grain. So far out of 46,000 squirrels examined 331 have been found infected.

Paltauf has had an interesting article (in *Wein Klin Wochenschrift*, xxii, 1023), on rabies. He points out that the incubation period is unique in extremes; it may be 14 days or more, usually 8 to 12 weeks, and cases of 12 to 38 months have been reported on good authority. It appears that rabies develops in under 10 per cent. of persons bitten by rabid dogs, who have not received prophylactic treatment, but if developed, there is no well authenticated report of recovery. The death-rate then of the developed disease is 100 per cent.

The virulence of the virus is a great factor in deciding whether it can be overcome or not; it is known that the bites of rabid wolves and in India jackals are much more fatal than those of dogs.

Mr. D. Hooper, F.I.C., has joined Capt. Greig, I.M.S., in the beri-beri investigation in Calcutta, and is taking up the question of the chemical composition of the 'polished' and the roughly prepared rices.

Many of our readers will be glad to hear that a second revised edition of Major L. Rogers' *Fevers in the Tropics* is out, with an addendum on the work done in tropical diseases in the past two years.

Owing to the amount of material in hand we have increased the present issue of the *Indian Medical Gazette* from 80 to 100 columns.

Reviews.

Prophylaxis of Malaria in India.—By Lt.-Col. P. Hehir, I.M.S., M.D., F.R.C.P., F.R.C.S., D.P.H., Allahabad, 1910. *Pioneer* Press.

Lt.-Colonel Hehir is known well as a writer on many medical subjects in India; his book on *Indian Hygiene* is well known and his *Outlines of Medical Jurisprudence for India* is one of the best on the subject.

The subject of malaria in India and its prevention has been much before us during the past year, and the assembly of the Malaria Conference at Simla under the auspices of H. E. the Viceroy is an augury for increased attention to this important subject.

Except some excellent little manuals by Major S. P. James, I.M.S., we have had no complete treatise on malaria in India for a long time past, hence we welcome Lt.-Col. Hehir's volume, though it deals with the subject mainly from the side of preventive medicine.

We have read this book with pleasure and with profit. It contains a very complete account of modern work on malaria on all sides except the clinical with which it is not concerned. After a few pages devoted to the history of malaria. Our author attacks the epidemiological problems and discusses the economic importance of the question and quotes the well-known instances of successful localised anti-malarial campaigns. He very rightly points out the same amount of concentrated energy and capital could not be employed all over the one and three-quarter million square miles of India. All we can hope for is to "considerably reduce malaria in the more endemic foci in India." Some statistical tables are then given of the incidence of malaria in regiments and among prisoners, and Rogers' useful table of the comparative monthly incidence of the different forms of malarial fever in India is reproduced from the "*Fevers in the Tropics*."

The same chapter goes on to discuss the relation of malaria to marshes, *jheels*, tanks, ravines, irrigation canals, irrigated lands, rice cultivation (wet cultivation comes on for severe stricture as the cause of an enormous amount of malaria). The rôle of man himself in the distribution of malaria is not overlooked and the standard paper on this subject by Christophers and Bentley is made use of. We note that the effect of railways is stated to have been to aggravate malaria, whereas at the Simla Conference, L. Rogers claimed that this did not apply at any rate to the railways in the Hughli District of Bengal, but no one can doubt that the aggregation of coolies in railway construction must increase malaria and the succession of borrow pits which extend for thousands of miles along every railway embankment seem ideally arranged for the distribution of malarial mosquitoes. There is no excuse for these borrow pits being left in their present condition. Road-making is just as bad and no attempt is made to connect the various borrow pits and so allow water to drain of. The formation of such borrow pits has been declared illegal in the Canal Zone at Panama.

Lt.-Col. Hehir next discusses various malarial theories and gives a full account of malarial mosquitoes, making use of the standard works of Giles, James and Liston, and of Theobold on this subject. The next chapter deals with the malarial parasites and the methods of examining them.

Part II deals with the effects of malaria on man and touches upon the clinical side of the question. Good accounts are given of pathogenesis, of relapses and reinfections, latent malaria and of malarial cachexia and the supposed relations of malaria to other diseases. The third part of the volume is excellent and gives a very full account of modern work. There is a lot of useful information in the twenty pages devoted to quinine in malaria,

and this is a subject on which we still have much to learn. Other points of prophylaxis discussed are segregation of the healthy, isolation of the infected, protection against adult mosquitoes, destruction of breeding grounds, and extermination of larvae, the dangers of cisterns, small tanks, etc., etc. Cultivation and arboriculture, larvicides, prophylaxis in towns, in villages, free issue of quinine in schools, prophylaxis in cantonments, in prisons, and among gangs of labourers are among the subjects next discussed.

