

rats in infected quarters and in domestic and other buildings, the keeping of cats in dwelling houses, and the systematic house-to-house cleansing of the native quarters. A kerosine emulsion prepared from kerosine and soft soap is used for the destruction of fleas in infected premises, and rat runs are filled up with cement and broken glass wherever found.

Cholera.

The colony experienced a small outbreak of cholera—the first for many years—which originated among the boat population of a fishing village, and is thought to have been spread by the eating of infected fish. In all 116 cases were recorded, extending over a period of three months.

Diphtheria.

Diphtheria was more prevalent than in former years, the total number of cases recorded being 148 (49 Europeans, 75 Chinese, and the remainder other Asiatics); 56 of the Chinese cases, 2 of the European cases, and 2 "other Asiatics" died.

Midwifery.

With a view to a reduction of the mortality attending childbirth, a system of training midwives for work among the poor has been in vogue for some years past, and these women are maintained at the Government expense after completing their training; nine of them attended 2,329 cases of confinement during the year, with only 8 casualties, including 1 case of puerperal fever, 2 of placenta praevia, 2 of eclampsia, 1 of *post-partum* haemorrhage, 1 of cardiac failure, and 1 of hemiplegia.

Special Correspondence.

PARIS.

The Medical Situation in Paris.—Antityphoid Vaccination.

WRITING under date August 28th, our Special Correspondent says:

Medical progress in Paris is almost at a standstill. The societies have ceased to meet, except formally, and of lectures and discussions there are none. Such medical journals as still appear are greatly reduced in size and are entirely devoted to medico-military subjects. All medical men of serviceable age and physical fitness have been called to the colours, and hosts of students have been requisitioned. Many hospitals and laboratories have been almost denuded of their staffs, and it has been necessary in some of the important laboratories to call for voluntary assistance. Each hospital has a large proportion of its beds in readiness for wounded soldiers, and a great number of schools and private houses have been equipped as temporary hospitals. Staffs of medical men have allocated to them certain districts, the temporary hospitals in these districts coming under their care. The Americans resident in Paris have formed a Red Cross Society, and the response to their appeal for subscriptions has been excellent. Besides several houses, they have taken a large wing in the new Lycée Pasteur, and in the latter there are already 200 beds in readiness to receive patients. The British residents are also working strenuously, and although not yet officially under the Red Cross, the British hospital, which is admirably equipped for the reception of cases requiring operative treatment, has received many generous offers. A great drawback to the emergency hospitals in Paris is the lack of trained nurses, the profession of nursing in France not being cultivated to the same degree as in England.

The authorities have issued placards advising the people to be vaccinated against small-pox. This is done gratuitously in the different mairies. Up to the present no cases of small-pox have been reported. Professor Vincent's antityphoid vaccine is being extensively used both among civilians and in the army. The vaccine used here is polyvalent, the different strains of the bacillus being obtained from France, Morocco, and Tunis. Owing to the rapidity of the mobilization, very few soldiers at present on active service have been fully vaccinated against typhoid. Some have received two injections, the first of $\frac{3}{4}$ c.cm., and the second of $1\frac{1}{2}$ c.cm. It is considered

that these two injections give an appreciable immunity to the disease. The efficacy of Vincent's polyvalent vaccine is well demonstrated by the fact that in the garrison of Avignon from 1892 to 1912 there were 1,263 cases of typhoid, necessitating 44,133 days of treatment. In 1913 the garrison was vaccinated, and not a single case was reported during that year.

Correspondence.

THE "CONTROLLED" USE OF NEW TUBERCULIN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

SIR,—In their paper on this subject Drs. Stockdale and Hodson have given a verdict on the whole adverse to tuberculin as a treatment in pulmonary tuberculosis. Their conclusions seem, however, to be vitiated by the facts, first, that they made no attempt to control the treatment, and, secondly, that they did not predetermine the suitability of the individuals chosen for treatment. A stereotyped method was adopted, and only varied when a definite reaction occurred. But in the treatment of febrile and intermittently febrile cases reactions indicate a false step. Since it was in this class of patient that the treatment did harm, it is possible that the dosage was incorrect. There are certain commonplaces in tuberculin therapy to which most experts would subscribe—namely, that not every individual is suitable, that each case must be treated on its merits, and improves only when the dose and interval are correct, and that each patient may require a different scheme of dosage.

