

## THE HOOKWORM DISEASE.

V.—Prevalence of the Disease and Its Economic Importance.

By Dr. John A. Ferrell, of the North Carolina Board of Health.

WE HAVE mentioned above all the factors necessary for the prevalence of hookworm disease and shown that they are found in the South. People who live in the country, away from sewerage systems, and work in the soil suffer more frequently than city residents. Those who go barefooted, or in other ways allow the skin to come in contact with polluted soil show a high percentage of infection. In Porto Rico, King and Ashford reported that probably 90 per cent of the rural population was infected. Stiles, the discoverer of hookworm in America, and the leader in the crusade against it, estimates that more than one-third of the rural population of the South is infected.

Generally speaking, the more or less extensive investigations throughout the Southern States have shown his estimate too conservative. The health officers engaged in the other Southern States can furnish the results of the investigations they have conducted in their respective States. We shall give here only the results of some investigations among North Carolinians. Excepting Virginia, none of the States in which campaigns against hookworm disease are being conducted is more distant from the equator than North Carolina. Consequently, they likely have equally as much hookworm infection as has North Carolina.

All the examinations given below are based on the microscopic recognition of hookworm eggs in the excreta which, of course, excludes any uncertainty as to the diagnosis.

The following constitutes groups of adults or children who were examined at random without regard to whether or not they presented any appearances suggesting the disease.

N. C. soldiers, First Regiment, western North Carolina, 372 examined, 137 infected.

Soldiers, Second Regiment, eastern North Carolina, 366 examined, 213 infected.

Soldiers, Third Regiment, central North Carolina, 73 examined, 24 infected.

Soldiers, Coast Artillery, central and eastern North Carolina, 218 examined, 63 infected.

Children, age 6 to 18, Odd Fellows Orphanage, Goldsboro, N. C., 96 examined, 52 infected.

Children, age 6 to 18, Methodist Orphanage, Raleigh, 131 examined, 80 infected.

Presbyterian Orphanage, Barium Spings, N. C., 136 examined, 66 infected.

Baptist Orphanage, Thomasville, 394 examined, 142 infected.

Kinston School, 54 examined, 28 infected.

Wayne County School, 21 examined, 19 infected.

Duplin County School, 19 examined, 13 infected.

Wake County School, 119 examined, 32 infected.

State Blind School, white, Raleigh, N. C., 45 examined, 24 infected.

Negro A. and M. College, Greensboro, N. C., 93 examined, 15 infected.

Negro Masonic Orphanage, Oxford, N. C., 108 examined, 13 infected.

White school children, McDowell, Yancey and Mitchell counties, 663 examined, 258 infected.

Total examined, 2,883; infected, 1,177.

Many of the specimens were collected in the mountain sections of the State and the disease is not al-

together as prevalent there as in the eastern section of the State. Moreover, many of those examined are residents of large towns where the disease is not so prevalent as in rural communities.

It is impossible to accurately estimate the economic importance of hookworm disease. We do not know the number and can not estimate the value of the lives that, either directly from the disease or indirectly from some intercurrent diseases invited by it, have filled the acres of graves that should have remained undug for many years. We can not estimate the cost of the suffering, poor health, incapacitation for mental or physical work, and other bodily detractions caused by the disease. We do not know which graves are occupied by great intellectual and financial giants who, undeveloped, were called away by the preventable and curable disease.

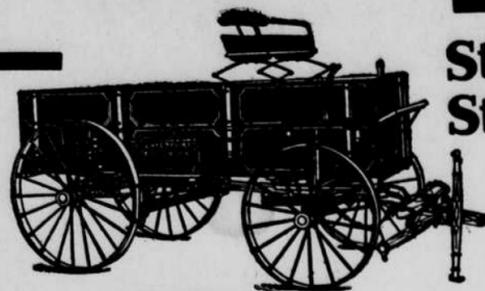
We do know that in proportion to the severity of the disease, the power of the blood to collect oxygen in the lungs and food from the digestive tract and convey this nourishment to the bony, muscular, and nervous tissue is correspondingly reduced. In a series of more than five hundred cases of hookworm disease tested in this connection, the quality of the blood was found to range from 9 to 65 per cent of normal, the average being less than 50 per cent. When it is reduced to 10 per cent of normal, or less, the body starves to death. At 75 per cent the body and mind is, on account of the lack of nourishment, incapacitated at least 25 per cent.

Suppose we stay well within conservative bounds and estimate that only one-fourth of the North Carolinians have the disease, and that they have the disease but mildly, on an average the reduction in qualities of the blood being reduced only 25 per cent. Expressed in other words, it means that in a conservative estimate one-fourth of our people are one-fourth incapacitated by the disease.

What, then, is the immense annual loss, in dollars, to the State, aside from any humanitarian considerations? Time and space will not permit a consideration of the vast loss to the State occasioned along many lines. Just one specific illustration will be given: In the State public schools alone, not including any colleges, more than \$3,000,000 is annually spent. A per capita division of this sum according to our estimate, indicates that one-fourth of the total, or \$750,000, is spent on sufferers from hookworm disease, who are incapacitated to a degree that they can only assimilate 75 per cent of the learning they would have received had they not been infected. One-fourth of the money thus spent on them, or \$187,500, is annually lost to the State as a result of the disease. Think of an annual loss of \$187,500 from the school appropriation alone by virtue of the existence of a disease which is both preventable and curable. Will the State stand by and permit such loss to continue and not spend one cent, directly, to stop it?

"Well" said Cassidy, "'tis too bad as that none av us kin iver be as good as some people think we sh'ud be."

"Aye," replied Casey, "but 'tis consolin' to think that none av us kin ever be as bad as some people think we are."—Catholic Standard and Times.



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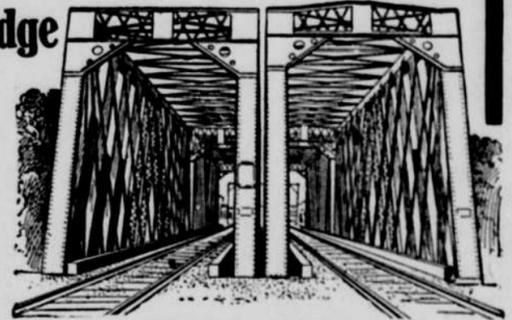
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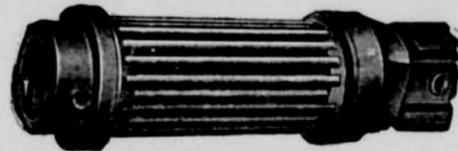


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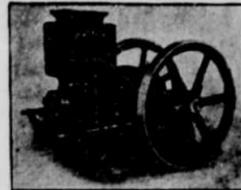
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