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MEDICAL ZOOLOGY AND HUMAN WELFARE¹

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EVERY one is more or less familiar with the relation of medical zoology to human welfare, but many of us do not realize what a very great influence both the scientific and practical phases of this subject have had upon our daily lives and upon the progress of the human race. Medical zoology is the subdivision of the great science of zoology which deals with groups of animals selected on the basis of their intimate association with man. Certain of these animals, such as scorpions and snakes, are of medical importance because of their venomous bites; others, such as certain game animals of Africa that harbor the germs of sleeping sickness, act as reservoirs from which transmitting agents obtain their infections; and some animals carry as external parasites the transmitting agents themselves, such as the rat which is infested with plague fleas. Zoologically the principal group with which medical zoologists are concerned are the parasitic protozoa, parasitic worms and the insects that may transfer these organisms as well as bacteria and filterable viruses from an infected to an uninfected animal. Since most of these organisms are parasites the terms medical zoology and parasitology are often used synonymously.

Medical zoologists do not limit themselves to the study of those parasites or insects that have been proved to be directly concerned in human diseases but investigate also the parasites of lower animals and plants, since these are usually more easily obtained for experimental work and often belong to the same genera as do the human parasites; hence the results of their study can be translated more or less directly into terms of human parasitism. It may be worth while at this point to define a parasite and separate parasites into their several categories. A parasitic animal is one that lives on or in and at the expense of another animal or plant; the latter is called the host. In many cases animals or plants are closely associated together, one partner benefiting by the association, whereas the other is neither injured nor benefited. This condition is known as commensalism. Again, two closely associated organisms may be mutually beneficial and sometimes one is unable to live without the other. This type of partnership is known as symbiosis. In a third cate-

¹ A lecture delivered at Mt. Holyoke College on November 14, and at Mount Union College on November 19, 1924.

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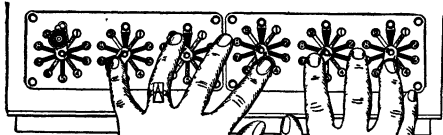
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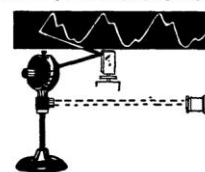
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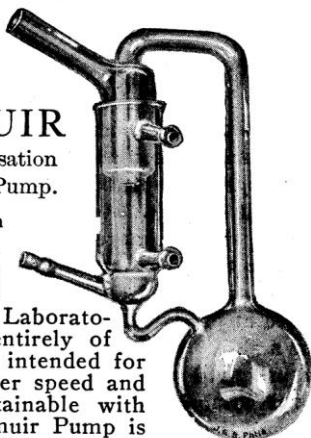
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