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West African Development.[1]

II.

IT is 134 years since William Pitt, speaking of Africa, said: "We may live to behold the natives of Africa engaged in the calm occupation of industry, in the pursuit of a just and legitimate commerce. We may behold the beams of science and philosophy breaking in upon the land." The material vision is fulfilled, but the beams of science and philosophy have not yet penetrated the veil of mists and obscurity in which our administration is enveloped. We have been in trading relationship with West Africa for more than three hundred years; the British Crown has been directly responsible for the administration of a great part of its territories since 1886; the native races in the British zones are among the most intelligent races of Africa: but we have been content to leave the education of its peoples to missionaries, with the result that an inordinate number of native lawyers, preachers, and clerks have been created, but practically no men trained in science or its application.

Tropical Africa is a country with vast potential agricultural resources. It already supplies the world with enormous quantities of raw materials—oil-seeds, rubber, fibres, grains, cocoa, coffee, tea, tobacco, and timbers. But over the greater part of the territory under British control they are being produced with a maximum of waste. Practically nothing has been done to improve native methods of crop production. "The plough is as yet unknown to the natives of West Africa and cultivation is done with the hoe." In spite of the fertility of the soil, "Nigeria imports large quantities of rice and wheat flour to make up some of the deficiencies in its local food supply. The Gold Coast imports much rice and even tinned foods for native consumption." Oil-seeds and oil-nuts are still exported in their raw state, instead of their essential oils being extracted locally. Where the natives extract the oil by their own methods, as in the palm-oil industry, "it is calculated that, quite apart from the deterioration in quality produced by the native method, not less than 50 per cent. of the oil is largely lost in the processes." As in East Africa, many of the tribes practise shifting cultivation, with consequent deterioration and desiccation of the soil and the destruction of forests—a serious danger where forests constitute a bulwark against the encroachment of the desert. In the Gold Coast Colony "little or nothing has been done in the way of manuring" on the cocoa lands.

As regards husbandry, very little has been done to assist the natives to improve the quality and the quantity of their domestic stock, practically all the

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labours of the veterinary departments being devoted to the prevention and cure of disease. There are large areas in Sierra Leone free from tsetse fly, but no attempt has been made to introduce cattle. The researches of the French and the Belgians in the adjacent territories into the breeding of types of cattle immune from trypanosomiasis seem to be unknown to us, although Mr. Ormsby-Gore mentions the fact that there are a few thousand head of a small type of non-humped forest cattle in Southern Nigeria, uniformly healthy, apparently unaffected by the tsetse fly with which they are frequently in contact.

It was the existence of this immune type in Fonta-Djalon, Upper Guinea, Upper Gambia, and the Lower Saloum which led the French to investigate the relation between species, the size of species, and immunity, and to the interesting discovery that susceptibility to trypanosomiasis in all types of domestic or semi-domestic stock increases with their size. Further, it was established that the native herdmen had made use of this fact to produce, by crossing the immune species with the larger zebu (humped) varieties of cattle, the Djakore or Bambara species of cattle which retain much of the original resistance. On these bases crossing experiments were carried out in the Belgian Congo, with marvellous results, according to M. Roubaud, the chief of the laboratory of the Pasteur Institute.

Another aspect of animal husbandry is also emphasised: "Research in the mineral, as well as the vegetable, nutrition of stock appears to be well worth undertaking. The whole question of crossing, selection of bulls, and the improvement of herds is ripe for examination." In regard to plant products, it is recommended that each of the four territories should maintain a central research station, to which should be attached experimental farms, and connected with the principal agricultural training college for natives. The research carried out at these stations "should be co-ordinated not merely in West Africa, but with the similar research which is being carried on in Trinidad and at Amani in East Africa." Scientific workers will welcome the statement: "If we are to develop our tropical possessions we must realise the value of the scientific staff, both in the laboratory and in the field, and we must provide careers in the agricultural departments in the Colonies which will attract personnel possessed not only of high technical qualifications, but of capacity for leadership and ability to inspire others."

Mr. Ormsby-Gore, while recommending a research policy, makes no recommendation as to the priority of research. A fairly comprehensive programme of investigation is laid down, particularly in regard to human, animal, and plant diseases, and the breeding of improved varieties of domestic stock and plants, but what is lacking is a definite recommendation for the allocation of a specific sum to research. What is wanted in tropical Africa is a fund similar to that at the disposal of the Department of Scientific and Industrial Research in Great Britain, which would not depend upon the vagaries of the local directors of agriculture or the local governors. Such a fund might be created by the apportionment of a percentage of an export tax on palm-oil, cotton, cocoa, or any other of the principal products.

The need for further research in tropical diseases and the measures to be taken to secure a healthy and increasing population are emphasised, but not over-emphasised. In the absence of vital statistics, it is impossible to determine whether the population of West Africa is increasing, or stationary, or declining. Mr. Ormsby-Gore states that the general impression appears to be that the native population is increasing, but very slowly and imperceptibly. Where there are statistics available regarding the native population, as in certain parts of South Africa, it is proved that the rate of increase of native population is steadily diminishing. Contact with the white races apparently has this inevitable effect. Generally speaking, it can be said that in spite of the energetic methods adopted to stamp out disease, in spite of the knowledge we have acquired of the diseases which afflict the African populations and the means by which they can be prevented, the native population over the whole of tropical Africa is either stationary or declining in numbers. Bodily disease is not the only determining factor in this result. A psychological factor has to be taken into account. Rivers and others have attributed the decline of primitive populations to the loss of interest in life following upon the breakdown of their institutions, the suppression of their customs, and the atrophy of native arts and crafts on impact with our different institutions and different culture. We are confronted, therefore, with the dual task of disseminating knowledge of the means of preventing disease and getting the natives to apply it, and of arousing interests in new activities to replace those which have been lost.

