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Contents:

(Illustrated articles are marked with an asterisk.)

HOT WEATHER AND HYDROPHOBIA.

Dog days are sorry days for dogs. Not that the sultry season brings any distemper to them, least of all hydrophobia; but it does to Dogberry. As surely as warm weather returns, so surely are petty magistrates all but universally smitten with a sort of caniphobia, which knows no remedy but that instrument of canine torture, the muzzle. How the delusion originated, there is no telling. It is equally hard to tell how it survives in the face of experience, statistics, the protests of the intelligent, everything, in fact, that ought to influence the official mind.

The canny juryman had twenty-three good and sufficient reasons to offer for the non-attendance of a brother juror. The first was: "The mon's dead, y'r honor." Reasons as numerous if not as cogent may be given for opposing the law that dogs shall not be suffered at large without a strap over the nose or some similar device for closing their mouths, at the time when an open mouth is most essential to their health and comfort. It is enough to say that the enactment is useless as a precaution against danger from canine madness.

Dogs do not go mad in public places. For hours, perhaps days, before the outbreak of the disease, the victim skulks within doors, hiding in dark places, under furniture, in mangers, and the like. Unless the muzzle is insisted on as a permanent fixture, therefore, it is no safeguard whatever. The distemper is developed at home, where the muzzle is not worn, and the rabid animal escapes to run amuck at a stage when muzzling is impossible. Besides, the dogs which do the most mischief are commonly pets, house dogs, and stable dogs, not allowed at large, and therefore seldom or never subject to municipal supervision.

To make the regulation really effective, it would be necessary, as already intimated, to require all dogs to be muzzled at all times, night and day, in doors and out, the year round. As a matter of mercy to the poor brutes under such circumstances, as well as to ensure perfect security from dog bites, we should recommend that the muzzle be riveted to the *os frontis*, or, better, to a steel disk three or four inches in diameter passed between the cervical vertebræ. This would necessitate the throwing away of the larger part of the dog, we admit; still as a precaution against hydrophobia it would be absolute, and the animals would be free from the useless torture incident to the common method of muzzling.

Seriously, while it would be a blessing to the community if four out of five of the canine population were thus effectually muzzled, we have no hope that so practical a measure will ever be carried out. To the end of the chapter the complaint will be heard—too many dogs. And so long as there are dogs there will be mad dogs, and dogs that will bite without going mad, with equally bad consequences to the victims. Not until common sense and knowledge take the place of ignorance and superstition in the treatment of dogs and dog bites, will the risks of hydrophobia in man and beast be measurably abated. The precautions adopted must be of the right kind, and taken at the right time, else they are useless or worse; and above all, people must cease to trust to measures of prevention and relief which are demonstrably of no effect.

First of all, it is needful to overcome the popular belief that there is any necessary connection between hot weather and hydrophobia. The fact is that canine madness, technically *rabies*, is more prevalent in winter than in summer, in cold countries than in warm. Readers of Dr. Kane and other arctic explorers will remember the frequency of the disease among sledge dogs in the depths of arctic winter. On the other hand, in the West Indies, where the climate is hot and dogs are abundant, the malady is rare. The Southern States and the countries of Southern Europe are notably exempt from it; while it is very common in Northern Europe, in Canada, and throughout our Northern States. Statistics show also that more animals go mad in January, February, and March than during any other season, the fewest cases occurring in summer time.

It is also a mistake to suppose that hydrophobia always follows the bite of a mad animal, or is necessarily caused by such a bite. Between 1863 and 1868, there were 320 persons bitten by rabid animals in France, and hydrophobia ensued in only 129 cases, less than half. According to Faber's statistics, out of 143 persons bitten by rabid animals in Würtemberg, only 28 had hydrophobia. Hertwig inoculated a large number of animals with the saliva of rabid specimens, and succeeded in communicating the disease in but 23 per cent of the animals operated on, 77 in the hundred escaping.

