

condemnation of some not very deadly sins. Major Barnett has very successfully steered clear of these rocks. If he has skimmed rather lightly over the scientific factors in the cause and spread of infective diseases, he has included such of their practical applications as concern the regimental officer; sufficient to enable subaltern officers to pass their examination in this subject; and this is presumably the primary object of the book.

It is admittedly difficult to present technical details to non-technical readers, while maintaining strict scientific accuracy, but we think in one or two instances the author has allowed himself too wide a licence. It is, for instance, misleading to state that the micro-organisms of disease belonging both to the vegetable and animal kingdoms are spoken of collectively as *Bacteria*, and that those belonging to the animal kingdom are called *Amœba*. Diphtheria antitoxin is, of course, not obtained by inoculating a horse "with the germs of human diphtheria"; nor is small-pox vaccine ordinarily prepared by first vaccinating a calf "with human small-pox." Until recently this was thought to be impossible and though, we believe, it has been done to a limited extent in Germany, it is certainly not done in England, nor are British troops ever vaccinated with such vaccine.

The statement that in cholera and dysentery the urine is "infectious" can hardly be supported by bacteriological knowledge, since in cholera only in a few instances and in dysentery, as far as we know, never has the causal organism been isolated from the urine.

That yellow fever "is caused by the infection of the blood by a minute animal germ" is hardly yet an established fact, for the claim of Seidelin that the "yellow fever bodies," described by him and named *Paraplasma flavigenum*, are the cause still requires confirmation.

The figures given for the losses from disease in the South African war differ somewhat widely from those in the "Medical History" of the war by Lieutenant-Colonel Simpson, which may be accepted as the official data.

The numerous references to the official books of Regulations are a useful feature of the book, and a number of examination papers set in the subject (j) for the promotion of lieutenants is given at the end of the book.

Current Literature.

Yellow Fever Bulletin, Vol. I., No. 8 (Abstract).—The editor refers to the theory of permanent endemicity as an explanation of outbreaks of yellow fever which arise without introduction from without; he quotes a letter from Dr. Liceago, of Mexico, who suggests, as an alternative explanation, that there may be animals which are susceptible to the yellow fever parasite, and that infection may be kept going in them.

A report of Stephens' contribution to the discussion on yellow fever at the British Medical Association is reproduced. Stephens points out

that Boyce's position was much misunderstood, and that there was a general impression that when he asserted that yellow fever was endemic in West Africa, he meant that it was raging there. This was not Boyce's meaning. The more yellow fever was endemic, the less likelihood there was of raging epidemics, because of the constantly large proportion of immunes in the population. He urged the segregation of Europeans from natives, both on account of yellow fever and of malaria.

Seidelin also supported the view that natives were immune because of repeated mild attacks, and that epidemics arose when a number of non-immunes were introduced into a population where yellow fever was quietly endemic. He quoted an outbreak in his own family in Yucatan; his wife and two children had a mild attack of fever, he had a more severe one, and in his case the diagnosis was yellow fever, the other cases which occurred at the same time passed undiagnosed.

W. S. H.

Sanitary Conference, Bombay, 1911. Second Day's Meeting.

(Abstracted from *The Times of India*, Mail Edition, November 18, 1911).—Major Glen Liston, when reading a paper on plague, said that one pair of rats kept in a laboratory can in the course of a single year multiply to fifty pairs. Owing to food supply and other considerations it must not be assumed that a similar rate of increase takes place among rats living under natural conditions; still, any attempt to exterminate the rat population of a district must be a task of very considerable magnitude. He advocated limiting the food supply of rats by making houses, markets and grain go-downs rat-proof, and by removing all collections of garbage.

A damp, cold weather is more favourable for the propagation of rat fleas than a dry, cold weather, hence severe epidemics of plague are more likely to occur when the cold weather is damp.

An important point determined experimentally by Major Glen Liston is that during the course of a series of plague epidemics a race of rats is evolved which is naturally immune to plague. Thus a large proportion of rats from plague-stricken cities like Bombay are immune to small doses of an infected rat's spleen, but rats from plague-free places, e.g., Madras, readily succumb to these doses. The young of these immune rats are almost as immune as their parents. This factor probably explains the gradual disappearance of plague in an infected country; many years would, however, have to elapse before plague disappeared from India as a result of this process.

