

Tropical disease : a memorandum / by T. Spencer Cobbold.

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Cobbold, T. Spencer 1828-1886.
Eastern Telegraph Company.
Eastern and South African Telegraph Company.
Royal College of Surgeons of England

Publication/Creation

[London] : [The Author], [1882]

Persistent URL

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Tracts A. 399.

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TROPICAL DISEASE.

A Memorandum

BY

T. SPENCER COBBOLD,

M.D., F.R.S.



Issued to the Company's Stations and Employés,

By order of the Board,

March 29th, 1882.

on the - her hand, was there in the open sea, and
when the flash light had been - she was always
ready, however, to work in the world.

and the world was
the world was
the world was
the world was

and the world was
the world was
the world was
the world was

GENTLEMEN,

[*Medical Opinion.*]

TROPICAL DISEASE.

THERE is a malady of rather frequent occurrence in hot climates which, though sufficiently serious when once fairly established, may be easily avoided.

This disease is of a parasitic nature, and by professional men it is variously called Hæmaturia, Endemic Hæmaturia, Egyptian Chlorosis, Distoma Disease, Hæmatozoal Affection, and so forth. It causes discoloration of the urine and is due to the presence of a small fluke in the blood. The name of the parasite is *Bilharzia Hæmatobia*.

By whatever name called, the disease thus produced not only affects natives and colonists long resident in the affected districts, but it is liable to show itself in any European who visits the country for a short period, and who, not being warned of the danger, takes no steps to avoid infection. Not the slightest alarm need be felt at this statement, since a little correct knowledge of the natural history of the parasite, coupled with the observance of a few simple rules, is sufficient to enable any intelligent person to avoid contracting the disease.

It is now very generally known that cattle and sheep infect themselves with the common liver fluke

(*Fasciola hepatica*) by swallowing the larvæ. These are called tailed flukes, or *Cercariæ*, and they reside in the bodies of small fresh-water snails. The *Cercariæ* also swim freely in the water. It so happens that cattle and sheep also infect themselves with a species of *Bilharzia* similar to that which attacks the human body. The so-called 'red-water' in cattle is supposed to be due to this fluke. It has become a matter of certainty that both man and animals obtain the *Bilharzia* in the same way. The larvæ of this little parasite, like those of the common fluke, reside in small fresh water mollusks, and they also, at one or more periods of their lifetime, swim about in the water.

The Bilharzia disease must have a wide geographical range, since we have already become acquainted with Europeans who have contracted it either in Egypt, in Natal, or at the Cape. It is known also to exist on the Arabian border of the Red Sea.

To avoid infection strict observance of the following rules is recommended :—

1. To select for drinking purposes, whenever procurable, either deep well water, or water from a spring collected at or near its source.

2. To avoid the use of stagnant water of any kind, especially that procured from tanks or shallow pools.

3. If the only water available for drinking purposes has been obtained from a doubtful source, it must either be thoroughly filtered or

boiled : merely straining through muslin or other of the coarser kinds of filter is useless. On excursions or shooting expeditions a pocket filter must be carried.

4. Avoid partaking of all salads made with vegetables grown either in market gardens or in open situations frequented by natives of uncleanly habits. Lettuces, water-cresses, and other uncooked vegetables, even when they are known to have been cultivated in favourable situations, require to be carefully washed with clean water before use. Only spring water, well water, filtered water, boiled water, and distilled water can be pronounced as absolutely safe ; springs near human habitations are liable to become contaminated.

In the opinion of the undersigned the observance of these rules is sufficient to ensure protection ; but since others (whose opinions are also entitled to consideration) take a different view of the mode of infection, it is desirable to state the grounds on which an additional precaution has been recommended.

It is supposed by some writers that the young *Bilharziæ* gain access to their victims by perforating the skin. Consequently they would forbid bathing in rivers, canals, and open fresh waters of any kind. Sea bathing on the other hand is strongly and very properly encouraged.

There is some ground for the views thus expressed, inasmuch as the larvæ of the common fluke have been

known to penetrate the skin and to develop in such situations. These instances, however, are rare, and they merely afford examples of 'straying' from the usual path. The first step of infection by *Bilharzia* originates with the contamination of water. Eggs of the parasite are passed with the urine of all infected persons. The habits of the natives in Egypt are eminently favourable to the contamination of all open waters. The eggs, soon after they are discharged, hatch by bursting. The embryos thus liberated, swim rapidly by means of cilia. The ciliated animalcules subsequently gain access to the bodies of small mollusks, and within them they are transformed into the dangerous larvæ (*Cercariæ*). It is the swallowing of these larvæ, either whilst they are still within the water-snails, or after their escape from the snails into the water, which constitutes the ordinary, if not the exclusive, mode of infection.

As young people are apt to be unduly apprehensive, it may be as well to state that the existence of the *Bilharzia* disease need not be suspected if the urine has always remained clear and of the natural colour.

T. SPENCER COBBOLD, M.D., F.R.S.

74, PORTSDOWN ROAD, LONDON,

March 20th, 1882.

to the Directors of the

*Eastern and Eastern and South African Telegraph
Companies, Limited.*

