

wide, both to the direct conveyance of infection by the excreta, and to its indirect conveyance by means of contaminated water. . . . On service, proper sanitary arrangements are very often impossible. We may think, for instance, of the situation of men in the trenches under fire. . . . When it comes to a tight place the alternative which will present itself will be that of drinking a polluted water or none. . . . It will, by the very nature of the case, be out of question to apply ordinary sanitary measures in an effective manner. . . . Infection spreads not only among the troops in the field, but also among the soldiers in hospital."

The *Daily Chronicle*, October 3, says, "It is reported that 800 Germans, on the lines between Brussels and Antwerp, are suffering from typhoid fever."

That the protective treatment is indeed protective we all know. It is the experience of the nations of the earth; and the whole world is agreed about it. France, India, Canada, the United States, Italy—let alone our enemies—are of one mind. Take only four instances:—

1. *British Army in India*.—"The histories, as regards typhoid fever, of 19,314 soldiers, whose average period of service abroad was twenty months, were carefully followed, and every precaution possible was taken to verify the diagnosis bacteriologically. Of this number 10,378 were inoculated, and 8936 not inoculated. The case incidence of typhoid fever among the inoculated was 5.39 per 1000, and among the non-inoculated 30.4 per 1000."—*Report of Anti-Typhoid Committee, 1912*.

2. *United States Army*.—"Inoculation was made compulsory in the American Army in 1911, and has practically abolished the disease. In 1913 there were only three cases and no deaths in the entire army of over 90,000 men."—Sir W. Leishman, *Brit. Med. Journ.*, August 22, 1914.

3. *French Army*.—In 1912 typhoid broke out in the barracks at Avignon. Of 2053 men, 1366 were protected and 687 were not. The non-protected had 155 cases, with twenty-one deaths; the protected had not one case. The protective treatment was made compulsory last winter in the French Army; and, in special circumstances, among the reservists.—*Lancet*, January 4, 1913.

4. *Canadian-Pacific Railway*.—Throughout the "railway camps" in Alberta, during 1911, among 5500 protected there were only two cases of typhoid; among 4500 non-protected there were 220 cases.—*Brit. Med. Journ.*, June 6, 1914.

It remains to be noted: (1) That the vaccine contains no living germs of any sort. (2) That the treatment, though it gave good results in the South African War, has been improved since that time. (3) That the avoidance of exertion and excitement, on the day of treatment, is a great safeguard against any disturbance of the general health. (4) That, when time allows, it is always best to give the vaccine not all in one dose, but in two, or even three graduated doses, with a few days between each dose.

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Sir Almroth Wright, by whose hands the gift of this treatment came to us, greatly desires that the treatment should be made compulsory, as in other armies, so in ours. Surely it is part of "my duty to my neighbour" that I should not, by having typhoid, expose him to the risk of infection from me. And it is certain that a soldier down with typhoid fever is not only useless against the enemy, but dangerous to his own friends.

STEPHEN PAGET.

THE BRITISH ASSOCIATION IN VICTORIA.

MELBOURNE, AUGUST 20.

ON their arrival from Adelaide by three special trains on Thursday, August 13, the visitors were taken to their quarters, but soon most of them found their way to the reception room at the University. The lecture theatres of the University, and of the Teachers Training College, afforded ample accommodation for all the sections, and are in the same grounds.

In the evening the Governor-General received members at Government House, and some 3000 guests were present at a brilliant function. On Friday afternoon, August 14, a graduation ceremony was held in Melba Hall, when nearly 1000 persons were present. The degree of D.Sc. was conferred on the president, Prof. W. Bateson, and on Sir Edward Schäfer, Prof. H. E. Armstrong, Dr. F. W. Dyson, Sir Thomas Holland, Prof. W. J. Pope, Prof. A. W. Porter, Sir Ernest Rutherford, Prof. Johannes Walther, Prof. W. M. Davies, Prof. C. G. Abbott, and Prof. Luigi Luiggi. At a later hour the Lord Mayor held a reception at the Town Hall, which was largely attended. In the evening the president delivered the first half of his address in the auditorium in the presence of more than 2000 persons. The Governor-General and the State Governor were present, and proposed and seconded the vote of thanks.

On Monday afternoon, August 17, Prof. E. B. Poulton delivered a discourse on "Mimicry" before a very large and appreciative audience. In the evening the Government of Victoria held a reception at the Public Library, Picture Gallery, and National Museum, the buildings for which are in communication. The guests, numbering about 4000, were received by the Premier, Sir Alexander Peacock, Lady Peacock, and by the Chief Secretary, the Hon. John Murray. The ample accommodation afforded by the large rooms prevented undue crowding, and the evening was most enjoyable.

On the following afternoon the Overseas members were entertained at the Botanic Gardens by the members of the scientific societies of Victoria. The weather was delightful, and the magnificent gardens were greatly admired by the guests. The president planted a memorial tree (*Cupressus macrocarpus*) to commemorate the historic visit of the association. In the evening

Dr. F. W. Dyson delivered the second discourse on "Greenwich Observatory and its Work."

