Correction of Ships' Magnetic Compasses for the Effects of Degaussing". Mr. Wassell, reading the paper, pointed out that compass correction is an inseparable part of degaussing technique, since magnetic compasses are almost universally used in merchant ships as well as in small warships. The local fields produced by degaussing coils could, if uncorrected, introduce errors of 30-40° into the compass reading, making navigation impossible. Further, owing to course correction, the error would not even be constant. It was necessary, therefore, to set up a coil system near the compass and fed from the same supply as the main coils, to neutralize the local effects. A three-winding composite corrector coil was eventually designed which was placed around the top of the binnacle. Wiping and deperming introduced further problems, as steel structures in the vicinity of the compass had afterwards to be demagnetized separately to prevent their slow magnetic decay introducing unsuspected compass errors.

Further personal reminiscences of war-time experience, which included the task of degaussing 'impossible' ships—or even floating cranes—and building up degaussing stations in localities where a voltmeter was almost the only scientific equipment available, embellished the story and brought the meeting to an interesting conclusion.

H. W. K. KELLY

HIGHER EDUCATION IN THE BRITISH COLONIAL EMPIRE

By SIR FRED CLARKE

RECENTLY it was announced that, on the initiative of the Secretary of State for the Colonies, there has been formed an Inter-University Council for Higher Education in the Colonies, to advise and assist in the development of facilities for higher education in colonial areas now under British administration (see *Nature*, March 16, p. 347). The body thus formed is representative not only of universities in Great Britain and Northern Ireland but also of institutions now enjoying full recognition as universities in Colonial areas. To those who have participated in the movement which has led to this result it must be gratifying to note how wholehearted the response of British universities has been. The result is a Council of great weight and authority, the activities of which will certainly issue in developments of the highest value and importance.

The time has not yet come, perhaps it never will come, when the whole story of the events leading to this action can be told. It is, indeed, fortunate that so many distinguished university men who have played a notable part in the preliminary work find themselves able to serve on the new Council. It may, however, be permissible to say that the story is a long one. Well before the beginning of the Second World War, the Advisory Committee on Education in the Colonies (a long-standing Committee advising the Secretary of State) was already deeply concerned with the need for a positive and active policy directed to the advancement of higher education. It was considering possible lines of action some years before the passing of the first Colonial Development and Welfare Act in 1940 committed Great Britain to the

practice of making direct grants from the British Exchequer to assist colonial development. Some of the money thus made available could be used for higher education. Further, a specific sum of half a million sterling a year (now increased to a million) was set aside for the advancement of research, and a strong committee, presided over by Lord Hailey, now advises the Secretary of State on the expenditure of this money.

With such developments taking place, and in view of the ferment set up or intensified by war conditions, the need for clear and comprehensive policy over the whole field became urgent. Accordingly, the Secretary of State appointed two Commissions, one to advise on policy over the whole range (Asquith Commission), the other on the particular policy to be followed in the special circumstances prevailing in West Africa (Elliot Commission). The first of these Commissions found it necessary to carry out a specific inquiry into the needs of the West Indies.

Eventually, therefore, the Secretary of State had before him three reports. Although the West Africa Commission could not agree on a specific policy for that area, opinion on both Commissions was unanimous that a main instrument of action would have to be a strong policy-making and supervising body, representative alike of British universities and of universities in colonial areas. That body is now in existence and has begun to face its task. The remainder of this article will, therefore, be devoted to giving some indication of the nature of the task and particularly of the kind of demands that successful performance of it may make upon British universities.

It is, I think, true to say that the most powerful motive operating in the minds of those who have contributed to this movement was a conviction that a professed policy of encouraging self-government among colonial peoples of the British Empire was unreal so long as nothing systematic was done to provide for the advanced education of the select few who would have to carry the main burden of local self-government. A further motive was the realization that the level of life among colonial peoples would continue to be unduly low until they could be assured of a sufficient and continuous supply of trained technical officers: medical men, engineers, administrators, agricultural experts, veterinary surgeons, and the like. No such supply could be guaranteed by continuing exclusive reliance upon the training resources of Great Britain. Moreover, it was felt that, in some respects at least, native technical officials could be more effectively trained amid the conditions in which they would eventually have to work.

Recently, however, a further consideration of great importance has come to operate. With Africa awakening, the Middle East in ferment, the Far East in motion—no one quite knows whither—and the British West Indies beginning to receive that remedying of past neglect for which they have waited so long, the part now to be played by the civilized tradition of the West comes into question. The British form of that tradition will not now be without powerful rivals. Even though we learn, as we have been learning, the folly of attempting to transplant it bodily into an alien cultural soil, and think rather of translating its values into the native terms of a different social and cultural idiom, there are yet, at the heart of it, certain principles that we may not betray.

Typical of these is the principle that finds expression in the claim to autonomy of institutions for higher education. We should be false to ourselves if we did not insist upon that in all territories under British administration, whatever the local circumstances may be. Indeed, not to do so would be wholly inconsistent with the professed policy of moving in the direction of Colonial self-government.

