

methods and groundnut varieties, as well as a large series of observation plots with a wide range of crops have been put into effect this year, and valuable lessons have already been learnt. This work has been given the highest priority, and steps have recently been taken to increase the scientific staff. It is to be hoped that arrangements will also be made for the testing of a wide range of groundnut varieties for resistance and immunity to rosette disease in an area of the territory where the disease occurs in some abundance, as in my view such work can only be regarded as a necessary insurance.

### Conclusion

A considerable increase of basic knowledge is being built up as the result of Colonial research work; but there are still gaps in our knowledge. The application of the results of research work also leaves much to be desired. The strengthening of the staff of the British Museum (Natural History) appears to be desirable in the interests of Colonial biological research. Termites, in particular, require further study. It is also necessary that early steps be taken to enable Kew to produce a Flora of East Africa. Such a Flora is not at present available, and its production is essential for further ecological work in the East African territories and for the use of biologists working in these territories.

## HIGHER EDUCATION IN THE COLONIES

IT was a graceful gesture by the Sixth Congress of the Universities of the British Commonwealth to devote its concluding session on July 23 at Oxford to a discussion of higher education in the Colonies, and thus to recognize and welcome the youngest members of the academic family.

The discussion, under the chairmanship of the vice-chancellor of the University of London, Prof. Hughes Parry, was opened by Sir Alexander Carr-Saunders with a sketch of the general plans for developing university institutions in the British Colonies and in the Sudan. In addition to the two existing Universities of Malta and Hong Kong, there will soon be, in Malaya, a third university if the proposals of the recent commission are adopted for the fusion of the King Edward VII College of Medicine and Raffles College. Five new university colleges are being established, two on the basis of existing institutions, Gordon Memorial College, Khartoum, and Makerere College, Kampala, serving the East African territories, and three as new foundations, University College, Ibadan in Nigeria, the University College of the Gold Coast, and the University College of the West Indies in Jamaica. These five university colleges are autonomous corporations, governed by councils the composition of which ensures that they are broadly representative of the interests concerned in their territories, including Government, and include an effective proportion of academic staff representatives. Control of all academic matters is vested in academic boards, composed wholly of members of the staff. The students at these colleges will sit for the degree examinations of the University of London, with which the colleges will be "in special relationship". By this arrangement, the University of London, while retaining complete control over the

award and standards of its own degrees, is prepared to devise, in consultation with the colleges, syllabuses appropriate to the needs and opportunities of the territories and to associate the local staffs in the setting of papers and marking of scripts in the examinations. After gaining experience in constructing syllabuses for special degrees, in conducting local examinations and in establishing firm standards, the colleges will in due course seek degree-granting powers and become independent universities.

A sum of six million pounds from central funds administered on the advice of the Colonial University Grants Committee is available as a contribution towards the capital needs of this programme (excluding the developments in the Sudan). Grants for recurrent expenditure will have to come chiefly from the local governments, and arrangements are being made for such assistance to be given as block grants for quinquennial periods to ensure a proper degree of independence for the colleges. Academic assistance, technical advice, library services and co-operation in a variety of ways from the home universities is provided through the Inter-University Council for Higher Education in the Colonies. The critical need in the next phase of carrying through these plans for a new university and five new university colleges is for properly qualified staff. The conditions of service, the salaries, the academic freedom, the research opportunities, the responsibility of the work make service in these university institutions attractive, and every effort is being made by Inter-University Council visits and other means to overcome some of the disadvantages that formerly existed in Colonial work such as the relative isolation. Sir Alexander Carr-Saunders concluded by appealing to the Dominion universities to interest members of their staffs in serving in the Colonial institutions, either in permanent appointments or on temporary secondment.

In the discussion which followed the opening address, Mr. Lewis Wilcher, principal of Gordon Memorial College, and Dr. Kenneth Mellanby, principal of University College, Ibadan, paid tribute to the assistance given to their colleges by the Inter-University Council and by the University of London. Mr. Wilcher reported that Gordon College hoped to obtain independent university status within ten years, and emphasized the value of the services which higher education had to render to the Sudanese in their rapid progress towards self-government. Dr. Mellanby stated that University College, Ibadan, was beginning in temporary buildings near the permanent site of five square miles which the Nigerian Government had presented, in addition to making a contribution of £500,000 towards the recurrent expenditure of the College in the first quinquennium, and an initial grant of £250,000 to an endowment fund. The College would have two hundred students in residence for the session 1948-49, and expected an annual intake of a hundred. Local groups were springing up throughout Nigeria to collect funds to be placed at the disposal of the College for awarding scholarships.

Mr. H. R. Raikes, vice-chancellor of the University of the Witwatersrand, hoped that the Colonial medical schools would ensure that the students' training made full use of the special opportunities provided by the local clinical material and experience, and pleaded that dentistry should be treated as of equal importance and urgency as medicine; he suggested that external examiners going to the Witwatersrand from the

United Kingdom should be encouraged to visit the Colonial medical schools *en route*. Dr. E. G. Malherbe, principal, Natal University College, stressed the dangers of mass literacy campaigns and elementary education in Africa in exposing the peoples to irresponsible propaganda and to some of the less-desirable features of Western civilization if they were not accompanied by the parallel process of providing the enlightened leadership and critical interpretation which the Colonial university institutions would give.

