

a solution that the profession and the public would regard as fair. It is obvious that the doctors who have suffered most (apart from rural practitioners, now helped by the increased Mileage Fund) are those with small lists in health resorts, seaside towns, and residential areas whose private practices have by the decision of the patients become public practices. The Committee therefore is recommending that the increased money to be asked for should be used to increase the capitation fee for the first 1,000 patients on the lists of all practitioners. If, for example, the Association succeeds in securing £16½ million more for the Central Fund this would mean that the capitation fee for the first 1,000 patients would be 35s. With the increase of the capitation fee for the first 1,000 patients on a doctor's list existing hardship would be relieved and at the same time the building up of large lists would not be encouraged.

The demand of the profession for adequate remuneration comes at a time when the Government and the country are, by the supplementary estimate of £58 million, being made uncomfortably aware of the cost of the National Health Service. If the Ministry of Health receives the proposals as sympathetically as it did the proposal for the increase of the Mileage Fund the Treasury will no doubt resist the increase of expenditure demanded. But if saving has to be made it must not be made at the cost of the men and women who do the work of medicine. Parliament and the people demanded the Service and ignored those who suggested that such a service should be introduced gradually, so that by trial and error lessons could be learnt and mistakes avoided. In May of last year the medical profession with much reluctance decided to enter the Service, but during the past eight months has loyally co-operated with the Ministry to make it work as efficiently as possible in the circumstances. In the result doctors generally have been grossly overworked and some of them have been on the brink of financial disaster. If the Service is to evolve into what all would wish to see it be, then the proper payment of those who work in it must be the first consideration of the Government, because good work cannot be done in an atmosphere of discontent and a sense of injustice, and medicine will come to be looked upon as a profession to avoid.

TSETSES OVER AFRICA

It was only after the first world war that the French, British, and Belgian authorities began to realize how widespread and how serious was trypanosomiasis in man and animals. The economic difficulties which affected Africa no less than other countries in the early 'thirties put a stop to many promising schemes for the control of sleeping sickness. At that time the British Treasury made no grant to finance such schemes, and each colony was dependent on its own financial resources or on such money as it could raise by loan. Despite this crippling poverty much was done, but with the passing of the Colonial Development and Welfare Act in 1940 and its augmentation in 1945 more ambitious schemes for the control of trypanosomiasis could be planned. The first international conference on trypanosomiasis was held in Lagos while the war was still on, and the latest was held

in London last week. Representatives attended from the United Kingdom and Colonies, France, Belgium, Portugal, South Africa, Southern Rhodesia, and the Sudan. The proceedings were held in private, but we understand that about twenty papers were presented, including reports on field trials with "antricide" in the Sudan and East Africa.

Four excellent reports on what has been already done have recently been prepared for the Tsetse Fly and Trypanosomiasis Committee appointed by the Secretary of State for the Colonies. Professor P. A. Buxton's contribution is an account of trypanosomiasis in East Africa¹ and Professor T. H. Davey's of conditions in West and Central Africa²: both reports contain the results of fact-finding tours. Included in the other two reports,^{3,4} both written by Dr. T. A. M. Nash, are interesting accounts of original work: that dealing with the tsetse flies of West Africa will long remain the standard work on this subject. The other is a description of the Anchau experiment in Nigeria and shows how an area can be rendered tsetse free, and the whole life of the African raised to a higher plane, provided his willing co-operation is obtained by careful consideration and by explanation of every step. Saunders,⁵ writing from the Gold Coast, has also insisted on the importance of what he terms "infiltrative propaganda" before undertaking trypanosomiasis campaigns. There are many difficulties, however, in propaganda, for the interpreter is considered not as a medium for conveying ideas but as a middleman with a prescriptive right to commission and emolument from both sides.

It is obvious that the control of trypanosomiasis presents different problems in different parts of Africa. The variables include the species and strains of trypanosome, the species of tsetse common in the area, the presence of big game, the prevalence of other epidemic diseases, and the psychological make-up of the African. The difference in the response of *T. gambiense* and *T. rhodesiense* to drugs is already well known. In Nigeria infections due to *T. gambiense* are more easily controlled by chemotherapy than those in the Gold Coast. Measures to control tsetse obviously depend on the species present: where *Glossina morsitans* is predominant, destruction of all the big game will often end trypanosomiasis. Such measures have enabled the reclamation of many thousands of acres in Southern Rhodesia, but as a rule *G. morsitans* is only one of the tsetse flies present. The inhabitants of some areas, especially in the Northern Territories of the Gold Coast, have been decimated by recurrent epidemics of influenza and cerebrospinal meningitis. When the adult male population is reduced below a certain level communal hunts cannot be organized, game increases, and so does *G. morsitans*. As a result farms are destroyed, and only those close to the village can be kept in cultivation. It follows that the fallow period is shortened, the fertility of the soil decreases, and malnutrition and sleeping sickness reinforce each other.

Little is known of the reasons why some tribes readily submit to the activities of sleeping-sickness diagnosis and

¹ *Trypanosomiasis in East Africa*, 1947, 1948. London: H.M.S.O.

² *Trypanosomiasis in British West Africa*, 1948. London: H.M.S.O.

³ *Tsetse Flies in British West Africa*, 1948. London: H.M.S.O.

⁴ *The Anchau Rural Development and Settlement Scheme*, 1948. London: H.M.S.O.

⁵ *Farm and Forest*, 1944, 5, 121.

⁶ *British Medical Journal*, 1949, 1, 63.

⁷ *Nature*, Lond., 1949, 163, 89.

