

PASTEUR EXPERT SOUNDS WARNING AGAINST PET DOGS

Women and Children Especially in Danger of Possible Hydrophobia Through Carelessly Fondling Household Pets---Tuberculosis, Scarlet Fever, and Other Diseases May Be Transmitted.

By Edward Marshall.

I SAW a mad dog, Sunday before last, on Broadway near Grace Church. The car on which I was a passenger paused just as he rushed across Broadway behind it, to dash his poor little head again and again against a billboard.

The usual crowd of undismayed New Yorkers was gathered about him, ready to run, but willing to take chances of being bitten if he turned upon them before they could escape.

An officer hurried up, his hand moving significantly toward his hip pocket as he ran. In response to the cries of "Mad dog! Mad dog!" which were ringing in the street, the car moved on, and so I did not see the last act of the little tragedy.

I am very glad I did not, for I am a true dog lover. Dr. W. L. Wheeler of the Pasteur Institute, to whom I spoke of the occurrence, is also a dog lover and dislikes the thought of slaughtering them as much as I do, but he made certain startling things so vividly clear to me that I shall never keep a dog again

whose disposition changed completely. He snapped at every one, even at me, and for a time we thought him rabid; but an investigation by a veterinary showed him to be suffering from toothache.

"That may very well be true, but as a general thing the change I speak of in the disposition of a dog is a fair warning that something worse than toothache ails him. But there are other symptoms. A dog in the first stages of rabies will show a marked desire for solitude—not a usual symptom of any other dog disease. He will hide in dark corners, lying there, not sleeping, probably, but looking out morosely, miserably.

"These symptoms indicate the first stage of the disease. They are followed almost invariably, we find, by a period of excitation. I had told the doctor about the little mad dog I had seen.

"The little dog you saw was in this period of excitation. The dog developing rabies will, at this stage, want to run. It seems to be an uncontrollable longing for violent physical exercise which seizes him. He will almost surely disappear from home if not confined. His absence will last probably over night, at least, and may



Photo by Paul Thompson.

Playmates in the Park.



Photo by Federal News Co.

Fearless of Danger.



Photo by Federal News Co.

A Much Fondled Pet.



Dr. Rambaud Head of the Pasteur Institute.



Dr. W. L. Wheeler.

In any city, that I shall urge such women friends as I may have who fondle dogs to cease the practice, that in the country or the city, when I am with dogs, I shall be extremely careful about letting my hands approach their muzzles, even when they are but playing, and I know the danger now which possibly may lurk in a pet dog's kisses.

"If a dog bites me to-morrow," I asked Dr. Wheeler, "what ought I to do?"

"Don't let it happen," Dr. Wheeler answered. "Rabies is increasing in New York, and to be bitten nowadays is really more disastrous than it would have been ten years ago, five years ago, one year ago, one month ago. A larger proportion of the dogs in town have rabies than ever was the case before."

"But if it does happen?" I insisted, "what shall I do?"

"Get that dog—get that dog at any hazard and at any expense," said Dr. Wheeler. "Get him, and even if he shows no sign of rabies keep him under observation for a week—keep him carefully confined and have him watched from time to time by some one who knows rabies. If the animal should be infected it will add greatly to your safety if you know it; if he is not, it will add greatly to your peace of mind to know it."

"Then rabies can be prevented?" I inquired.

"The discovery of the means was one of the great Pasteur's greatest achievements. If the disease could not be prevented why should we waste our time here at the Pasteur Institute? Yes, it certainly can be prevented."

"And should I not prevent it, but, through failure to seek treatment soon enough, find myself really infected, ill of the disease, what ought I to do then?"

"Make your will with haste," said Dr. Wheeler. "Bid good-bye to those you love. Make your peace with Heaven, according to whatever creed you follow."

"You do not mean to say that there is no hope whatever of a cure?"

"There is no hope whatever, at the present time," said Dr. Wheeler.

"After reading that, my lady, will you not be a bit more careful when you fondle Fido? After reading that, my friend, will you not use more caution about patting that stray terrier which comes bounding up to you—when if he has a silver collar on his neck and marks of breeding in each little line of his body? There is no hope, whatever!"

"How large a proportion of those whom dogs bite in this city develop rabies?" I inquired.

"How do I know?" he counter-queried. "Only a small proportion of the folks whom dogs bite ever make a report of the occurrence."

"Well, after I have caught the dog which has bitten me, and placed him where he can be watched, how shall I make sure that he has rabies?"

