

RABIES IN ILLINOIS.

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When the old Greeks looked up into the heavens, they imagined that they saw all sorts of curious figures and animals outlined by the stars. Thus the stars were grouped into constellations and named after the animals and gods they represented. Modern astronomers continue to use those names for star groups. If on a clear winter night you face south and look up you will see in front of you "The Great Dog" dominated by a particularly bright star "Sirius," or the "Dog Star". In July and August this star rises with the sun and to it the ancients attributed the great heat of the season as well as the cause of dogs going "mad".

"Mad dogs" have been known as far back as history goes. The Greek philosophers Aristotle and Plutarch wrote about the disease under the name "hydrophobia" (fear of water). From Rome we hear of it through the writings of Vergil and Ovid who called it "rabies" (from the Latin *rabere*, to rave).

The notion of the ancients, and which still prevails, that rabies is a hot weather disease, is erroneous. It is true that the disease may be prevalent during the summer, because dogs are out of doors to a greater extent and hence come into contact with each other more. This seems to be the case in Illinois as evidenced by the number of heads of rabid animals received both at the laboratory of the State Department of Public Health in Springfield and of the Chicago Health Department. In other communities, however, notably New Jersey, Kansas and Washington, D. C. March is the month of greatest prevalence, with August the lowest month of the year.

History does not reveal when rabies first appeared in Illinois, but we can be quite certain that it was not long after the white man settled here and established communication with the outside world.

Rabies is on the distinct increase in the State at the present time. For many years the disease was very prev-

alent in Chicago but it has fallen off markedly due to compulsory muzzling and leashing of dogs and catching of stray animals. More than 10,000 strays yearly are picked up in that city. On the other hand very few animal heads were formerly received for examination in laboratories downstate, but since 1923 the number has been increasing rapidly at the laboratories of the State Department of Public Health at Springfield and Carbondale, and the Department of Animal Pathology at Urbana.

The spread of rabies over the state has been in the form of a wave northward. In 1924 the State Laboratory at Springfield found the unprecedented number of 39 positive examinations, all from the southern counties; the next year number jumped to 60, with the disease advanced farther north, while in 1926 there were 140, reaching up as far as Will County.

Laboratory examinations for rabies are made by various institutions throughout the state—State Department of Public Health, University of Illinois, Chicago Health Department, Chicago Pasteur Institute and others. Not only are dogs' heads examined but other animals, for all warm blooded animals are susceptible to the disease,—horses, cows, cats, squirrels, even skunks have been received by us. The examination is the same in each instance. The skin over the skull is laid back, the skull cap removed, the brain exposed, a small section pressed out between glass and stained after a certain manner. If the animal was rabid usually typical Negri bodies are easily seen in the brain cells. It is not known for certain whether these are protozoa that cause the disease, or are degeneration products of the brain tissue. They are always found in the brain of well advanced cases of the disease however.

Human deaths from rabies have been increasing both in Illinois as well as over the country as a whole. In the United States for the last three years there was an average of 84 human deaths yearly. In this State there were 4 last year.

Anti-rabic vaccine, if taken promptly, is a sure preventative of the disease. If too much time elapses after the bite, sometimes the patient dies in spite of the vaccine. None of the four persons who died in Illinois last year had

received vaccine. Even when an animal is rabid, only one in six of the persons it bites will contract the disease even when no vaccine is taken. The other five escape through various causes—probably because the dog's teeth are wiped free of saliva by the clothing of the victim.

By the use of anti-rabic vaccine the Pasteur Institute in Paris was able to save 165 to every one that died, this one dying because of delayed treatment or other causes beyond their control.

The Chicago Pasteur Institute increased this figure to more than 750 saved to one death using the original Pasteur method. Since 1910, among the thousands of persons treated this institution with improved methods has not lost a single patient.

This is the experience of many institutions. In Illinois the State Department of Public Health distributes anti-rabic vaccine free of charge to those unable to pay for it.

The credit for the discovery of anti-rabic vaccine goes to Louis Pasteur. In past days some of the most horrible outrages imaginable were perpetrated against persons who had been bitten by rabid dogs,—strangling, suffocating or bleeding to death of the poor victims. On July 6, 1885, after numerous experiments on dogs, Pasteur administered the material to the first human being. This story of Pasteur and Joseph Meister is one of the most gripping and touching ever written. But the little boy, horribly torn and mangled by the mad dog as he was, lived, as thousands have done since.

The control of rabies in a community depends principally on the control of dogs. A suspected animal should not be killed but *chained* securely in a safe place with regular care and attention. If after a week or ten days it has shown no symptoms, it can be released and any persons bitten need take no anti-rabic treatment. If, on the other hand, it develops symptoms of rabies, the animal may be killed and the head sent to the laboratory for examination. If sent in before any symptoms have occurred, the laboratory examination may be unsatisfactory, and leave the patient in more doubt than before.

Any community may rid itself of rabies by requiring the leashing, muzzling or impounding of all dogs, or as a

substitute the vaccination. Of course, stray and ownerless dogs should be destroyed.

Positive Laboratory Examinations for Rabies

| | Chicago | Springfield | Urbana | Carbondale |
|-----------|---------|-------------|--------|------------|
| 1911..... | 119 | 3 | ... | ... |
| 1912..... | 116 | 0 | | |
| 1913..... | 83 | 0 | | |
| 1914..... | 122 | 0 | | |
| 1915..... | 119 | 0 | | |
| 1916..... | 40 | 0 | | |
| 1917..... | 11 | 0 | —* | |
| 1918..... | 26 | 0 | — | |
| 1919..... | 19 | 2 | — | |
| 1920..... | 30 | 0 | — | |
| 1921..... | 44 | 2 | 1 | |
| 1922..... | 56 | 1 | 2 | |
| 1923..... | 57 | 2 | 5 | |
| 1924..... | 59 | 39 | 25 | |
| 1925..... | 21 | 60 | 23 | 4** |
| 1926..... | 17 | 140 | 69 | 12 |

*Laboratory of Animal Pathology established 1917.

**Carbondale Laboratory established in 1925.