the following years. Some 50 cases occurred during last year, but the exercise of care should easily overcome the trouble.

From Panama on the Pacific to Colon on the Atlantic Coast is four hours by a slow railway. Here the French, during their work on the Canal, sacrificed 50,000 lives to yellow fever. The country is thickly wooded, with marshes, the soil loamy and difficult to dig. The Americans, taking over the abandoned work, tackled the disease, with the result that since last November or December there is no yellow fever in Panama. A somewhat similar result has followed the great outbreak in New Orleans of the year before last.

To Dr. Charles Finlay, a Briton, belongs the honour of discovering the mosquito as the source of yellow fever infection in Havana in 1883. His experiments were conducted on Spaniards who, arriving in Havana, and, knowing the virulence with which the disease attacks strangers, preferred to be inoculated with it in the town where they could be properly cared for. After the conquest of the island, the Americans experimented widely, also on human subjects. Having failed to infect the seven subjects chosen, from the clothing worn by yellow fever patients, they easily succeeded in doing so by means of mosquito bites. The experiments were repeated again and again, Commissions were sent out by Pasteur, by the Hamburg School of Medicine, and by ourselves, and established their efficiency, with the result that the scourge was banished from Havana.

Prevention consists in—(1) Draining all puddles, and, if possible, marshes, or, where this is impossible, pulling up the weeds and introducing the fish, which proves our best ally in the work, a tiny creature half an inch in length, which eats the mosquitoes. (2) Spraying the houses to get rid of the insects from the ceilings. This is of very great importance since, although the patient only remains infected for three or four days, he may, if he is careless, be bitten by and have infected another hundred mosquitoes. You may also fumigate with equal parts of carbolic acid and camphor placed on a heater, or with sulphur or pyrethrum, but the chinks in these houses are so numerous and important that to fumigate effectually you must paper in the whole house bodily from the outside, practically an impossible task. (3) Covering in the houses with wire gauze, a thoroughly efficient preventive.

The parasite of malaria was discovered by Dr. Laveran in 1880. It is in the shape of an irregular ring, and invades the stomach and body of the Anopheles mosquito, the spores passing into the salivary glands. It fixes itself in the tissues of the stomach wall, filled with tiny spores, or threads. When mature, it bursts, the spores being carried into the insect's blood. These bore through the capsule of the salivary glands, into the lumen of the ducts, and from thence into the proboscis. The bite of the mosquito transfers the parasite to the human being. The characteristic of the Anopheles, which carries the malarial parasite, is its preference for standing on its head. The larvæ breed in puddles. This was recognised by the Romans, who constantly wrote on the subject of draining the marshes. Many passages in Varro refer to the subject, and it remains one of the greatest points in malarial sanitation. This involves the so-called "Mathematics of the Mosquito," to which Professor Karl Pearson has recently devoted his attention. "The problem of the random walk," as he has named it, is a difficult one. But he comes to the definite conclusion, which will commend itself to every common-sense mind, that, gigantic as the task of warring against an enemy of countless numbers must be, a definite war undertaken within a definite area must ultimately decrease the enemy's forces, and ensure peace to the inhabitants. The systematic draining of puddles, or where they cannot be drained, the filling up with rock and rubble, the employment of wire gauze to keep out the invader, and the use of quinine to kill him when he has established a foothold in the fortress of the body, are measures which need to go hand in hand. It is true, as demonstrated by Rüger, Dr. Koch's assistant, that quinine *may* precipitate attacks of blackwater fever, but only in such patients as have been allowed to fall into chronic malaria. How deeply the prevention of malaria concerns ourselves, is brought home to us by Professor Ross's figures. He estimates that in India, with its population of some three hundred millions, about half the population suffer from malaria once a year. Malaria kills by enfeebling the patient, as a rule, and the large expense entailed by our military expeditions is in great part due to the disproportionate number of men who go sick from relapses of malarial fever. Sierra Leone, Italy, the German possessions, Hong Kong, Khartoum, Crete, the Federated Malay States, and Ismailia show forcibly what excellent results are to be obtained from careful preventive and curative measures. The French have practically cleared Ismailia of malaria.

The latest battle ground is Greece, where the number of sufferers is half as many again as in Italy. In some of the beautiful valleys during the malaria season the parasite is found in the blood of all the children, the chief symptom being an enormous spleen. The liver is

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