"A suspected dog should be guarded with the utmost care," said Dr. Wheeler, "so that he may not bite others. That is the first essential after he has been captured. Almost any sickness might make him surly. I owned a gentle dog once

very well be of a much longer duration, sometimes two or three days. He will return—return very weary, very much bedraggled, not necessarily showing any symptoms likely to attract the untrained eye, but showing signs of distress.

"And he will be afraid of water," I suggested, remembering what I had been told by half a dozen laymen at one time or another, and by one veterinary in a small city in the Middle West.

"I shall come in a moment to the symptom which has given rise to that superstition," said the doctor. "Hydrophobia has been so little understood that all kinds of wrong ideas have grown up around it in the public mind, and that the mad dog is afraid of water is one of them.

"After his first period of excitation has occurred he will lose appetite—that is, his appetite for ordinary articles of diet will fail. He will not eat the food which he has usually eaten eagerly; he will refuse even those small dainties of which he has been particularly fond in times gone by. But he will tear up carpets, ruck bedding, and so on, and swallow them.

"It will be after this that the symptoms which have given birth to the idea that mad dogs fear water will develop. He will not fear water; he will, on the other hand, be thirsty far beyond the ordinary, and show signs of it. He will rush to water when it first is offered to him and attempt to drink, thrusting his whole nose in eagerly. But by this time the paralysis attendant on the ailment will have begun upon the muscles of his throat. He will nuzzle and slobber in the water, making desperate efforts to swallow it, but will be unable to do so, and the effort will result in pain. It may be that the signs of this exquisite agony are what have made men think mad dogs fear water, or it may have been the fact that men suffering from hydrophobia actually do fear it. This seems to be the true of men alone, not dogs. Perhaps the man's fear may be due to his superior intelligence—his knowledge that the act of swallowing will give him pain.

"The dog's voice at this period will change, becoming sharper, and he will exude saliva freely—a stringy, ropy exudation which we know to be the carrier of the disease's infection and, therefore, the substance which is most to be avoided by those who chance to come in contact with mad dogs.

"Now the paralysis in the dog's muscles will begin to spread, and he will, therefore, lie down and remain more or less quiet, while one muscle after another succumbs to the numbing progress of the disease. The dog now can, of course, no longer pursue anyone; only those who approach him are unduly troubled, and even then he will not be able to bite. But his impassivity in no wise decreases the danger of that terrible saliva.

"A person with unglued hands should not run any risks with it. Extreme caution should be exercised in handling the poor animal."

"And how long will these various processes of the ailment's development occupy?" I asked.

"The incubation period is less definitely fixed than in some other germ diseases," said the doctor. "It may extend from ten days to several weeks, in dogs, but usually the disease develops faster."

"And are the symptoms in the human being similar?"

"Pain in the wound is generally, not always, the first symptom. Then the patient becomes melancholy and, at times, feels an almost uncontrollable desire for violent physical exercise, especially if he walks. Something is the matter with

him, but he doesn't know just what. Then come objective symptoms—signs which we can see. There is vomiting and loss of appetite, inability to swallow liquids, and later, inability to swallow anything. Painful spasms in the muscles of the throat become so acute that they bring on general convulsions and unconsciousness with lucid intervals. Then come general muscular tremors, with gradually increasing paralysis, slowly extending to the muscles of respiration and the heart. Total paralysis and death follow in from two days to a week of agony. Through it all there is generally the consciousness, the firm conviction, of impending death."

"How fully does the anti-rabic serum really protect?"

"The death rate among those who have been treated is about two-tenths of one per cent. Fifteen to twenty per cent. of those who have been bitten and are not treated die."

"If a dog bites me this evening, exactly what ought I to do?"

"Catch the dog and isolate him so that you may be sure whether or not he has hydrophobia. If it is proved that he has not, thank your lucky stars. If it is proved that he has, hurry to some physician who knows what to do and have it done with speed."

"Should the wound be cauterized?"

"Opinions differ upon that. Cauterization will not, of course, do any harm, but we are inclined, nowadays, to avoid it. We are depending more and more upon antiseptic dressings and a general disinfectant treatment which does not include cauterization."

"Is there such a thing as immunity from rabies? I saw a statement recently that an agent of the Society for the Prevention of Cruelty to Animals in this city had been bitten many, many times by dogs thought to be rabid, that the thirty men who deal with captured dogs and cats will average about 1,600 bites a year from them, and that not one case of hydrophobia ever has developed among these men, although the work has been in progress seventeen years."