The identifiable diseases which take the greatest toll of human life and energy in West Africa are malaria, dysentery, yaws, yellow and blackwater fevers, sleeping sickness, and leprosy among tropical diseases, and plague, venereal diseases, smallpox, and tuberculosis among the general afflictions of mankind. Many of these diseases could be dealt with at village dispensaries, if trained dispensers were available. Mr. Ormsby-Gore rightly stresses the need for the provision of centres where natives can be trained in the diagnosis and treatment of the commoner complaints, and for native sanitary orderlies whose duties would include the

destruction of the breeding-places of mosquitoes, both anophelines and Stegomyiæ, the destruction of rats, supervision of the general sanitation of towns and villages, the prevention of water pollution, and the notification of disease. These subordinate medical and sanitary staffs should not be drawn exclusively from the better educated coast natives, but, so far as possible, from every tribe in the interior. "A native is prepared to trust a European medical officer; he is also prepared to pay attention to a man of his own race, but he is not prepared to extend the same confidence to the African from another tribe." Even if he were, it is obviously desirable that knowledge of disease and its prevention should be possessed by some members of every tribe. We must help to supplant the 'medicine man' by the medical man drawn from the same tribe.

Emphasis is also laid on the need for training women for maternity and child-welfare centres. The infant mortality rate is grievously high in western as in all parts of tropical Africa, and the high proportion of still-births to births is one of the most deplorable features of tribal life. For the high mortality rate malnutrition is to be held responsible, but the number of still-births and abortions must be attributed to the prevalence of venereal disease and malaria. It seems fairly well established from the recent researches of Mr. Buxton in Melanesia that malaria is one of the principal determining causes of abortion and still-births. There is no reference, however, to these recent researches in the report before us. The difficulties in finding women sufficiently well educated to undertake the work of maternity and infant welfare are due to the neglect of female education. "The comparatively small provision which has been made for the education of girls as compared with the provision made for boys is very noticeable throughout West Africa." Mr. Ormsby-Gore's plea for going slow in this matter is not one which will commend itself to any well-wisher of West Africa. There is an urgent need for immediate and even precipitate action directed towards raising up a well-educated class of women. Reading the report, one feels that Mr. Ormsby-Gore overestimates the value of hospitals where surgical operations can be carried out, and underestimates the possibilities of schools for the native infants and adults where much could be done to build up the necessary outlook on disease. The creation of a large number of hospitals, which he advocates, while there are very few schools, is as wise as the present habit in Great Britain of spending large sums of money on the maintenance of sanatoria for consumptives but doing practically nothing to destroy the slums which provide the greater number of patients for the sanatoria.

A tremendous importance is attached by Mr. Ormsby-Gore to the need for greater transport development. He instances the remarkable progress made in the export of ground-nuts following the construction of the railway to Kano. Between 1910 and 1925 the exports of this crop from the Kano-Zaria district rose from 1910 tons to no less than 127,000 tons. He shares with Sir Frederick Lugard the belief in the productive capacity of the peoples to make any railway pay, and in the civilising influence of the railway. A considerable part of the report is devoted to detailed consideration of a railway, road, and harbour programme, but only passing reference is made to the need for systematic research into the possibilities of the flexible track vehicle. This type of vehicle, which is already in an advanced stage of development, and has been used by the Empire Cotton Growing Corporation for the transport of cotton from remote areas, possesses the inestimable advantage that it can traverse roadless country. It is a road-maker rather than a road-breaker. If improved, it would enable every part of the tropics, however remote, to be brought within the reach of regular transport services, and thus not only free for productive work thousands of labourers at present engaged in the wasteful system of head-porterage, but would also save the country the expense of making metalled roads, which are expensive to make and more expensive than a railway to maintain.

The report as a whole will repay the closest study by scientific workers. They have every reason to be grateful to Mr. Ormsby-Gore for re-emphasising the urgent necessity for applying the methods and results of science to the problems of tropical development, both in administration and production. A vast field of research is indicated, a field which it may be hoped will be surveyed with the least possible delay. Scientific workers must realise that they have a special responsibility in the matter. The knowledge which can be gained from scientific research is probably the most important factor in the full realisation of the potentialities of the vast British tropical possessions, and it is essential therefore that funds should be forthcoming immediately for the initiation of a bold programme of research. There is not the least excuse for Great Britain to lag behind other Colonial powers in this respect; there is every reason for it to lead the way. It is not enough for Mr. Ormsby-Gore to produce a report which will establish his reputation as the most far-sighted younger statesman of the day. His observations, his vision, and his recommendations must be appreciated by the nation, and this will be possible only if the scientific community assist the nation to a fuller understanding of the value of scientific research in every sphere of national and imperial endeavour.