An excellent chapter is devoted to prophylaxis in the individual, etc.

We commend this book to our readers. They will find the big subject of malaria well discussed and with a full acquaintance of the latest work on the subject. It is extremely useful to have the subject of malaria in India discussed in such reasonable compass as within the 300 pages of this excellent volume. We congratulate Lt.-Col. Hehir on its production.

Manual of Tropical Medicine.—By Aldo Castellani and A. J. Chalmers, of the Ceylon Medical College. London: Baillière, Tindall and Cox. University Series, pp 1242, with 373+14 Illustrations. One volume. Price 21*s.* net.

At the present day the student of tropical medicine is at no loss for text-books on the subject, rather the danger will soon be that there are too many.

The volume at present before us by Dr. Castellani and Dr. Chalmers, of the Ceylon Medical School, is a monument of industry and care. It is a bulky volume of some 1,242 pages, and absolutely cram full of interesting matter from first page to last. Our first feeling on reading this volume was one of thankfulness that we had passed our medical student days and could not be examined in the mass of material which constitutes this book.

Dr. Castellani's name is well-known, not only for his work on sleeping sickness, but for much good work done since the opening of the clinique for tropical diseases in Colombo; and his colleague is Dr. Albert J. Chalmers, the lecturer in pathology and animal parasitology in the Ceylon Medical College.

The first 84 pages are introductory and give very interesting accounts of the history of tropical medicine, of tropical climatology, the effects of tropical climates on man and the incidence of disease in the tropics. That on climate including winds, rain, barometric pressure, humidity, etc., is excellent and gives much information not easily obtainable elsewhere.

The remarks on the production and regulation of heat in man give a resume of the little that is known on the subject and the old observations of the late Dr. A. Crombie, I.M.S., are quoted as well as Captain D. McCay's recent observations on metabolism in Bengalis. The second part of the book is on the causation of disease in the tropics and over 540 pages are devoted to a very complete account of tropical intoxications, inorganic poisons and poisonous plants, as well as such intoxications as lathysim, loliismus, etc., and a chapter is given up to venomous animals, not only snakes, but also scropions, spiders, ticks, lice, bees and wasps, ants, caterpillars of many butterflies, flies and mosquitoes. Venomous fishes have a whole chapter to themselves. The account of "ophidismus" or snake poisoning is up-to-date, but we note that the name of the late Dr. Vincent *Richards* (one of the "landmarks in snake-poison literature"), is wrongly printed as "Edwards." The authors mention the use of the permanganate for washing or thoroughly soaking the wound (3 per cent. solution), and a fair account is given the use of the various serums. Chapter XI on animal parasites commences the important second portion of the work and the next dozen chapters form in themselves a veritable monograph on animal parasitology. Indeed we have little hesitation in saying that this is the best part of the book, and the student who carefully studies the 430 pages on this big subject will know as much as anyone, but the absolute expert can be expected to know. The following order of parasites are detailed, protozoa; sarcodina; mastigophora; binocleata; telosporidia; neosporidia; heterokaryota; metazoan parasites and trematoda; cestoidea, nemathelminthes, annulata and arthropeda; hexapoda; siphunculata; and hemiptera, diptera including culicidæ and allied families siphonaptera, coleoptera, rodentia and vegetable parasites.

As we have said, the biological portion is the grand feature of the book. The clinical portion begins at page 631 with an excellent account of malaria. It is difficult to pick out any chapter which is better than another, but perhaps the sections on the relapsing fevers, dengue and undulant fever deserve special mention. We note that after "Indian Kala-Azar" there is a disease described which our authors call *infantile* Kala-Azar, or febrile splenic anæmia—this disease being well-known in Italy. Pianese, in 1905 described parasites morphologically identical with the Leishman-Donovan bodies. A chapter on sleeping sickness from Dr. Castellani is expected to be good. We note that the discovery of the enlargement of the glands in the posterior triangle of the neck is attibuted to Winterbottom. The chapter on unclassified fevers is very useful and up to date, and the analogies between McCarrison's (not McG. as printed) Three-day Chitral fever and the Three-day Pappatasi fever of Malta are noted. Castellani also describes a low intermittent non-malarial fever in Ceylon, similar to one described by Murray in Siam, and it is almost certain that similar fever is found in India. The chapter on the filariases is certainly good and the authors go strongly