"Don't let that and similar statements cure your dread of being bitten by a dog," said Dr. Wheeler. "A man might be bitten a hundred times, and when he was bitten the 101st time get hydrophobia; on the other hand, the first bite might as reasonably transmit the disease. There is no immunity from rabies. A man employed in the New York Dog Exchange, who said he had been bitten 200 times and more, came here to the institute with a fully developed case of rabies and died within two days, after suffering all the agonies peculiar to the disease. It was never possible to learn which of the many bites he had received had been responsible for that man's death."

I called Dr. Wheeler's attention to the Mayor's attitude upon the subject of mad dogs. When the proposed amendment to the ordinance relative to the capture of stray animals which made it include dogs

was laid before him the Mayor was not certain of its merits or necessity. He spoke somewhat scornfully upon the subject of mad dogs.

"Did you ever see a mad dog?" he is quoted as having asked, with signs of skepticism. "Have you ever seen any one who has actually seen a mad dog? I never have."

"How about that?" I asked Dr. Wheeler.

"To be skeptical of hydrophobia or of its dangers is mere foolishness," said he. "I cannot possibly believe that Mayor Gaynor could have used those words. Almost every one has seen mad dogs. I examined the heads of two, found here in New York City, this very day, and there are a few days now which do not develop their authentic cases."

"You consider keeping dogs in cities definitely dangerous?" I asked.

The doctor shook his head. "Not necessarily. I cannot see why dogs should be eliminated from our cities. I have a St. Bernard and I keep him here in New York City. But that the keeping of dogs in cities should be surrounded by the most rigid of restrictions is undoubtedly the fact. Far greater care than ever has been taken of them outside of the law and unsparringly enforced by the authorities. I never let my St. Bernard appear upon the streets alone. He is kept tight in the backyard save when some one of the family is with him and has him in leash. This is a protection to the public, because it is a protection to the dog. I would guard him against bites from other dogs as carefully as I would guard him from biting other dogs or biting people. As long as he remains unbiten he will remain uninfected, and as long as he is uninfected he will remain harmless and beloved pet, menacing no one. But stray dogs are a danger, and I think I may go further and say that no dog should be let to run the streets alone or, even if accompanied by his owner, should be permitted on the streets unleashed. The leash is the best means of protecting the public. Mere muzzling will not do it, for nine-tenths of the muzzles now in use are so constructed that they really amount to nothing. Nineteen times out of twenty a muzzling I ever saw which really would prevent a rabid dog from biting was a wire cage at least half an inch longer than the dog's nose."

"Is the existing New York law an adequate provision?"

"No. The man who was instrumental in pushing it through the Board of Aldermen had a dog die of hydrophobia, however, and intended that it should meet all reasonable requirements. But it does not properly provide for its own enforcement. It does not require any initiative in the matter of dangerous dogs at large from the police. They need only act when their attention is called to such a dog by a complaining citizen."

"What should be required of them?"

"It's hard to make suggestions off hand this way. I don't see how the

police force, as at present organized, burdened as the men are by many duties, could, in addition to their other work, give proper attention to the matter of stray and dangerous dogs. I imagine we should have special dog officers here. The necessity for them certainly would justify the expense. The wandering, unattended and unmuzzled dog has undoubtedly become a menace to the safety of our citizens upon the streets, and this menace is continually growing with the very spread of hydrophobia which it brings about. According to the reports of the Society for the Prevention of Cruelty to Animals, they have thirty men now busy at the work. Ten special dog officers, in addition, ought to make it possible to cover the whole ground thoroughly. Assuming that these men were paid an aggregate of \$14,000 annually, the cost would not be too high. As a matter of fact, they would more than pay their cost in money and they might save untold human suffering. With proper precautions rabies could be utterly stamped out."

"Is any country free from it?"

"In England the dog laws are such that the disease has been completely eliminated. They know nothing of it there these days. So completely has the dread ailment been exterminated that, recently, after a particularly sensational death, which attracted wide attention in the public prints, had occurred here, the editor of The London Lancet, one of the foremost medical journals in the world, wrote me a letter asking me for comments on a newspaper report. He even asked if, really, there was any disease as rabies. I replied at length, of course. The English law which has accomplished this has been in force, I think, about twenty years, and a law which is 'in force' in England is, also, enforced. The cry of 'mad dog' is never heard upon the streets of London. In France, just across the English Channel, although it is the birth-country of the discoverer of rabies and the home of the Pasteur treatment and institute, the Pasteur institutes treat more people for dog bites than are treated in any other nation in the world. They do not have the laws."