In the febrile cases one would suggest at once that the initial doses were too large. It is also very doubtful whether the use of T.R. is justifiable in any febrile patient, unless no secondary infection is present—an extraordinarily rare occurrence. In the usual type of febrile case the secondary organisms should certainly, in common fairness to the patient, receive attention by appropriate vaccines before T.R. is given. Still better and safer is it to give a sensitized tuberculin (S.B.E.), with which reactions seldom, if ever, occur. Again, in the intermittently febrile cases, when occasional autoinoculations are upsetting all calculations, even greater care is required to adjust dose and interval to the patient. One hundred-thousandth of a milligram may be an excessive dose in many cases, and certainly one fifty-thousandth for the second dose would be liable to do harm. Here also one would be inclined to try S.B.E. rather than to risk reactions with T.R. The question of secondary infection also arises. One must surmise then that in Classes 2 and 3—

2. Intermittently febrile cases—that is, using the term "intermittent" in the sense that after a day or two rise the temperature would fall to normal, and then a further rise would be recorded.

3. Febrile cases.

—the method of treatment was improper. In Class 1 (afebrile phthisis) a favourable verdict is admitted by the authors. It is only in this class that tuberculin given without an exact method of control is likely to succeed.

With all due deference to the authors of the paper, whose root idea is undoubtedly most admirable, I suggest that it would have been better to have sorted out the patients by trial with a few doses of tuberculin to see that they were suitable for the treatment, and then to have discontinued treating half of these, keeping them to act as controls. The resulting statistical table would have included—theoretically at least—only such patients as were proved to be capable of responding in a reasonably satisfactory way to the drug. As it is, we have no indication whatever as to what number of the thirty-one patients who received tuberculin were likely to be favourable subjects. The communication of Drs. Stockdale and Hodson, as it stands, merely demonstrates that if tuberculin is given indiscriminately by a rule-of-thumb method results as good can be obtained without it—a proposition which few will now be found to deny—whilst had a definite procedure for controlling the dose and interval of the vaccine been adopted, together with a more rational method of selecting the cases, the resulting table would have marked

a considerable advance in our knowledge of this difficult subject.—I am, etc.,

Yelverton, July 27th.

H. WARREN CROWE.

SIR,—The paper by Drs. Stockdale and Hodson on the above subject is very interesting. Here we have two medical men—indeed, three, for Dr. Batty Shaw was the final judge on the cases—spending at least three months in proving what has been proved often, but what few medical men when using tuberculin seem to remember—that is, that tuberculin is only of use in tuberculosis. They say that in every case they found the *B. tuberculosis*, but they do not say what other organisms were found. In their cases coming under Classes 2 and 3 I fear they were expecting tuberculin to clear up temperature, physical signs, and general ill health due more to other organisms than the tubercle bacillus. If the article is read in this light, then it proves the great usefulness of tuberculin in tuberculosis.

Might I suggest that they begin over again with cases in Classes 2 and 3 and make what I term a "differential" examination of the sputum, prepare a vaccine of the organisms found other than the tubercle bacillus and administer it. If this be done I believe they will be surprised how little of the temperature and physical signs was due to the *B. tuberculosis*, and I also believe they will appreciate the fundamental importance in vaccine-therapy of a correct bacteriological diagnosis. I have found P.T.O. the most useful of the tuberculin preparations in pulmonary work.

That tuberculin does not seem to exert its full specific powers in pulmonary tuberculosis is due, I believe, not to any fault in the tuberculin but to mistakes in our method of using it, and one of these, I submit, lies in our not fully estimating the power of the other bacteria and trying to get rid of them first.—I am, etc.,

Lisburn, July 25th.

J. L. RENTOUL, M.B.

Obituary.

HUGO KRONECKER, M.D.,

PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF BERN.

By the death of Professor Kronecker the scientific world has lost one of the foremost of modern physiologists. He was a younger brother of the famous mathematician Leopold Kronecker, and was born at Liegnitz in 1839. He was therefore 75 at the time of his death.