C. E. P.

Yaws.—“Reports by the Surgeon-General and the Medical Officer of St. Joseph on the use of ‘Salvarsan’ (606) in the treatment of Yaws at the St. Augustine Yaws Hospital, Trinidad.

“*Report on 500 cases of Yaws treated with ‘Salvarsan’ (606) at St. Augustine Yaws Hospital, Trinidad.*—I am able to give the results of the treatment of 500 cases of Framboesia with ‘606’ at the St. Augustine Yaws Hospital, Trinidad, from January to October this year. Only intramuscular injections were used, and the usual dose was 9 gr. (0.6 gm) for an adult.

“The 500 cases were injected as follows:—

January	20
February	1
March	14
April	87
May	68
June	75
July	101
August	17
September	87
October	30
Total	500

"The first case was injected on January 4, and the 500th case on October 14. The injections were made by Drs. Rost, Cleaver and myself.

"I write this on November 30, so six weeks and six days have elapsed since the 500th case was injected.

"*Results.*—Four hundred and ninety-eight cases are cured, that is 99.6 per cent; 409 cases were cured with one injection, or 82 per cent; 75 cases were cured after receiving a second injection: 14 cases were cured after receiving a third injection. The total number of injections was 603.

"*Stubborn Cases.*—Two of the cases are not yet cured. S. C., aged 7, male, injected on September 16. I re-injected him on the 11th instant. T. M., aged 14, male, injected on October 2. I re-injected him on the 8th instant. Both cases show amelioration. Each will be given a third injection next week, and if this cures them we will get 100 per cent of cures.

"*Relapses.*—There were five relapses—1 per cent. Before salvarsan was used, relapses were 12 to 14 per cent. Relapses are quickly cured by a second injection.

"*Complications.*—When Dr. Cleaver was acting for me four deaths occurred among cases that had been injected by him. Dr. Cleaver is of opinion that none of the deaths were the result of the injections with salvarsan. No local gangrene, no nerve or ear complications, and no dimness of sight occurred in any case. The only complication was the formation of a simple abscess at the seat of injection in two cases, that is one abscess for every 301 injections.

"*Conclusions.*—Salvarsan is a specific for yaws, and there is no danger attending its use for this disease. The tropics are under a debt of gratitude to Professor Ehrlich for his discovery of salvarsan.

"(Signed) HENRY ALSTON.

"November 30, 1911.

"Medical Superintendent.

"*Supplementary Report on 500 Cases of Yaws Treated with 'Salvarsan'* (606).—The two stubborn cases of yaws are now cured, only one required a third injection of salvarsan.

"HENRY ALSTON,

"December 15, 1911.

"Medical Superintendent."

Reinfection with Syphilis.—Schueller (*Berlin. klin. Woch.*, No. 4 1912) reports two interesting cases observed in Gennerich's clinic at Kiel. The first case was infected on November 11, 1910, and admitted

to hospital twenty-eight days after, with an indurated ulcer on the lower lip; numerous spirochætes were found in the ulcer. Treatment was begun with four injections of calomel after which he received five injections containing a total of 1.95 grm. salvarsan. Nine months after completion of treatment there were no signs of syphilis, and his serum reaction was negative. Two months later he was readmitted with a typical hard sore on the foreskin in which spirochætes were plentiful.

The second case was admitted, ten days after infection, with a sore on the sulcus; spirochætes were found in the expressed serum; the serum reaction was negative. He received four calomel injections and three of salvarsan containing a total of 1.4 grm. Three months after the date of infection his serum reaction was negative. A month later he exposed himself to reinfection; four days afterwards he was readmitted with an indurated sore on the penis partly occupying the site of the previous sore; spirochætes were present. The second sore in this case was regarded as a "chancre redux" set up by mechanical irritation of a focus of latent spirochætes. This patient presented a mild idiosyncrasy to salvarsan, the earlier injections producing a condition of malaise and slight albuminuria. Schueller remarks that when salvarsan is injected into an untreated case of syphilis it is almost always followed by pyrexia, whereas if salvarsan is withheld till six to eight injections of calomel have been given, no rise of temperature takes place.

