farce of the "reserve" system at present is, first, that the local white and black population do not obey the law, and the local authorities seldom enforce it, and second, that the Government is somewhat too ready to set aside the law in favour of distinguished sportsmen.

In no book which the reviewer has yet seen have the great beasts, the landscapes, and the people been more admirably photographed than in this work on Zambezia, while at the same time due justice is done to the Portuguese towns, the Portuguese officials, and generally to such civilisation as Portugal has been able to introduce into these lands.

H. H. JOHNSTON.

PELLAGRA AND ITS CAUSE.

A GOOD deal of notice has been taken lately in medical journals and in the newspapers of the disease pellagra. It is difficult for British folk to realise the scourge this disease causes in many countries, but chiefly in Italy, Roumania, Spain, Tyrol, and other countries in south-eastern Europe. In the United States of America, pellagra has spread recently to an alarming extent, and in several British colonies and protectorates, markedly the West Indies and Egypt, pellagra is a serious ailment. Persons who contract the disease present a train of symptoms which may be summarised as follows:—"sunburning" of face, neck, chest, and hands is an early and very prevalent manifestation; stomachic and intestinal catarrh; feverishness; skin rash; lassitude and weakness. Spring and autumn recurrences continuing for years further tend to mental excitement and bodily weakness, leading all too frequently to lunacy and a fatal issue.

The disease has hitherto been attributed to eating damaged maize, which is so largely consumed as "polenta," the "porridge" of Italy. In the United States maize is termed Indian corn, and under various names it is used in many countries. In 1905 Dr. L. W. Sambon, at a meeting of the Tropical Section of the British Medical Association, criticised the accepted theory, pointing out that pellagra did not seem to be a food disease or due in any way to unsound maize, but that in all probability it was due to a parasite—a protozoon. Dr. Sambon supported his theory by arguments based upon the well-established priniciples applicable to protozoal infections, and put in a form which appealed to men of science. His theory gained adherents until it gradually came to be considered a duty to humanity and to science that the question should be fully inquired into. With this object in view, a Pellagra Investigation Committee was formed in London by Mr. James Cantlie, and Dr. Sambon was sent to Italy on March 20, 1910.

At present the field commission in Italy, consisting of Dr. Sambon and his assistants, is engaged in inquiring into the epidemiology of pellagra. Many pellagrous districts in northern Italy have been visited and the banks of the streams searched for possible carriers of the disease. The field commission has come to the conclusion that pellagra occurs amongst the cultivators and not amongst the consumers of maize; that it is the agricultural labourer, not the town dweller, who suffers from pellagra, and that it is whilst working in the field that the labourer becomes infected. In a telegram dated Rome, May 13, and published in the *Times*, May 14, Dr. Sambon states that it "has been definitely proved that maize is not the cause of pellagra." In addition the telegram assures us that "the parasitic conveyer is the *Simulium reptans*." The Simulium is a species of fly commonly called a "sandfly"; its larvæ are met with on the rocks and stones along the streams in pellagrous countries, and Dr. Sambon seems to connect this fly with the spread of pellagra.

So far as we know, Dr. Sambon has not found the parasite, nor is there direct proof that the Simulium is the actual carrier. That he has found cause for the statement that eating maize is not the cause of this disease is highly probable, for several men of science, such as Babes (Roumania) and Alessandrini (Rome), have declared in favour of Sambon's theory, and have been working on the lines suggested by him for the elucidation of pellagra. Even with the announcement above quoted, stating what work has been done, there is much yet to do. Questions of the kind are not settled in a day, and it may take years of inquiry before we have finally settled what Dr. Sambon has so well begun.

The fact that it is a duty to humanity and to science that pellagra should be investigated does not provide the necessary money, and the committee in London has endeavoured to keep the inquiry going by appealing to friends to help. So far some 245*l.* have been actually collected, and further sums have been guaranteed; but even should the Government favour the work by contributing the 150*l.* which the committee was led to believe might be the case, the sum is quite inadequate, and unless further donations are speedily to hand the field commission must be recalled from Italy in a fortnight. Sir Lauder Brunton, Bart., is the chairman of the committee; Prof. F. M. Sandwith vice-chairman; the bankers are the London and South-Western Bank, Great Portland Street branch; and donations may be sent to the treasurer, Dr. Clement Godson, 82 Brook Street, W., or to Mr. James Cantlie, 140 Harley Street, London, W., honorary secretary, Pellagra Investigation Committee.

NOTES.

FOR some time past a scheme for the distribution of time signals by wireless telegraphy has been mooted with the view of assisting navigation and for the determination of longitude. The Eiffel Tower in Paris and the summit of Teneriffe have been proposed as suitable sites for the emission of these signals, and we now learn that the plan for which M. Bouquet de la Grye and Commandant Guyou are more especially responsible is so far complete that the first signals were dispatched from the former station at midnight on May 23. The Paris correspondent of the *Morning Post* states that Paris time was transmitted from the observatory by way of the Eiffel Tower by wireless telegraphy to all wireless stations and ships fitted with wireless apparatus within a radius of between 2500 and 3000 miles. The system is an automatic one, and a Morse sign is sent into space first at midnight, again two minutes after midnight, and, finally, four minutes after midnight. Thus, steamers furnished with wireless telegraphic apparatus will no doubt be placed in a more favourable position, but the suggestion that has been made in some quarters, that chronometers can be dispensed with, seems premature. The receipt of a signal will not enable a ship to determine its position or even its longitude. All it will do is to give the error of the chronometer. The ship's officers will not be able to forgo the use of Sumner lines and other devices, and for these the knowledge of local time and the use of a ship's chronometers will be convenient. It may be desirable to point out here what is the kind of error in longitude to which in these days of accurate navigation a ship is liable, or what is the

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