

Otto Pettersson delivered a lecture on Monday, June 10, before the Royal Geographical Society, on "Oceanic Circulation," in which he elaborated his theory of the influence of melting ice in the polar regions upon the general circulation of the oceans. In the course of the discussion which followed, Dr. Nansen gave a short account of the Norwegian hydrographical results and the nature of the actual currents which had been found to exist in the Norwegian Sea. He directed special attention to the cyclonic nature of the currents, which had been found to exist in that area. Prof. Gilson (Belgium), Prof. Homen (Finland), and Dr. Hjort (Norway) also spoke.

From June 10 to June 13 the delegates and experts were engaged on the work of the various committees of the Council, when arrangements for the conduct of the investigations during the coming year were elaborated.

The very full programme of festivities in connection with the conference, which was referred to in our last week's issue, was most successfully carried out, and it was felt by all who took part in the proceedings that much benefit would result from the friendly intercourse which took place during the week between the representatives of science on the one hand and those of the official and fishing interests on the other.

On Friday, June 14, the delegates and experts were received at Buckingham Palace by the King, who expressed his sense of the importance of the work in which they were engaged.

INTERNATIONAL CONFERENCE ON SLEEPING SICKNESS.

REUTER'S Agency announces that, at the invitation of the Colonial Office, a conference of various African colonies and protectorates has been summoned to discuss concerted international measures for dealing with sleeping sickness. The conference met at the Foreign Office for the first time on Monday, Government delegates being present from Germany, Congo Free State, France, Great Britain, Portugal, and the Sudan. The delegates are as follows:—Germany, Herr von Jacobs, Dr. Ehrlich, and Dr. Fulleborn; Congo Free State, Colonel Lantonnais, Vice-Governor General, Commandant Tonneau, M. Rutten, and Dr. van Campenhout; France, Dr. Kermorgant, Dr. Paul Gouzion, Prof. Blanchard, and Dr. Laveran; Great Britain, Lord Fitzmaurice (president), Sir W. Foster, Mr. A. W. Clarke, Mr. H. J. Read, and Sir Patrick Manson; Portugal, Dr. Correa Pinto; Sudan, Colonel Hunter and Dr. Balfour, of the Gordon College, Khartoum. The work before the conference includes the question of the holding of regular conferences, the establishment of a central bureau of information, and the assignment of definite points for investigation to particular countries or individuals. Lord Fitzmaurice, president of the conference, made the following remarks at the opening meeting to describe the objects in view:—

We are met together in the hope that it may be possible to concert measures which will enable the Powers which we represent to wage a more effective warfare against that terrible epidemic of sleeping sickness, which has already devastated so great a part of Africa, and which appears to be assuming even greater and greater proportions. This disease, as you are aware, has decimated the natives in large areas of the Congo Free State; it has levied a heavy toll on the natives of Uganda, of whom 200,000 out of a total population of 300,000 in the infected area have fallen victims to it. It has invaded portions of the French Congo and the Portuguese possessions; it has appeared the Sudan, and is now threatening German East Africa, Rhodesia, and the British Central Africa Protectorate. Already not a few Europeans have died of the disease, and many of those still alive are known to be infected.

By a bitter irony the European administration of Africa, while producing a more settled state of affairs than formerly existed, has led to more frequent and more extended travel on the part of the natives, and so helped to diffuse and spread the infection. In view of this state of affairs, which is little less than a calamity for tropical

Africa, His Majesty's Government has been endeavouring, by subsidising and otherwise encouraging investigation into the nature and cause of sleeping sickness, to acquire the necessary knowledge on which to base a scheme or schemes for the prevention, and possibly the cure, of this disease. Happily these efforts have met with considerable success. It has been definitely ascertained that *Trypanosoma gambiense* is the cause of the disease, and it is all but proved, both experimentally and by analogy, and also by considerations of distribution, that this parasite is conveyed from the infected to the uninfected by at least one species of tsetse-fly (*Glossina palpalis*), and that the distribution of this fly is strictly limited to the close neighbourhood of open water. It has further been ascertained experimentally in animals, and therapeutically in man, that the infection, once acquired, can be controlled to some extent by various substances—arsenic, certain colours, dyes, and combinations of arsenic and colour dyes—e.g. atoxyl—and by mercury. Lastly, though sometimes difficult to diagnose in its incipient stages, symptoms have been discovered which enable the expert to recognise the earlier, and, from the point of view of infection, equally dangerous stages of the disease. It may be that we are already, in these respects, in possession of the knowledge which, if energetically applied, would enable us to prevent the spread and possibly to exterminate sleeping sickness. It is by no means improbable that there are other factors at work determining the spread of the disease, of which we are at present in ignorance, and which, if ignored, might render futile any efforts, founded on a limited knowledge, we might take.

As our several countries are responsible for the good government and prosperity of tropical Africa, His Majesty's Government, feeling sure that they would be willing to cooperate in the struggle against sleeping sickness, has asked them to send you here to devise some scheme directed to this end, and by way of initiating discussion on the subject, I would submit for your consideration the following outline:—(1) Annual or biennial conferences of delegates from the several countries interested in sleeping sickness; (2) a central bureau to extract and circulate all new literature on the subject; (3) assignment of definite points for investigation to particular countries or individuals—e.g. (a) to determine whether *Glossina palpalis* is a direct or an indirect conveyer of the trypanosome; (b) if the trypanosome undergoes necessary developmental changes in the *Glossina palpalis*; (c) if such be the case, whether the developed germ be conveyed by the original *Glossina* or by its larva, when the latter arrives at its imago stage; (d) how long an infected *Glossina* continues infective; (e) whether other species of *Glossina* can convey the trypanosome; (f) the geographical distribution of the infecting species and their habits; (g) the rôle the vertebrate fauna other than man play in the spread of the infection; (h) the best methods for exterminating *Glossina*; (i) the best methods for preventing the introduction of the infection into virgin country; (j) the best methods of controlling the spread of the disease in an infected country, including segregation of the infected and removal from the infected area of those as yet uninfected; (k) the experimental study on animals of drugs which destroy the trypanosome; (l) the therapeutical application of these drugs to man.

Doubtless other points for consideration will occur to the delegates. The foregoing have been suggested merely to start discussion. In conclusion, His Majesty's Government, feels sure that, unless cooperation is secured, not only will time and labour be lost by the superfluous overlapping of the uncoordinated studies of men of science, but that it will be impossible to carry out anything like a general plan in the nature of quarantine or the restriction of the movements of the native population more immediately interested in this important disease. Much money and effort are now being expended by the different European administrations, but as there is no common plan of action there must be a considerable waste of energy. It is in the hope of organising the forces of those administrations to the best advantage against the common enemy that His Majesty's Government has invited the Powers concerned to send their representatives to this conference.