Kronecker received his preliminary education at the gymnasium of his native town, and afterwards studied medicine at Berlin, Heidelberg, and Pisa. In 1863 he took his doctor's degree at Berlin. He had already shown a marked inclination toward scientific research, and he had worked at physiological problems under Helmholtz and Wundt at Heidelberg. In 1865 he became private assistant to Traube at Berlin, and at the same time worked in the laboratory of physiological chemistry under W. Kühne. In 1868 Kronecker went to Leipzig, where, in 1871, he became assistant to Ludwig, who recognized his fine character and his great ability. At that time the Leipzig Laboratory was an international centre of experimental physiology. Kronecker went there well prepared for the work he had to do by his previous studies under Helmholtz, Wundt, Bunsen, and Kirchhoff, and was thus able to take a leading part in the researches pursued in the laboratory. He could converse in English, French, and Italian as well as he spoke his mother tongue, and this was an attraction to foreign students. In 1872 he qualified as privatdocent, and in 1875 he was appointed professor extraordinary in the University of Leipzig. In 1878 he was appointed head of a department in the physiological Laboratory of Berlin, where he was closely associated in his work with du Bois-Reymond.

In 1884 Kronecker was called to the chair of physiology in the University of Bern, where he remained during the rest of his active life. He was sorry to leave Germany, for he was an ardent patriot who served in the wars of 1866 and 1870. At Bern he established an institute fully equipped in accordance with modern requirements, both for teaching and for research. By his special desire the institute was called "Hallerianum" in memory of the

famous physiologist Albrecht von Haller, whose statue stands within the precincts of the university. He was one of the initiators of the International Congress of Physiology, which held its first meeting at Basel in September, 1889, under the presidency of Holmgren. Kronecker also took a leading part in founding the Marcy Institute in Paris for the designing and control of physiological instruments and methods. He was its president in 1895. Kronecker also co-operated with Mosso in establishing the international research station on Monte Rosa, where he made a special study of mountain sickness. His last publication was a memoir on the cause of that disease, presented to the Royal Academy of Medicine of Brussels on April 25th, 1914.

Under Kronecker's direction the Hallerianum became like the Leipzig Laboratory—an international centre of physiological research. Foreign workers were always sure of a hearty welcome there.

His work, a considerable part of which he published through his pupils, covered nearly the whole domain of physiology. He devoted special attention to the respiration, the heart, the fundamental laws of reflex stimulation, animal heat, the assimilation of albuminous bodies, and other subjects which it is impossible to enumerate.

WE regret to announce the death of Dr. MARK JOSEPH WAKEFIELD of Moseley. Dr. Wakefield, who was in his 56th year, had been ill for a considerable time. He was a member of a well known Durham family and studied medicine at the Newcastle-on-Tyne College of Medicine, and took the degree of M.B. at Durham University in 1884. He was admitted M.R.C.S. Eng. in 1885. He practised for a time at Newcastle-on-Tyne, and some fifteen or sixteen years ago settled in Birmingham. During the illness of the medical officer of Winson Green Prison the Home Secretary appointed him deputy surgeon temporarily; later this appointment was made permanent, and Dr. Wakefield held it for ten or eleven years. Some four years ago his health broke down and he gave up practice. Dr. Wakefield was very popular with his patients, and his fine character endeared him to a large circle of friends.

THE death of Dr. CHARLES JACKSON has caused great regret in the town of King's Lynn, Norfolk, where he had practised for over a quarter of a century. He was born in Westmorland in 1850, and was educated at the Quakers' School, Kendal, and at Glasgow. He took the diplomas of L.R.C.P. Edin. and L.R.F.P.S. Glasg. in 1882. During his residence in King's Lynn he was physician to the West Norfolk and Lynn Hospital, and for twenty-two years was medical officer and public vaccinator for the north district of the Lynn Union. Dr. Jackson took a deep and active interest in all agencies for the social and religious welfare of the district. His hobby was gardening, and he was vice-president of the Lynn Horticultural Society. He died on August 18th, after an illness of several months' duration. The funeral, which took place four days later, was attended by a large number of members of the medical profession and other friends.

Universities and Colleges.

ACADEMIC POSITION OF STUDENTS ON MILITARY SERVICE.

THE Vice-Chancellor of the University of Manchester intimates that special arrangements are being made for the benefit of all students of the university who may be on active service during the war. All reasonable allowance will be made in respect of attendance, and scholarships awarded by the university will be continued to these students on their return. It is understood that many local education authorities have adopted a similar policy as regards their scholarships held at the university. There is every intention of opening the session on October 8th as advertised.

UNIVERSITY OF SHEFFIELD.

THE Council has decided to invite Dr. J. B. Leathes, F.R.S., at present Professor of Pathological Chemistry in the University of Toronto, to accept the Chair of Physiology rendered vacant by the acceptance by Professor J. S. Macdonald of the Chair of Physiology in the University of Liverpool.