In view of these facts, it is impossible to come to any absolute conclusions in regard either to the conditions of the disease or the adequacy of measures adopted for its prevention or cure, since there is always a degree of uncertainty as to what the result would be were nothing done. Still we are not wholly in the dark. From the French records, it would appear that wounds in the face and throat are most dangerous, nearly all those reported terminating fatally. From bites in the hands, hydrophobia ensued in two cases out of every three: while of those bitten in the legs, two out of three escaped the disease.

So far the statistics seem to favor the common belief that the greater immunity in case of wounds in the legs is due to the protecting effect of clothing; but the fact that bites on the body, which is always clad, result in hydrophobia as frequently as bites in the hands, which are commonly bare, puts a different face on the matter.

Possibly clothing may serve somewhat to prevent the flow of saliva into the wound, and the saliva seems to be the bearer of the virus; but the circumstance that five thicknesses of cloth have been bitten through with fatal effect should prevent any great reliance on so uncertain a safeguard.

Nor should speedy action be neglected from any doubt as to the health of the biting animal. Hydrophobia has frequently resulted from the bite of animals showing no symptoms of rabies. Dr. S. G. Cook described a case of this sort in the *Journal of Psychological Medicine*, January, 1871, and called attention to another fatal case of the same kind which occurred some years earlier. In these cases, both of which occurred in this city, the biting animal was a bitch, in "heat" but otherwise in normal health; and Dr. Cook raises the question whether the bite of an animal in that condition may not always be specially virulent. Further observation must determine the justness of the suspicion; meantime extra caution would be advisable in such cases, even to the extent of preventing any licking of the hands or face by such animals, hydrophobia having been communicated by such seemingly innocent means, when the skin happened to be broken.

It is well to be extremely cautious also of dogs (or cats) which are unusually irritable, or which manifest other unusual symptoms, especially in regard to eating. Long before the dread of water appears, the approach of rabies is shown by a morbid appetite, which impels the ailing animal to devour filth and other obnoxious substances

If valuable, the suspected animal should be promptly and securely chained in a place convenient for its execution should rabies be developed; if worthless, killing cannot be too speedy, whether a disposition to snap at persons or things has shown itself or not. In all cases of doubt, the animal's stomach should be examined, as well to relieve the apprehensions of the bitten, should the bite be probably harmless, as to ensure thorough treatment of the wound in case hydrophobia is threatened.

The following substances were found in the stomach of a suspected dog, and were held to be strong indications of the animal's madness: Hair, mud, two bumblebees, a large butterfly, a small white mushroom, straw, grass, and a small piece of the victim's cheek!

The bitten child was treated by Dr. de Marmon, of Kingsbridge, New York, apparently with perfect success. The treatment consisted chiefly in the prompt cauterization of the wounds with a saturated solution of carbolic acid, afterwards keeping them wet with a weaker solution, accompanied by internal doses of *liquor ammoniæ*.

In all cases of dog bite, cautery should be resorted to immediately. If possible, a ligature should also be applied and the surrounding tissues drained of blood by means of cupping glasses or otherwise. Of the French cases already mentioned, 134 were cauterized, more or less promptly, and 92 escaped. Of 66 who neglected the precaution only 10 escaped. Sometimes simple excision of the wound appears to be effective, an operation which Dr. Hammond of this city has performed half a dozen times for wounds received from animals certainly rabid, and always with success so far as heard from. In four other cases he used caustic, with apparently the same effect. Mr. Youatt (author of so many works on dogs and other animals) relied entirely on the caustic action of nitrate of silver. As he treated as many as four hundred cases of bites by rabid animals, always with success, his experience is certainly worth considering. Four times he had occasion to perform the operation on himself; but there is a probability of its failure at last, since he committed suicide while suffering from what were supposed to be the initial symptoms of hydrophobia. Niemeyer advised both excision and cautery, in addition to cupping, as the most promising means of removing or destroying the virus; and in view of the horrible and fatal character of the disease, these precautions, however heroic, would seem to be justifiable. This is one of the cases in which prevention is not merely better than cure, it is the only cure. Once the disease has declared itself, there is little hope save that its more horrid symptoms may be mitigated, and the patient allowed to die in something less than agony.

