

In this type of variation there seems little doubt that a close relation exists between segregation and conjugation (gametic reproduction) in higher forms, a heritable change resulting. The author goes on to discuss the two hypotheses, one which he calls segregation and autogamy, the other mutation and adaptation, and quotes literature dealing with his arguments. The case clearly lies in favour of the first. In conclusion, the life-history of a bacterium is briefly recapitulated and the mode of sexual and asexual reproduction summed up. At the end of the book four excellent plates are given showing the colony characteristics of the organism studied. The book is a remarkable piece of work (much of it original, involving over 10,000 cultures), which, if not definitely proving sexual activity in bacterial reproduction, is in favour of the title given.

W. M. FORD-ROBERTSON.

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*Therapeutic Malaria.* By G. DE M. RUDOLF. Oxford Medical Publications, 1927. 8vo. Pp. 234. 2 Coloured Plates. 55 Figs. Price 12s. 6d. net.

This work, for which the Gaskell Gold Medal of the Royal Medico-Psychological Association was awarded to the author last year, is based upon the study of cases of general paralysis of the insane treated by induced malaria.

The book is divided into two parts. Part I deals with the therapeutic indications, results and mode of action, while Part II is confined to considerations relative to malaria itself.

Malaria has been employed as a therapeutic measure for other manifestations of syphilis, also in dementia præcox, but the best results are undoubtedly obtained in cases of general paralysis.

In referring to the mental changes observed in the latter disorder as a result of malarial treatment, the author lays much stress on the fact that many cases begin to show improvement during the incubation period of infection, but whether this is a coincidence or the effect is very doubtful.

He mentions that Bunker and Kirby record improvement in intelligence tests of the Terman type. From the literature to hand it is a pity that this procedure is not more universally employed, as the testing of these patients at intervals—before, soon after treatment, and then three or six months later—would afford a constant factor whereby a quantitative measure of the mental improvement may be estimated.

With regard to physical changes as a result of treatment, the remarkable gain in weight observed in many patients is a good prognostic sign. In nearly all cases general physical improvement is marked; tremors, speech and gait improve; seizures, too, are much less common after treatment.

The serological changes are dealt with, and it is to be noted that the number of writers who have observed negative Wassermanns in the cerebro-spinal fluid after treatment is very small indeed.

The degree of mental and physical improvement in no way corresponds to any change in degree of serological changes.

Various theories are put forward as to how malaria brings about improvement in general paralysis, but evidence is conflicting and our knowledge at present limited. Dr. Rudolf suggests that the improvement is related to the mononuclear reaction which takes place in malaria.

In Part II after referring to the possibility of immunity against malaria, the author describes the details of the direct mosquito infection and secondly the blood-inoculation method. In blood inoculation care must be taken that there are no traces of anti-septics in the apparatus for withdrawal or injection of blood; this is important, because if any antiseptic is left in the syringe, it is extremely likely that the parasites may be killed before they are injected into the patient.

He next deals with the incubation period and the temperature chart. Pyrexia in general paralysis is not uncommon and must not be confused with malaria.

Referring to the clinical aspects, the spleen, though enlarged, is seldom palpable in a primary case. No mention, however, is made of an almost constant complication—constipation.

Two chapters are devoted to the blood and the malarial parasites. The staining and examination of blood-films is of great importance. Blood-films should be examined every day.

There is a chapter on biochemistry dealing mainly with the blood-sugar curves.

With regard to the termination of fever, the author first deals with the temporary abortion of fever, by giving a small quantity of quinine—a practise first adopted at Horton. It appears that the optimum dose is one of 5 gr., whereby the fever undergoes a remission lasting from 14 to 15 days, when the fever recommences. This is of great value when patients become very ill during the primary attack before the full course of treatment is completed.

Relapses are fairly common in mosquito infected cases, but seldom occur with blood inoculation malaria, the period of time elapsing between the primary attack and the relapse being in some cases as long as eight months.

Indications for the termination of fever are set out at length, but not enough stress is laid on the importance of parasite counts. From experience at the experimental station at Horton Mental Hospital there is no doubt whatever that a daily parasite count is the surest means of controlling the fever. If, using an oil-immersion lens and a No. 2 ocular, there are more than 30 to 35 parasites in 25 fields, it is a certain indication for temporary abortion of the fever.

The last chapter deals with characteristics of different species of mosquitoes. An incorrect statement is made about anopheline mosquitoes requiring permanent pools of water for breeding purposes and not using water-tanks. Water-tanks and butts are not infrequently found to be swarming with anopheline larvæ (usually *A. bifurcatus*).

One or two errors in this book deserve comment. Leishman's stain (p. 141), which is used most frequently, should be made up by dissolving 0.15 grammes in 100 c.c. (not 10) methyl alcohol (acetone free). To say that Schuffner's dots can be found even when the staining is deliberately faulty is very doubtful, for other observers think the presence of Schuffner's dots is a sure criterion of a properly stained film, and the absence of these dots an indication that either the process in staining is faulty or that the stain itself is not properly made up. The method quoted (p. 123) for staining of Schuffner's dots with Giemsa and washing in sodium hyposulphite is intended for thick films and not thin films as stated.

As a complete guide for treatment of general paralysis by therapeutic malaria the book is open to criticism, as too many controversial points are raised. Malaria is not without dangers and its management is not an easy matter; nevertheless the book has many merits, and summarizes much the malarial therapist requires to know. For the author's own contributions to this subject and his zeal and enthusiasm we have every praise.

The bibliography is excellent, and the author is to be congratulated on the immense amount of work involved. W. D. NICOL.

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*Forensic Psychiatry.* By W. NORWOOD EAST, M.D. London: J. & A. Churchill, 1927. Pp. viii + 381. 8vo. Price 16s.

In the ever-increasing complexity of modern life there is no question of greater importance than the proper treatment of those who will not or cannot comport themselves in accordance with the dictates and prohibitions of the community of which they are members. The object of laws is primarily to supply rules of conduct which shall subserve the well-being of all concerned, by the provision of sanctions for the punishment of those who disobey them. But conduct is the direct result of mental processes, and accordingly conduct of an anti-social character at once raises questions as to the mental factors which underlie the injurious behaviour. But herein at once arises a diversity of approach to the problem, for to the legal mind, interested in the maintenance of the law, the character of the act itself makes a stronger appeal than does the psychological basis which is the chief interest of the medical mind.

Dr. East, whose long experience in the Prison Medical Service has brought him into contact with the perpetrators of every kind of criminal act and with every type of mental abnormality, is able to appreciate both points of view, and his book is, therefore, of outstanding interest. As he points out in the opening chapter on ascertainment, "two views appear to be finding favour with students of anti-social conduct. The one attributing much, perhaps over much, to mental conflict and repression, causing effects through the working of the unconscious mind; the other, whilst recognizing that a repressed complex may be a cause of misconduct, fails to associate the complex with the particular criminal conduct under