Dr. J. W. Davidson (Wellington University College, New Zealand) directed attention to the danger of importing into the Colonies European standards and conceptions of university education insufficiently adapted to the conditions and interests of the local communities, and thus losing deeply rooted popular support for the new colleges. Prof. A. R. Humphreys, of Leicester, suggested that a practical step to remove one of the deterrents to recruitment, namely, fear that it would be difficult to return to home university posts, would be the prompt and systematic notification of appropriate vacancies to staffs serving overseas.

Principal H. J. Page described the activities of the Imperial College of Tropical Agriculture, Trinidad, the primary task of which is postgraduate training in tropical agriculture of students entering the Colonial agricultural services; a secondary function has been training students, chiefly from the West Indies, for a local diploma. The College hopes soon to co-operate with the University College of the West Indies in providing teaching for the London degree in agriculture. Mr. Bernard Williams, dean of the Medical School, described the plans for opening the Faculty of Medicine of the University College of the West Indies in October, the special problems created by the scattered territories of the West Indian Colonies, the assistance which the College had received not only from the Inter-University Council and University of London, but also from McGill University, and the methods by which it was hoped to overcome the technical difficulties in the secondment of clinical teachers.

Prof. W. E. Dyer, principal of Raffles College, Singapore, stressed the importance of the secondment of university teachers to the Colonial colleges as a means of reducing the isolation and fear of loss of academic status of the local staffs. Prof. F. L. Warren, Natal University College, considered that one reason why a greater number of French than British scholars had remained in service in Egypt was that staff seconded there from the Sorbonne or University of Paris were granted in two years the seniority which would accrue from three years service in France; he suggested that the overseas institutions would attract visiting specialists if they made it known that they could offer working facilities and cheap residential accommodation, such as were provided for visiting astronomers and marine biologists in Egypt.

Prof. Lillian Penson, of the University of London, in concluding the discussion, stated that every effort was made, through full consultation with local opinion and by other means, to harness the sympathy and support of the peoples to their university colleges, and that, far from any forcing of standards by the University of London or the Inter-University Council on the local communities, the demand for the highest standards and nothing less came from the peoples themselves. Secondment on temporary service to the Colonial colleges gave an opportunity of attractive

work; from her knowledge of the quality of Sudanese students, she felt confident that staff need have no fear of lowering standards; and the risk of isolation or of being lost sight of was greatly diminished by the work of the Inter-University Council, particularly by its regular visits.

## ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, PRINCETON

By DR. J. A. V. BUTLER

MANY scientific workers will have heard, with regret and possibly incredulity, of the impending closing of the Princeton Laboratories of the Rockefeller Institute for Medical Research. The decision to close these Laboratories and to concentrate the work of the Institute in New York was reached in the spring of 1947. The Laboratories are to be closed by 1951; but if an acceptable offer for the site and plant is received before then it will be accepted. Any members of the staff who wish to do so may continue their work in the New York Laboratories.

It would be impertinent to question the reasons which have led to this decision; but friends of the Laboratory, as well as many who have been privileged to receive its hospitality, will be distressed that it should be necessary. The founding of the Princeton Laboratories was a logical consequence of the policy of the Rockefeller Trustees to provide facilities for the study of disease in all its manifestations, in animals and plants as well as in human beings. This policy was magnificently justified by the results achieved, and to an onlooker it seems a grievous and deplorable loss to science that it should be found necessary to reverse it.

The Rockefeller Institute began its work in a temporary building under Dr. Simon Flexner in 1904. The present New York buildings on a site overlooking the East River were begun in 1906 and have provided both a hospital for the study of special diseases and a wide range of laboratories covering all branches of biochemistry and physiology.

The policy of the Trustees to study disease in all its forms led to the establishment in 1914 of the Department of Animal Pathology with laboratories on a country site near Princeton, under Dr. Theobald Smith, who was succeeded in 1930 by Dr. Carl Ten Broeck. In 1931 the plan to provide, in one organisation, for the study of disease as it occurs in all the main orders of living things was completed by the addition to the Princeton establishment of a Laboratory of Plant Pathology. The Princeton Laboratories also housed a Laboratory of General Physiology, under Dr. J. H. Northrop, which has devoted itself to investigations of the nature of enzymes and other biologically active proteins of animal origin.

The world-wide reputation of the Princeton Laboratories was based in part on the isolation of a large number of crystalline enzymes and their precursors in Dr. Northrop's laboratory, and on Dr. W. M. Stanley's isolation of the tobacco mosaic virus and succeeding studies in the Department of Plant Pathology. Although the first isolation of a crystalline enzyme was achieved by Sumner in 1926, it is not too much to say that the work of Northrop and his