

the Tiber, and keep free from malaria simply by living in mosquito-proof tents. Then they began to collect mosquitoes, and for their purpose they had to get them infected with malaria. Some forms were worse than others, and they did not wish to infect Government officials with the worst form of malaria, so they found a boy suffering from tertian malaria and fed the mosquitoes on him. Then they enclosed the mosquitoes in gauze tubes, and put these in a wooden box with perforated zinc windows, and took them to the British Embassy at Rome. Thence they were taken to Ancona, and there placed in charge of the mails and brought to London.

In sending them, the difficulty was how to keep them alive, but Dr. Sambon, remembering that he had seen mosquitoes clinging to a cobweb in a stable, put some cobwebs, and a small piece of water melon in the tube with the mosquitoes, and so they travelled to Charing Cross, where they were met by representatives of the London School of Tropical Medicine.

The gentlemen at the Colonial Office declined to be bitten by these mosquitoes, but Dr. Manson, a most promising young medical man, son of Sir Patrick Manson, since, unfortunately, dead, was willing to subject himself to the experiment. The mosquitoes, who wanted blood for their little ones—the infant mosquitoes—at once bit Dr. Manson through the gauze tube when it was placed on his arm, and within sixteen days he began to shiver and shake, and developed a severe attack of malaria.

Even those promoting the experiment did not know it would be successful the first time, and there were still mosquitoes left. Mr. Warren, another medical man, thought what a pity it was to waste mosquitoes which had come so far, so he allowed himself to be bitten also, and for three years subsequently he was subjected to attacks of fever.

Similar work was done in America in relation to the mosquito which conveys yellow fever, and medical men there gave their lives to prove this fact.

Dr. Sambon told how he and some of his colleagues lived for five months in a mosquito-proof hut, which they were allowed by his late Majesty King Humbert to build in the Roman Campagna, and never had fever. But it was an interesting fact that some Anarchists, who attempted to assassinate the King, took refuge in the Campagna, and some police came from Rome in search of them. They arrived at 10 p.m. and left at 3 a.m., but subsequently he heard from Rome that every one of those policemen had contracted malaria. Yet, by living in their mosquito-proof hut from dusk to daylight,

Dr. Sambon and his colleagues for five months were immune.

This experiment proved conclusively that the mosquito is the medium by which malaria is conveyed.

Dr. Sambon pointed out that malaria in this country is practically extinct, though rare cases do occur. In Belgium and France, where the country has in some areas been flooded, mosquitoes are appearing in clouds. If any of them bite a person who has the malarial parasite in his blood, we might have a number of men disabled by malaria, though the men of the Army Medical Department would do all in their power to prevent it.

#### TYPHUS.

Another disease-bearing insect was the louse. Man was of no interest to lice except as a feeding ground, and they were now known to be a means by which typhus fever—known as famine fever and gaol fever—was conveyed. Typhus was at one time called "the Irish Disease," this was a misnomer, but prominence was given to its presence in Ireland because Irish physicians were studying it, and writing about it.

Typhus had decimated besieging armies. In the wars with Napoleon the French prisoners died from typhus, and in the retreat from Moscow it was typhus which wrought such havoc with the retreating army. Recently it had killed more Serbians than the Austrian bullets.

In order to prevent disease it was necessary to study its ways, and then to disseminate the knowledge so gained. Typhus was found to spread amongst those living in filth; in hospitals which were uncleanly, and not in others. This showed that the contagion was indirect, not direct, and it was now believed to be spread by the louse and the bed bug. The louse lived in clothing, principally in the seams, and however clean men might keep their bodies, if clothing became infected, the disease spread.

The ancients knew this, and spread mercurial ointment, which is disliked by these pests, round their necks and wrists; and, in the American Civil War, the seams of the men's clothes were similarly smeared. A thorough knowledge of this question was needed, and everyone should endeavour to help investigation.

#### PLAGUE.

Another disease in which the rat was the carrier was the plague. The ancients had this knowledge, which we lost and had only recently regained, and it was an interesting fact that when the Philistines returned to the Jews the

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