"And Germany?"

"Germany has its Pasteur Institute, so they must have rabies there. The disease is common in Russia, where it has been accelerated by its spread to the wild wolves of the steppes and forests. Wolves are still common, and, especially in Winter, very dangerous, in certain parts of Russia, and nowadays, to the mere and natural terror of being caught and torn by them, is added the new fear, that if one is attacked and gets away he may still carry with him in the wound the unconquerable germs of the terrific ailment. A visitor from Krakow told me recently, and he was a reliable source of information, that 1,000 people are treated a year in one institution for hydrophobia. As the system of reporting, even the knowledge of diagnosis, is very imperfect in the remotest portions of the empire, that would seem to indicate a really dreadful hydrophobia situation over there. I asked him how many of these cases came from dog and how many from wolf bites, but that inquiry he could not answer."

Later I asked Dr. Wheeler about cats, and opened a new and unexpected lead.

"Cats furnish 5 per cent. of the bites which we treat here," said he, "and a very few of the cases of actual hydrophobia which are brought to our attention. Cats are, in the aggregate, less dangerous than dogs, but they do go mad occasionally, and when they are mad they are more dangerous than dogs, principally because the terror of a rabid cat is less general than that of a mad dog. A cat with a 'fit' is not regarded as an object of such particularly dreadful significance by the average person, and any cat acting strangely is likely to be set down as a cat with a 'fit'. But if that 'fit' chances to be an attack of rabies then the cat is quite as dangerous as a mad dog. Therefore what I have said about keeping dogs in cities applies, in a measure, to keeping cats in cities. But the cat has this advantage over dogs. The cat is a really useful domestic animal. It does greater wonders than any of us realize in keeping down the rodent population. Without cats New York, for instance, would doubtless suffer very seriously from innumerable rats and mice. Cats are a necessity in a city like New York. I don't know what we would do without them. But they may be very

dangerous, none the less. They are far more difficult to manage than dogs are, and I have no regulations to suggest concerning them. Regulations which would really regulate the cat-tribe in New York would require cleverer brains than mine for the devising."

"What has been the actual increase in hydrophobia this year?"

"It would be impossible to say exactly, but it has been large."

"To what do you attribute it?"

"To the increase in the number of dogs and the prevailing lack of proper regulations for the protection of the public against them and their own protection against one another."

"What has actually been discovered of the germ of rabies?"

"The germ has not been isolated—that is, it has not been separated from all other germs and identified beyond a doubt. Many things have, notwithstanding this, been learned about the details of the disease, but not even the little Negri body is an effect rather than the cause, but unsuccessful efforts have been made to prove it to be the actual cause. Most of us consider it of value as a diagnostic agent—that is, we think its presence to be an indication that true hydrophobia exists, but we have been able to learn little of it. We are not even sure that it is, truly, a bacterium at all."

"And are you still searching for the germ?"

"Yes; as thousands of other men are busy, searching for thousands of other germs, each one according to his special interests. Efforts to isolate a bacterium which will beyond question reproduce hydrophobia in small animals are constant here and in many other laboratories. We may stumble on the secret almost any day; it may for years elude us. It is one of those fascinating scientific quests about which it is dangerous to make predictions."

"Is the bite of a genuinely mad dog certain to produce hydrophobia?"

"By no means. From 15 to 20 per cent. of such bites do actually cause the disease. The danger of the wound depends largely on its location. Bites in the face and hands are far more dangerous than others, and of these two the bite in the face is the more dangerous. The face is especially well supplied with nerve tissue, which is what the germ requires, and, being near the brain, a face bite gives the germ a short haul, so to speak, from the point of entrance to the point which means destruction. But bites upon the hands or any exposed portion of the body are less dangerous. Bites upon clothed portions are less hazardous, of course, for, in passing through the intervening substance, the dog's teeth may possibly be wiped clear of the germ-bearing saliva. But any bite is bad enough. No bite should ever be neglected."

"How many of these actually develop the disease die?"

"All. There is not one authentic record of recovery from the developed disease. Not a record here or anywhere."

"How large a proportion of infected dogs which have come under your observation have been pets, how many street curs, homeless and unattached?"

