subsurface topography. We want to know the depths off his cliffs, accurate sections, and we would like the angles of slopes of the lands on either side of some of his deep embayments, with his calculations as to the alterations in level that these require. In any case, the area may well prove to be one in which earth movements are in progress, and the author's account of the lands, together with the Admiralty's re-survey of the seas, should enable these to be deduced in subsequent decades.

Captain Edgell, who was in charge of the re-survey, contributes some general remarks on the coral formations. He suggests that individual reefs of the outer barrier may be fitted together to form atolls with comparatively deep water in the midst of each series, the lagoons. His comparison with Ari and other Maldivan atolls appears apt, but he does not make it clear whether his group of five reefs is to be regarded as an atoll in formation or in decay. The narrow gut, two cables or so across, and about 10 miles long by 30 fm. deep, with almost surface reefs on either side, is an extraordinary feature, being apparently kept open by strong tidal streams.

The topography of the Townsville littoral and other areas shows, according to Mr. Jardine's observations, prolonged denudation, together with coastal drowning, these followed by a slight emergence of 10-20 ft., that has materially added to the coastal plains. This is supposed to be due to a comparatively recent retreat of the sea-level, as seen also in the beaches of the volcanic Bramble and Darnley islands. Bramble Reef also has a small sand cay of foraminiferal tests, coral and shell fragments, much of it consolidated into surface rock by the droppings of birds, as on so many guano islands.

J. S. G.

University and Educational Intelligence.

GLASGOW.—Prof. Andrew Hunter, of the chair of chemical physiology in the University of Toronto, has been appointed Gardiner professor of physiological chemistry in the University. Prof. Hunter has contributed much to our knowledge of the metabolic products of protein, and of dietary defects and deficiency diseases. He will come into residence in Glasgow next year. It will be recalled that his colleague in the University of Toronto, Prof. J. R. R. MacLeod, has recently been appointed to the chair of physiology at Aberdeen.

Sir Frederick C. Gardiner and his brother, William G. Gardiner, have established a fund, amounting to some £20,000, for the endowment of a chair of music in the University. The professor will hold simultaneously the post of principal of the recently formed Scottish National Academy of Music in Glasgow.

LONDON.—The following doctorates have been conferred: D.Sc. in anthropology on Prof. F. G. Parsons, University professor of anatomy, for a thesis entitled "The Englishman of the Future"; D.Sc. in biochemistry on Mr. William Robson, King's College, for a thesis entitled "The Metabolism of Tryptophane, The Mechanism of the Mode of Formation of Kynuronic Acid from Tryptophane in the Animal Organism"; D.Sc. in physiology on Mrs. Norah Edkins (Bedford College), for a thesis entitled "A Study of Absorption in the Stomach and small Intestine"; D.Sc. in psychology on Mr. J. W. Cox (University College), for a thesis entitled "Mechanical Aptitude: its Existence, Nature, and Measurement."

A SPECIAL course of lectures by Prof. H. Dingle on the technical applications of the spectroscope is to be given in the Technical Optics Department of the Imperial College of Science and Technology next January. The institution of the course follows a suggestion by Sir Herbert Jackson, and is an attempt to revive interest in the spectroscope among scientific workers in general, particularly chemists and biologists, so that its uses may be applied to problems in their own domains.

THERE will be an election to not more than three Beit Fellowships for scientific research in July next. These fellowships are tenable for two years at the Imperial College of Science and Technology. Candidates must be less than twenty-five years of age, of European descent by both parents, and of university degree standing. Forms of application, to be returned by April 16, and all information may be obtained, by letter only, addressed to the Rector, Imperial College, South Kensington, London, S.W.

At the annual meeting of the Court of Governors of the London School of Hygiene and Tropical Medicine held on Nov. 30, the Board of Management of the School presented its fourth Annual Report. Substantial progress has now been made towards the completion of the organisation of the School, of the building, and of its equipment. The work of the old School of Tropical Medicine which was taken over in 1924 continues to make most satisfactory progress, and the Director reports that there is an increase of no less than 17 per cent in the proportion of students sitting for the Diploma in Tropical Medicine and Hygiene who were successful. Advanced courses in bacteriology have been established in temporary quarters in Gordon Square, and all of the five students who sat for the new University Diploma were successful in obtaining it. Special courses in epidemiology and vital statistics have also been established. The professors of public health, of bio-chemistry, and of chemistry as applied to hygiene have been appointed, and will enter upon their duties next year. It is hoped that the handsome building in Portland stone which is being completed in Bloomsbury to the design of Mr. Morley Horder and Mr. Verner O. Rees will be ready for the formal opening next summer.

THE committee of award of the Commonwealth Fund Fellowships announces that it is now prepared to receive applications for the fellowships to be awarded in 1929. After four years' working, the scheme has been so successful that the directors of the Fund in New York have increased the number of ordinary fellowships from twenty to thirty. The ordinary fellowships are tenable at an approved American university for two years. They are open to persons of British descent domiciled in England, Scotland, Wales, or Ireland who are graduates of recognised universities therein and are unmarried and not more than thirty years of age. Women as well as men may apply. Provision amounting to approximately £600 per annum will be made for the total expenditure involved during the tenure of a fellowship. Applications must be forwarded through the authorities of the university or college of which the candidate is, or was, a member. The committee also announces this year five fellowships for graduates of Dominion universities and three fellowships for persons of British descent holding appointments under the British Government, the Government of India, or the Government of a British Dominion, Colony, Protectorate, or Mandated Territory. All information can be obtained from the secretary to the Committee of Award at 50 Russell Square, London, W.C.1.