C. E. P.

Salvarsan and the Eye.—Dr. Cohen (*Berlin. klin. Woch.*, No. 49, 1911) reported two cases in which an injection of salvarsan was followed by serious eye trouble. The first case was that of a woman aged 39, who had apparently contracted an extra-genital chancre in October, 1910; this was followed by a well-marked papular eruption. On January 21, 1911, 0.5 grm. of salvarsan was injected intramuscularly and all symptoms rapidly cleared up. During the next two months the patient appeared to be perfectly well. At the beginning of April the right eye suddenly became acutely inflamed. On examination optic neuritis was found to be present, and the field of vision was reduced to one half. Soon after, the left eye became affected, but not so severely as the right one. Under local treatment, mercurial inunctions and iodide of potassium, both eyes slowly improved up to June 26, when there was a relapse. By September the condition of the eye had become serious. Injections of gray oil were tried, but did not produce any improvement. One of the most marked symptoms of the case was a central scotoma for blue and green. In spite of treatment the right eye steadily became worse, and vision was almost entirely lost. Cohen considers that the trouble was due to salvarsan and not to syphilis, as a syphilitic neuro-retinitis rarely runs such a prolonged and unfavourable course, and a persistent central scotoma points to optic nerve intoxication, not to a syphilitic affection.

The second patient had been under treatment for constitutional syphilis for three years, and was suffering from syphilitic iritis when she received an intravenous injection of 0.3 grm. of salvarsan on March 10, 1911. As no improvement followed, an injection of 0.4 grm. was given on two subsequent occasions at intervals of ten days. The condition of the eye at once became much worse, and a central scotoma

for blue and green was noted. Under local treatment the symptoms cleared up, and by the end of June vision had returned to normal.

C. E. P.

Treatment of Acute and Chronic Gonorrhœa.—Oberstabsarzt Professor Dr. Menzler (*Münch. med. Woch.*, No. 46, 1911), in a long article, advocates the treatment of all cases of gonorrhœa by means of injections of gonococcic vaccine. Menzler refers to the unsatisfactory results obtained by the usual methods of treatment, and states that an injection of gonococcic vaccine will cause a reaction if there is any latent nest of gonococci in any part of the body. He does not agree with Bruck's view that a gonococcal infection of the urethral mucous membrane is not influenced by an injection of gonococcic vaccine.

Menzler advocates the following treatment in every case of gonorrhœa: For the first two to three weeks he prescribes absolute rest in bed with a non-irritating diet and large quantities of demulcent drinks, but no urethral medication of any kind. On the first day of treatment he gives the patient an injection of vaccine containing 5 million gonococci; this is repeated every third or fourth day. When the acute symptoms have subsided, Menzler orders the patient to sit in a hot hip bath at a temperature of 105° F. for fifteen to twenty minutes twice daily.

During the first two weeks each injection of vaccine is followed by an increase in the amount of discharge, and of the turbidity of the urine. In uncomplicated cases all the symptoms clear up, and injections of vaccine produce no effect in from twenty-five to thirty days. The average duration of treatment in twelve cases, some of which had complications, was forty-seven days. One case developed epididymitis while under treatment.

Menzler condemns treatment by urethral injections, and especially objects to those proprietary preparations the main claim of which is that they cause a speedy disappearance of the urethral discharge.

C. E. P.

The Early Treatment of Gonorrhœa.—Spitzer (*Wien. med. Woch.* No. 49, 1911) discusses the value of early treatment in gonorrhœa. He first shows that an uncomplicated case of gonorrhœa usually requires six to eight weeks' treatment before it can be looked on as cured. He then enumerates a long list of remedies which have been employed in the "abortive" treatment of gonorrhœa, and gives a list of authorities with the percentage of successes claimed by each in this form of treatment.

An important point which has not yet been decided is up to what time after the date of infection is it worth while trying to cut short the disease by vigorous local treatment. Spitzer has had successes in cases in which a week had elapsed since the infection took place; as a general rule, he considers that to be successful the treatment should be begun as soon as a sensation of tickling in the urethra is noticed by a man who has exposed himself to infection. Spitzer uses protargol 5 per cent, ichthargan $\frac{1}{2}$ per cent or nitrate of silver, $\frac{1}{4}$ to $\frac{1}{2}$ per cent, solution. The injection is repeated after six, twelve, or twenty-four hours, according to the amount of irrita-

tion caused by it. The gonococci disappear from the secretion about the second day; weaker solutions are used from the second to the fifth day when treatment is omitted.

