

Passing on to the work in progress in the laboratories, Sir John discussed it under its three main headings,—the cultivation of the soil, the feeding of the crops, and the maintenance of healthy conditions of plant work. In connexion with the work on soil cultivation and the physical properties of the soil, he stated that the Empire Cotton-growing Corporation has given a substantial sum for the development of this work, as it is convinced that questions of soil physics are of great importance in those parts of the Empire where cotton is grown. Among other recent developments are apicultural investigations and work on the control of insect pests by means of parasites. The New Zealand Government has been supplied with parasites of certain pests,—the earwig, pear slug larvæ, and pear leaf midge,—which cause extensive damage in that country.

Sir Matthew Wallace also spoke of the value of the work at Rothamsted to the practical farmer. He compared the present wave of agricultural depression with that of 1880 when he started farming, and said that the comparison made him optimistic for the future. The close relations that must exist between research centres and agricultural colleges if both are to keep ahead of the times were alluded to by Principal M. J. R. Dunstan, of the Royal Agricultural College, Cirencester. Mr. George Dallas, of the Workers' Union, said he was very greatly encouraged by the attention now being devoted by the Ministry of Agriculture and Stations like Rothamsted to the improvement of the lot of the farm labourer. He expressed the opinion that the recent increase of educational facilities will be of great benefit to the whole industry, and further it will help to prevent the departure of the best and keenest men from the land.

In the afternoon the visitors made a brief inspection of the work in progress in the laboratories.

New Principle of Therapeutic Inoculation.

IN collaboration with L. Colebrook and E. J. Storer, Sir Almroth Wright published in the *Lancet* (February 24, March 3 and 10) an elaborate communication which is an expansion of a special lecture delivered before the Royal Society of Medicine in November 30, 1922. It is entitled "New Principles of Therapeutic Inoculation."

The new principles may be best understood by a brief reference to the older principles which they are intended to augment or replace. In the therapeutic inoculation for infective disease, it has hitherto been the custom, following Sir Almroth Wright's earlier work, to inoculate the infected individual with a vaccine prepared with the virus with which the individual is infected. While the results in chronic infections have been on the whole excellent, there has been disappointment in the cases in which a heavy infection of a septicæmic type occurred. This was due to a certain extent to the fact that the elaboration of specific protective substances was a matter of time, and the state of the individual might be such that he was incapable of elaborating protective substances at all.

For a long time, however, it was known that non-specific bacteria, or indeed substances not bacterial in origin at all, might be employed to augment quickly the patient's resistance by a process, it was thought, of leucocytosis and phagocytosis. While not agreeing with this suggested action, Sir Almroth Wright, by many new and ingenious technical methods, shows that what he calls an "epiphylactic" response may be evoked by bacteria which are not identical

with those with which the patient is infected. This epiphylactic response occurs when inoculation is made into the blood *in vivo* or even *in vitro*, and takes place immediately by an extrusion of opsonic and bactericidal elements from the leucocytes—an ectocytic rather than a phagocytic process. These ectocytic substances are polytropic in character, *i.e.* they act not only on the homologous but also on heterologous bacteria.

There is, in fact, a non-specific immunity, and it is this which Wright and his collaborators aim at producing to tide the patient over the critical days of his severe infection. The process adopted is named "immuno-transfusion," and consists of the incorporation of healthy human blood which *in vivo* or *in vitro* has been made, by inoculation, to develop an adequate epiphylactic response and is laden with protective substances. In this process it is clearly pointed out that quantitative determinations are of the utmost importance, as a dose of antigen optimal for one patient may be highly detrimental for another. The methods recommended are complicated, and treatment of severe cases of generalised sepsis, if it is to be successful, must lie in the hands of highly trained serologists.

University and Educational Intelligence.

ABERDEEN.—The Blackwell prize for 1923 has been awarded to Mr. F. C. Diack, the subject of the essay being "The Sculptured and Inscribed Stones of the North-east and North of Scotland."

The University Court has appointed the following lecturers to the newly instituted grade of reader in their respective subjects: Geography, Mr. J. M'Farlane; bacteriology, Dr. J. Cruickshank; public health, Dr. J. P. Kinloch; embryology, Dr. A. Low.

Prof. C. R. Marshall has been appointed John Farquhar Thomson lecturer on "The Human Body" for the year 1923-4.

CAMBRIDGE.—Mr. J. Barcroft, King's College, Dr. Adrian, Trinity College, and Dr. Hartridge, King's College, have been reappointed reader in physiology, University lecturer in physiology, and University lecturer in the physiology of the senses respectively; Mr. A. H. Peake, St. John's College, and Mr. T. Peel, Magdalene College, have been reappointed as demonstrators of mechanism and applied mechanics. Senior studentships have been awarded by the Royal Commissioners for the Exhibition of 1851 to D. Stockdale, King's College, and J. H. Quastel, Trinity College.

SHEFFIELD.—An anonymous gift of 20,000*l.* has been accepted by the University for the purpose of founding an undergraduate scholarship and a number of post-graduate scholarships. The undergraduate scholarship is to be in the faculty of pure science, and is restricted to boys from King Edward VII. School, Sheffield. The post-graduate scholarships are to enable graduates to pursue research in ferrous or non-ferrous metallurgy.

At a meeting of the trustees of the Albert Kahn Travelling Fellowships Foundation on June 14, Mr. W. Randerson was elected to the fellowship for 1923. Mr. Randerson was educated at the Imperial College of Science, South Kensington, and during this year has been a research fellow of the Salters' Institute of Industrial Chemistry; recently he obtained the degree of M.Sc. (London) for a thesis on the chemistry