⁸ *Commonsense and Colonial Development*, 1949. London.

treatment campaigns while others do not. How closely trypanosomiasis is bound up with the culture patterns of each tribe is shown by a consideration of the village pond, anathema to the sanitarian because it provides all-the-year breeding conditions for mosquitoes and tsetse flies. For the villager, however, the pond provides green plants which, when reduced to ash, are essential as a source of salt. In some areas the ponds contain fish: these are sacred, for either the lives of particular fish may be connected with the lives of particular villagers or the fish may house the souls of the ancestors. In other areas the banks of the pond form the local latrine, and the fish eat up the faecal matter. Any interference with the village pond may thus have serious repercussions.

In many parts of Africa trypanosomiasis of cattle and pigs is as serious as trypanosomiasis of man, for methods of effective control have hitherto been lacking. The use of aeroplanes for spraying D.D.T. has opened up a new approach, and the discovery of the phenanthridinium compounds marked a first step in chemotherapeutic control. A further advance will be made if the new drug antrycide (4-amino-6-(2'-amino-6'-methylpyrimidyl-4'-amino) quinaldine -1:1'-dimetho salts) lives up to expectations. We gave some information about antrycide in a recent annotation,⁶ and a short account by the late Dr. F. H. S. Curd and Dr. D. G. Davey of the experimental evidence on which claims for the drug are based has now been published.⁷ *T. congolense*, *T. vivax*, *T. brucei* of cattle, and *T. evansi* of camels appear to be controlled, but the action on *T. simiae*, a pig trypanosome, is unrecorded. The cost of each injection will work out at approximately 2s. 1½d., and since it will be necessary for prophylaxis to reinoculate cows at intervals of six or possibly four months the cost to the Government or to the individual cattle-owner will be considerable—a matter of some moment in a country such as Nigeria, where the average annual income of the population works out at twenty shillings. The question of drug fastness has still to be intensively studied, and, as in the case of proguanil, it will be some time before the true value of antrycide can be assessed.

Although eradication of the trypanosomes which infect cattle and pigs is a most important step in the supply of additional meat, there are other basic difficulties which will have to be overcome. In many areas there are already far too many cattle for the pasture available—this is because cattle represent currency and therefore power and prestige. Just as a dirty, torn Treasury note is still worth its face value, so a miserable scrawny cow is still a cow and represents a certain part of a bride-price or a sacrifice. Many cattle-owning African tribes, the Fulani in particular, are not attracted by anything that Western civilization can offer, and any attempt to reduce the number of cattle in order to improve the breed and prevent soil erosion is met by passive if not by active resistance. At present the quality of the stock is far too poor to fit it for the export trade. Thus, before cattle can be looked upon as an article of commerce by the African, there will have to be a radical change in animal husbandry, and this in many tribes will involve a complete change in social attitudes and culture patterns. When once this has been done it will be essential to replace thousands of square miles

of elephant grass by more nutritious pasture, to provide water, and to stop soil erosion.

At present meat may not be imported into the United Kingdom from countries where virus diseases such as rinderpest or swine fever exist because of the risk of infecting domestic herds. Swine fever is rife in East Africa, and rinderpest still exists all over tropical Africa, game animals forming a reservoir. The problem of rinderpest is already being tackled in British colonies with the goat-adapted virus introduced by Edwards, but if the disease is ever to be controlled international action is essential. Only when these difficulties have been met will it be possible to organize marketing and to arrange for the canning of low-grade beef and pork and their residual products. In addition, as Rita Hinden⁸ has pointed out, it will also be necessary to have cold storage at the abattoirs, refrigerated transport to the ports, and cold storage and suitable loading facilities at the ports. Anyone acquainted with the existing conditions on African railways or at African ports will realize what this involves. The great difficulty, however, perhaps more important even than the tsetse fly, is the attitude of the African cattle-owner. This will not be easy to change, and even if it can be done the question may well be asked, and in fact has already been asked by Africans, "How far are Western European nations, comparatively well fed by African standards, justified in removing from Africa first-class proteins in the shape of meat and eggs when African populations are still living on diets that are grossly deficient in proteins?"

CHEMOTHERAPY IN LUPUS VULGARIS

Secondary pyogenic infection of a tuberculous process may respond well to sulphonamide therapy, with improvement in the general condition of the patient and in the tuberculous process itself. In 1940 Domagk¹ described an inhibitory action of sulphathiazole on the growth of the tubercle bacillus *in vitro* and in experimental animals, and encouraging results were reported by Malluche² in patients with non-pulmonary tuberculosis and by Baumann³ in patients with pulmonary tuberculosis. Other investigators have claimed some successes with certain sulphones such as promin and diazone. In 1946 Domagk and his colleagues⁴ showed that it was the thiazol and thiodiazol groups which were responsible for the inhibitory effect, and they reported on two compounds of the thiosemicarbazone group (named P698 and Q242) whose action, unlike that of sulphathiazole, was unimpaired by *p*-aminobenzoic acid and other antsulphonamide factors. Moncorps and Kalkoff⁵ have reported on the use of these substances in the treatment of 26 patients with severe ulcerating lupus of the face who had previously been treated with ultra-violet light, caustics, grenz rays, and by other means without permanent improvement. All were admitted to hospital so that renal function tests and blood investigations could be carried out and toxic reactions controlled. The drugs, mixed with equal parts of sulphathiazole, were given over a period of several months, and the dosage was regulated according to the tolerance of the patient; in some cases 0.125 g. of the mixture was given eight times a day, in others 0.25 g. four times a day. Blood changes such as a mild secondary

¹ Reported at the Gynaecological Congress, Vienna, 1940.

² *Med. Klinik*, 1947, **42**, 314.

³ *Dtsch. GesundhWes.*, 1947, **2**, 161.

⁴ *Naturwissenschaften*, 1946, **1**, 315.

⁵ *Med. Klinik*, 1947, **42**, 812.