A number of week-end excursions were made, and, owing largely to the beautiful, though unseasonable, weather, were all successful. The greater number of the excursionists were Overseas members, the Australian members being restricted largely to the official leaders and experts in what may be called "side-issues." Thus, a geological excursion would be accompanied by someone who could name plants, and so on.

About forty went by special train to Bacchus Marsh to inspect the Permo-Carboniferous glacials. Drs. Hall and Pritchard were the leaders, and Messrs. Sweet and Brittlebank, who discovered and worked out the beds, were present to help, and the main features were clearly seen.

The Surveyor-General, Mr. J. M. Reed, led a party by train and by coach over the dacite mountains to Marysville. Botanists, zoologists, and sightseers had a splendid, though somewhat arduous, time. Dr. C. S. Sutton and Mr. James Cuming, who was the host for the occasion, took a very large number by train to Warburton and Cement Creek. This is the home of big trees, though most of the giants have vanished. A visit was paid to the works of Messrs. Cuming, Smith and Co., where a number of chemical products from the eucalyptus are prepared on a fairly large scale. The naturalists revelled in the rich fern gullies with their wealth of zoological and botanical novelties.

A long day's excursion to the Macedon district was made possible by the generosity of the Automobile Club of Victoria, which provided cars. Prof. Skeats and Dr. Summers were the leaders, and the remarkable series of igneous rocks, for which the locality is famous, were well explored.

Prof. A. J. Ewart and Mr. R. Grimwade took a very large party by train along the narrow gauge track to Emerald. The mountain forest country was seen and large nurseries for raising fruit trees, and the Bosisto experimental oil-farm were visited. At the latter place, Messrs. Grimwade and Co. are cultivating scent plants, and have large experimental plantations of eucalyptus. Botanically, the excursion was a great success, as many typical Australian plants were seen.

A large party went by special train to Ballarat, the second city of the State. The mayors of the twin cities were most hospitable, and Mr. Wm. Baragwanath, the geological surveyor in charge of the district, demonstrated the leading features. The Government geologist, Mr. H. Herman, took another large party to Bendigo, where the famous "saddle" reefs were the chief source of attraction. The structure of the field was very clearly seen, and the lavish hospitality of the mayor and of the leading citizens was highly appreciated. Both here and at Ballarat, the plentiful loan of motor-cars made the inspection of wide areas of the surrounding country possible.

An excursion to the National Park at Wilson's Promontory, where 150 square miles of moun-

tainous country is reserved as a sanctuary for animals and plants, had been planned by steamer. Almost at the last moment, the war troubles prevented the loan of the vessel. However, Mr. C. Catani, chief engineer of the Public Works Department, the leader, and especially Mr. J. A. Kershaw, curator of the National Museum, managed an overland transport, and the visit was thoroughly enjoyed by the small number who went.

Visits were paid to the Central Research Farm at Werribee under Dr. S. S. Cameron, Director of Agriculture, and to the Bacchus Marsh irrigated area under Dr. Elwood Mead.

Besides these official excursions, a large number were made under private guidance, and many special entertainments were given.

The meeting was, from all points, most successful; the Victorian members numbered 1998, and the details of organisation were under the control of Prof. Baldwin Spencer.

T. S. HALL.

NOTES.

THE Research Defence Society has prepared an instructive leaflet upon the subject of protection against typhoid fever, dealt with by the honorary secretary of the society, Mr. Stephen Paget, elsewhere in the present issue of NATURE. The society sends out supplies of this leaflet, and makes arrangements for providing the treatment, free of charge. Application should be made to the hon. secretary, Research Defence Society, 21 Ladbroke Square, London, W.

It is reported by a Reuter message from Smyrna that an earthquake which occurred at midnight on Saturday, October 3, partly destroyed the towns of Isbarta and Burdur in the province of Konia, Asia Minor.

THE death occurred on September 30, at eighty-eight years of age, of Sir Henry Littlejohn, late president of the Royal College of Surgeons, Edinburgh, professor of forensic medicine in the University of Edinburgh in the years 1897-1906, medical officer of health for Edinburgh from 1862 to 1908, and the author of many publications on legal medicine and public health.

THE attention of our readers may be usefully directed to the joint propaganda of the Fisheries Organisation Society and the National Deep Sea Protection Association. These bodies have issued a reprint of an article, by Mr. Stephen Reynolds, on fish-food in wartime, and a series of very practical recipes and hints on cooking and buying fish, in which particular attention is directed to the use of cured herrings and other fish. The Board of Agriculture and Fisheries also issue leaflets relating to the further utilisation of fish and salted herrings as food. It is very desirable that the propagandist efforts to which we refer should be made as widely known as possible. Deep-sea fishing is suffering severely from the restriction of the fishing grounds from actual war losses, and from the diversion of