THE MILITARY NURSING SERVICE

Scholarship Fund.—The Trained Nurses' Association of India has received a gift of Rs. 10,826-12-0 from the nurses of the Military Nursing Services, India, through their Chief Principal Matron, Mrs. L. J. Wilkinson. With the gift has come a request that part of the money be set aside for a Military Nursing Service Scholarship Fund. In accordance with this request Rs. 7,000 have been set aside for this purpose, and the rest of the gift put in the general endowment fund of the Association. This magnificent gift is received with deep gratitude and appreciation on the part of the Trained Nurses Association. We have enjoyed greatly the fellowship with military nurses who have come to us from abroad to serve here in India. Their interest in our Association and support of it during their stay here has been of great assistance. Of our own Indian Military Nursing Service we are justly proud. There is hardly a hospital in India that has not contributed, directly or indirectly, to this Service. We cannot but be greatly pleased by this expression of their loyalty and vision. We will watch eagerly as the years go by, and nurse, after nurse, benefits from this fund. May this be only a beginning, and may many more gifts follow. This beginning has set the pace. Let every nurse do her utmost to keep the rupees rolling in.

MALARIA—SCOURGE OF HUMANITY

From the League of Red Cross Societies

No chronic disease is so widespread as malaria. Six or seven hundred million adults and children—a third of the human race—suffer from malarial fever or from the chronic ill-health of which it is the cause. Malaria is the worst enemy of rural populations, and in a great many countries the fight against this scourge is the outstanding feature of rural hygiene.

Long before our era, Chinese, Indian, Babylonian, Egyptian and Greek physicians were familiar with these violent attacks of fever and the serious disorders to which they led. Egyptian fishermen sleeping under their nets used to fold the latter over and over several times, so that there were scarcely any gaps left between the cords—such was the first mosquito-net. A certain amount was known about the part played by insects and the danger of marshes. The drainage and reclamation of swampy regions was hailed as a great feat, as we know from stories of the tasks of Hercules, and the minting of a coin to commemorate the drainage of Selinonte by Empedocles. In Greece, in the time of Plato, deforestation changed the courses of rivers and lakes, and led to the spread of malaria; the country became depopulated, impoverished, and decadence set in. The same thing happened in Asia Minor, Mesopotamia, Italy, as the result of the changing of the water-courses and the neglect of irrigation and drainage. In Ceylon, at Angkor, in Central America the remains of great cities, abandoned hundreds of years ago, and now overrun by the jungle, show no signs of any great battle or disaster, and it is believed that malaria caused them to be deserted. Malaria also proved a considerable hindrance to the exploration of Central and South America, and Africa, and to great undertakings such as the Panama Canal.

Varron wrote, a century before our era, that damp regions breed microscopic organisms which are carried by the air and which enter the body through the mouth and nose, causing diseases which are difficult to cure. One hundred years later, Columelle—and Susruta, in India—called attention to the danger of stinging insects. Lancisi took up this idea in 1716, and in 1842, Rasori attributed these sudden violent attacks of fever to the reproduction of Parasites—a curiously prophetic opinion. Nott in the United States, Beauperthuy in Venezuela and Finlay in Cuba, also denounced the mosquito. In 1880, Lavoran, in Algeria, discovered the malaria microbe in the blood of patients Five years later, Marchiafava, Celli, and Golgi described the evolution of the microbe and the different types which exist. Ronald Ross, in India in 1895, found that birds were inoculated with this microbe by means of mosquitoes;

and in 1898, Bastianelli, Bignami and Grassi proved that the same was true of human beings.

The work of these great benefactors of humanity has shown that malaria is due to three similar types of microscopic parasites, which cause, respectively, a fever characterized by daily paroxysms—known as quotidian fever; tertian fever, where the attacks occur every other day; and quartan fever, with attacks lasting three days.

The bite of a mosquito, which has previously absorbed the blood of a person infected with malaria, may introduce one of these three parasites into the blood of a healthy person; the microbe reaches the red corpuscles, where it produces a poison, and multiplies by division at regular intervals. Each time multiplication occurs, the red corpuscle is destroyed, thus liberating the poison which causes the paroxysm of fever, and spreading the newly formed microbes; these penetrate other red corpuscles, and the process recommences. Some of these microscopic germs are male, others female, but they do not unite in the human organism. It is necessary that they be absorbed by a mosquito, in the organism of which they unite and produce microbes which reach the salivary glands of the insect; the latter, through its saliva, then infects the persons when it bites.

It will be seen, therefore, that the evolution of this germ takes place partly in man and partly in the mosquito.

Only the female mosquito bites. Moreover, many species of mosquito are refractory to the parasite, whilst others attack animals rather than man.

The attack begins with violent shivering and a sensation of cold; the teeth chatter and the nails turn blue. Then the temperature rises suddenly, and sometimes there is delirium. Finally, heavy perspiration indicates the falling of the temperature. The complication most to be dreaded is haematuria—*i.e.*, the passing into the urine of the colouring matter of the red blood corpuscles.

After several attacks, the spleen becomes enlarged; and it is by the size of the latter that the frequency of malaria among the population can be judged.

As in the case of tuberculosis, two things may happen: either the sufferer gradually becomes inoculated against malaria and acquires a relative immunity; or else, he grows weaker, and dies. The evolution of the disease depends on the nature of the parasite, the frequency of infection, the treatment given, living conditions, and the constitution of the patient. It may happen that the microbes remain in the blood of an apparently healthy person for his whole life-time. This is a fact of great importance, because mosquitoes, by biting such a person, will be able to transmit the disease to others.

Malaria may be particularly prevalent in certain regions, at certain seasons, in certain years, depending on temperature, humidity, winds, the number of mosquitoes and the number of malaria sufferers, the robustness of the population and the conditions under which they live.

The Peruvian Indians have taught us the use of cinchona, or "Peruvian" bark, in the treatment of malaria. Chemists have extracted quinine and other alkaloids from this substance. Recently, remedies have been prepared synthetically. None of these kill the parasites in all the phases of their evolutionary cycle; their numbers are diminished gradually, but it takes some time before they can be completely exterminated, and this comes about only if the infection is not renewed by a fresh bite. The use of such remedies prevents the fever from taking its most acute form and keeps the infection latent. However, the symptoms recur as soon as the patient ceases taking medicine, unless he leaves the malarial region.

In each malarial region, the disease is spread by two or three species of mosquitoes, which are peculiar to those regions. It is therefore important to study the habits of these various species, so that they may be prevented from breeding and as many as possible of them destroyed, and in order to take precautions against their bites.

Treatment and preventive measures are no less important. Finally, the living conditions of the population must be improved, because diet, and housing and working conditions, have a considerable influence upon a population's powers of resistance against malaria.