But autonomy can be granted and sustained only upon conditions. These can be summarized briefly as intellectual integrity and adequate intellectual standards. To assist the nascent institutions in achieving and maintaining these is perhaps the central task of the newly created Inter-University Council. It will recognize, I am sure, that such integrity and the guarantee of such standards are to be found primarily in men and women and only secondarily in institutions. Hence the *staffing* of the growing colleges with a sufficiency of men and women of the right quality must remain a first concern of policy. The Asquith Commission gave much anxious thought to the problem, and no doubt there will be general agreement with its view that extensive use of secondment from British universities will be essential to any solution. If this is accepted, it follows that secondment cannot be left to chance. It must be deliberately planned for, not only in the institutions overseas but also in the organisation and staffing of British universities as well. The call upon them is likely to be considerable. For some time to come, staffs will have to be recruited very largely from Britain. The Asquith Commission estimates that in the next few years some ninety posts of status not lower than that of senior lecturer will have to be filled in West Africa and the West Indies alone. Success cannot be achieved unless British universities in general frame and carry out a policy that makes it possible.

Next to staffing as a security for the fulfilment of the essential conditions we may place adequate provision for research. Here again the Asquith Commission is emphatic. Though it recognizes the important interest of the nascent universities, placed, as they are, in applied research, it also insists upon the primary importance of research of the more fundamental kind. In doing so it emphasizes the part played by the pursuit of pure research in securing precisely that intellectual integrity and that adequacy of standards which have been indicated as the proper conditions of autonomy.

A third security is to be found in the planning of degree courses and the setting of good standards of examination. There is good reason to believe that colonial peoples would themselves resent any suggestion that demands need to be tempered to meet supposed inferior intelligences. They would say, I am sure, that they have no use for a local university the degrees and standards of which are not accepted and recognized in the general fellowship of universities in the British-governed world. Should anyone be in doubt as to the capacity of colonial students to reach the required standards, he may be recommended to spend a few days in contact with students at some such institution as Gordon Memorial College, at Khartoum. His doubts would soon be dispelled.

It is essential, of course, that standards should be well-established and, as it were, automatic in operation before degree-granting powers are conferred on any institution. The period of supervision and control may be a long one. Under the present scheme the necessary guarantee is provided by an adaptation of the external degree of the University of London. It

will be for that degree that candidates will prepare during the interim period. Accordingly the University of London is assuming wide obligations in such matters as advice, assistance, adaptations of courses of study, and provision for the participation of local staff in the work of examination. In doing so it will need to co-operate closely with the Inter-University Council. If, however, its full intentions can be carried out, the resulting degree, though 'external' in name, will be very much more than that in fact.

Two other matters require mention. In most areas the only possible medium of instruction must be English. This requirement places a heavy responsibility upon the schools in such areas, particularly upon the secondary schools. The crucial need is for the training of teachers who will not only be competent in English themselves, but also capable of teaching the language competently. Thus is brought to light an immediate service which British universities have neglected hitherto but which they should now set themselves to discharge. It is that of providing advanced training in the teaching of English as a foreign language for those specialists whose services will now be so urgently needed in colonial institutions for the training of teachers. So far as is known, London alone among British universities is providing such facilities.

The other consideration is of even greater importance, and yet can easily be overlooked. It is clear that Colonial universities will fail of their purpose unless they become thoroughly indigenous, responsive at every point to the life and needs of the peoples they are to serve. But they will fail even more disastrously if they are not equally expressive of the great cultural tradition of the West, the expansion of which has brought them into being. In Britain that tradition finds expression in the total life of the community; the university is only the concentrated expression of the life which surrounds it. In most Colonial areas this is not so; the student there will be much more completely dependent in this sense upon his university than are his fellows in Britain. From such a consideration the conclusion is drawn that the new institutions must be wholly residential.

With an Inter-University Council so constituted, it is safe to draw the further conclusion that the peculiar double task of a Colonial university will be well understood and sympathetically assisted.

OBITUARIES

Lieut.-Colonel S. P. James, C.M.G., F.R.S.

By the death of Lieut.-Colonel Sydney Price James on April 17, tropical medicine has been deprived of one of its outstanding personalities. Of Welsh descent, James entered the Indian Medical Service in 1896, fresh from St. Mary's Hospital, where he had studied under Sir Almroth Wright. Soon he was involved in military operations on the North-West Frontier and later in China in the Boxer Campaign of 1900-1. He next found himself in the Government Bacteriological Department and thenceforward was able to devote his whole attention to scientific pursuits. In 1902 his opportunity came in his appointment to the Royal Society's Malaria Commission, and it was then that he forged that close co-operation with his friend, Sir Rickard Christophers, which resulted in their combined researches on this disease, which were vividly illustrated with coloured plates of the local