C. E. P.

Treatment of Heat Stroke.—Médécin-Major Albouze (*Le Caducée*, December 2, 1911) reported a case of heat stroke successfully treated by mechanical stimulation. The patient, a strong healthy man in his second year of service, was taking part in the annual manœuvres held during the autumn of 1911, and had just completed a march of 26 kms. in full marching order, when he asked for permission to fall out, but almost immediately sank to the ground in an unconscious condition. His comrades at once removed his equipment, opened his clothing and poured cold water on his head. A medical officer injected ether and caffeine subcutaneously, but without apparent benefit. The pulse could scarcely be felt, his respirations were shallow and the extremities cold. Cold water was repeatedly poured over the man, and another similar injection given, but without any appreciable benefit. A handkerchief was moistened in water, and the precordial area smartly flicked with this. After twenty minutes of this treatment the pulse and respirations had greatly improved, and the medical officers being tired stopped for a few minutes' rest. The pulse at once began to fail; on the stimulation being recommenced the pulse again improved. After another half hour of this treatment the pulse became full and strong, and the patient regained consciousness.

C. E. P.

Prophylaxis of Malaria.—Trentlein (*Arch. f. Schiffs u. Tropen-Hyg.* Bd. xv. Heft 23, 1911) discusses the relative value of quinine and mechanical protection against mosquito bites in the prophylaxis of malaria. He comes to the conclusion that quinine prophylaxis is not to be relied on. In support of this view he gives his own experience and quotes that of several others. Thus Zupitza, in German East and West Africa, regularly took quinine, but suffered from three attacks of malaria. He then abandoned quinine prophylaxis and adopted a rigid system of mechanical protection. In addition to making his house mosquito-proof, he wore high boots, high collars which fitted closely to the back of the neck, a head veil and gloves made of gauze stretched over a wire frame. Trentlein followed a similar plan, and during two years exposure to infection, did not suffer from a single attack of malaria.

He quotes the experience of a battalion of the Bolivian army which was sent to the malarious districts of the Amazon in 1909, and relied entirely on quinine prophylaxis. In a few weeks one half of the men were attacked with malaria and unfit for duty.

Trentlein also thinks that full doses of quinine are injurious to the white blood corpuscles of a healthy person. He quotes several opinions in support of this, and gives details of some experiments which he made to investigate this question. Blood smears were taken from three normal individuals, before and after meals; these were fixed and stained by Giemsa's method. Each of these persons then received a dose of quinine as if for prophylaxis of malaria; three and twenty-four hours after the administration of the quinine, blood smears were taken and stained in the same way as the first ones. In the smears prepared after the quinine

was given, the nuclei of the polymorphonuclear corpuscles were uneven in outline, torn and irregularly stained, making a sharp contrast to those in the smears taken before the quinine was given.

In persons suffering from malaria, and treated with quinine, the polymorphonuclear corpuscles were not affected, the quinine apparently having a greater affinity for the parasites than for the white corpuscles.

C. E. P.

Preparation of Dressings for Use in the Field.—A. O., No. 992, June, 1911 (*Deutsch. Militär. Zeit.*, November 20, 1911), states that: Investigations carried out during several years have shown that the preparation of dressings with perchloride of mercury does not possess the advantages which were hoped for at first. No satisfactory substitute for the perchloride of mercury has yet been found. Dressings sterilized with steam alone remain sterile when stored in packages. The Advisory Committee has now recommended that no antiseptic be employed in the preparation of field dressings. In future all dressings will merely be sterilized with steam.

C. E. P.

Care of Rubber Gloves in Field Medical Units.—A. O., No. 1807, October, 1911 (*Deutsch. Militär. Zeit.*, November 20, 1911), gives the following directions:—

(1) The inside of the glove is to be thoroughly dusted with powdered talc.

(2) Strips of gauze about 1 in. wide and 12 in. long, are to be inserted into the fingers.

(3) The gloves are then to be enclosed in paper, a large sheet being folded so that each glove lies in a separate compartment; the ends of the paper are folded over to make a packet.

(4) The gloves folded in this way are exposed for thirty to forty minutes to current steam. The paper is not to be opened till the gloves are required for use.

(5) When about to be put on the gloves are to be held in their paper covering while the gauze is being withdrawn.

(6) After use the gloves are to be washed in tepid water with soap; they are to be filled with water to detect any punctures.

(7) On mobilization sterilized gloves will be issued in black envelopes; each envelope contains five pairs of gloves separately wrapped in sterilized paper.

C. E. P.