Cure there is none, though the resources of medicine have been exhausted to find one. True, every now and then some one proclaims a specific, but unhappily the first genuine case of hydrophobia usually proves its inadequacy. Hot air is the latest remedy proposed; it appears, however, to be a delusion, since we recall at least one case in which the Turkish bath seemed only to aggravate the victim's agonies. Nevertheless, in his work on the diseases of the nervous system, Dr. Hammond says that, in the present state of knowledge, he would be more disposed to rely on the hot air bath at a temperature of about 200° Fah., with the administration of hydrate of chloral in large doses frequently repeated, than on any other plan of treatment, apparently for the reason that the plan had never been tried, and therefore might possibly succeed. At least he cites no cases of such treatment, though he refers to the case treated by Dr. Cook, already mentioned, in which the Turkish bath was proposed, but, owing to the parent's objections, was not tried. The only remedy employed was chloral, hypodermically injected, which, though tardily used, greatly mitigated the severity and frequency of the spasms. The child died, but remained conscious to the last, and showed no disposition to injure himself or others.

Perhaps the most encouraging case of mitigative treatment on record is one reported not long since by Professor Polli of Milan. The subject was a man who had been bitten by a mad dog about a month before, the symptoms of hydrophobia being fully developed when the experiment began, twelve hours after the patient's admission to hospital. The remedy employed was hachish, in 8 grain doses of the solid extract repeated every four or five hours. The effect was immediate and happy. Convulsive madness and fury gave place to good humor, even gaiety, and for forty-eight hours the patient lay on his bed free and tranquil, then died calmly. The horrid symptoms of the disease were thus almost entirely removed; a result accomplished neither by opium nor morphine, nor by daturine. "Hachish," concludes Professor Polli, "is therefore the best palliative and sedative in hydrophobia. It changes a raving, unmanageable, suspicious, or aggressive maniac, who bites and curses, into a poor invalid, content and tranquil, who blesses you."

A very recent and somewhat remarkable case is that of the late Dr. Francis Butler, of Brooklyn, N. Y., who died of hydrophobia June 16. He was an educated man, the author of a book upon the breeding and diseases of dogs, and of late years had made the training of these pets his especial occupation. He was almost a total disbeliever in the reality of the transmission of any poison or disease from animals to mankind. He entertained the view, promulgated by Dr. Brown-Séquard and others, that hydrophobia in man is simply a nervous disorder, brought about by the imagination. In his various publications, Dr. Butler has given many directions about the proper treatment of sick and mad dogs, and has shown how easily all persons when bitten might cure themselves. His sad death proves the fallacy of his principal theories upon the subject. About six weeks ago he received a sick dog for treatment, and, in an attempt to administer his favorite remedy to the animal—salt—was bitten upon the thumb; the wound was slight and soon forgotten. On the day preceding his death, when in the act of placing a cup of tea to his lips, he was seized with dreadful spasms, which, with intervals of calmness, increased in intensity. He rushed about his house, he barked like a dog, while streams of foaming saliva spurted from his mouth across the apartment, propelled as if with the force of an engine. It required the efforts of several strong men to hold him. He was attended by skillful physicians, whom he implored to take his life and release him from agony. Every effort was made for his relief, but neither by the stomach nor the hypodermic method was it possible to apply medication. During the last hours Dr. Lorette succeeded in forming a blister on his breast with mustard, and on this abraded surface of the skin he dusted sulpbate of morphine. In ten minutes the drug acted on the patient's system, the opium delirium came on, and he died without further suffering, exclaiming toward the last: "Oh! I am in heaven!"

Dr. Carnochan, one of our most eminent physicians, in a recent case of this awful malady, recommended the use of the tincture of Calabar bean. Its good effect was immediataly seen, and the doctor thought there might have been a recovery had it been sooner applied.

THE NEW COMET. COGGIA.

Our new celestial visitor, which may be now discerned in the northern heavens, is daily increasing in brilliancy, and will soon be a very conspicuous object. The discovery of this body, known as Comet II., 1874, was made by M. Coggia, at Marseilles, on April 17 last. It is wholly without the earth's orbit, but is gradually drawing nearer to our sphere. The circumstances under which the comet appears are very favorable for spectroscopic examination, and hence the scientific world will look eagerly for results which will