"There is the pity of it," said the doctor. "Probably twenty-five per cent. of those who come here to the institute have been bitten by pet dogs, and many of the victims are people in at least moderate circumstances and of, presumably, at least moderate intelligence. A large part of them are substantial citizens who should know enough to take care of a pet dog if they keep one. It is hard to have much patience with the person who, keeping a pet dog, and, therefore, being especially able to infection, still does not keep that dog out of the danger of it. There are, occasionally, of course, cases where dogs contract the disease in ways which careful owners could not possibly prevent, but as a rule, the dogs which become rabid could have been, with a little care and common sense, kept clear of danger of infection. I have just treated, for example, the dog of a prosperous citizen which was well cared for and bitten by a stray cur in spite of it, but it is nevertheless true that the average dog owner does not give enough attention to the protection of his pet or to the protection of the public."

"Women take better care of their dogs than do men, but they also take more

chances with them. I wish I could make this statement strong enough to bring to every woman in the city a full realization of the danger she invites through the carelessness of her pet dog. The man, for example, who allows her dog to lick her face, no matter how convinced she may be that the animal is not infected, is running no small risk. In spite of the great care with which she may have kept guard upon her pet she is inviting trouble. She ought not to allow it, even to lick her hands, for the germ undoubtedly could be transmitted, and probably has been, many times, through an abrasion already existing and not caused by the dog's teeth. It is the saliva of the infected dog which really is dangerous. The tearing which his teeth may do is a very minor matter by comparison.

"And women, more especially, should also be warned that when they fondle dogs as so many, many of them do, they are running risks of other things than hydrophobia. A dog upon the street is not particularly as to just what he comes in contact with. There is little, clean or unclean, which he will not make investigations of. He may pick up and carry to his loving, fondling mistress the germs of various diseases. Tapeworm, for instance, is more frequently conveyed by dogs than in any other manner. The dog gets his germ in one way or another and then licks his mistress's face. The transfer of contagion to her is a simple matter. Such cases are of record, and doubtless many have occurred which have not been recorded. Almost any of the contagious diseases may be conveyed by either dogs or cats, though cats, because of their peculiar habits and their tendency to caress with their affectionate tongues the persons whom they love are much more dangerous than cats. Tuberculosis, scarlet fever, measles, diphtheria—all of these and many more diseases may be conveyed from dogs to human beings in this way. I don't wish to go on record as pronouncing that they are, to any large extent, but I do say that such transfer is a possibility—an easy and dangerous possibility—and that human beings should be warned."

"Can hydrophobia be transmitted by heredity?"

"We have no reason to believe it can. Efforts to transmit it, even to unborn young, have not given conclusive results."

"Of what exactly does the Pasteur treatment consist?"

"Hypodermic injections of anti-rabic vaccine. This vaccine is obtained from rabbits which have been artificially inoculated. The vaccine is taken from the brain and spinal cord. The rabbits develop the disease in about six and a half to seven days after inoculation and die in about ten days. We take the vaccine from the dead rabbit from the living animal. In appearance it is a cloudy fluid, and the injections consist of quantities determined by the exigencies of the case and vary from one to six cubic centimeters. One injection is given every day for fifteen days. There are no constitutional effects—the patients are not even inconvenienced. It has been conducted with an access resulting from one of these injections. Every year several hundred come to us for treatment. Not less than four thousand have passed through the institute since 1893, when it was established. At least two thousand have been treated since I have been connected with the institute. Let these figures emphasize my warnings as to how pet dogs should be cared for; it is a pity that they may not immediately bring about such legislation as is needed to protect the city and the Nation as London and all England have been."

"Dr. Rambaud, who is at the head of the New York Institute, and is at present ill from injuries received in an automobile accident, has undoubtedly been of tremendous service to the community. He has kept the institute in fine condition and gives free treatment to the poor, never having yet refused treatment to a patient from New York or its environs because the man was without money for his fee, although the institute is not endowed. Manifestly it would be impossible to extend the same courtesy to people from other communities."

"What improvements have been made in the treatment since Pasteur's original discovery?" I asked.

"Nothing fundamental. It was first put upon a firm basis in 1888. Since then it has been changed principally by rendering the methods of admission less painful. The virus is the same it was at the beginning. The percentage of cures has been increased, owing to greater knowledge and superior treatment. Pasteur was a man of towering genius. He gave this anti-rabic treatment to the world, discovered means of preventing wine from fermentation which meant millions to French grape growers, and found a cure for a contagious disease among silkworms which yielded vast returns, uncounted, preserving a great industry."

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