

This phenomenon of diurnal periodicity is maintained for years with the utmost regularity. It may be disturbed by causing the patient to sleep during the day, and remain awake during the night, when the embryos will be found in the peripheral circulation during the day, and absent during the night.

When absent from the peripheral circulation they are to be found principally in the lungs and larger arteries. At a post mortem examination made by Manson on a case dying suddenly in the morning from poison, and in which the filariae were always absent from the peripheral circulation during the day, he found that while blood from the liver and spleen showed an average of only one embryo to each drop, preparations from the lung and carotid artery showed over six hundred to each.

No satisfactory explanation of this phenomenon of "periodicity" is as yet forthcoming; possibly it is an adaptation to the nocturnal habits of the mosquito, but even if so why should they retire into the larger vessels and lungs during the day? What the average length of life of each embryo in the blood stream may be, or what finally becomes of the millions which are constantly being produced we do not know. Only a very small portion of them are taken up by suctorial insects, the rest must necessarily be disposed of within the human host.

The intermediate host of the *Filaria Bancrofti* is the mosquito; both *Culex* and *Anopheles* have been shown to be favorable to the further development of the embryos. It cannot yet be said that all mosquitos may act as intermediate hosts although members of each genus have been used in experimental work with successful results.

If the stomach contents of a mosquito be examined after feeding on a filaria infested patient, the embryo will be found in greater numbers than an examination of the patient's blood would lead one to expect. Apparently the mosquito or the embryo has a selective action—there is an affinity somewhere, possibly exerted by the filaria on the proboscis of the insect within the vessels.

Within the insect's stomach the movements of the young filaria become very active. It soon leaves the stomach, and finds its way amongst the thoracic muscles where it moves about slowly.

If one mosquito be dissected daily from a hatch which were fed simultaneously on a patient the further development can be satisfactorily studied. The metamorphosis is completed in a period varying from fifteen to thirty or more days. At the end of this time a mouth is formed, the alimentary canal may be distinguished, and the young parasite has grown from 1-80 inch to 1-16 or even 1-4 inch in length. At this stage they may be found crowded forward at the base of the proboscis, and underneath the cephalic ganglia. From here they push forward along the proboscis, and may be found lying free amongst the stiletts.

How the parasite regains its human host is again undecided. From the fact that at the completion of its metamorphosis in the mosquito it passes out along the proboscis, is strongly suggestive that it is carried to the human being when the insect next takes a feed of blood, but this is only conjecture. Manson's first theory was that the parasites are set free in water upon the death of the mosquito, and that they reach the stom-