

WORM THAT KILLS DOGS

Found in Hawaii and Check Canine Development.

OLD ANIMALS IMMUNE

Secretary Vredenburg of the American Kennel Club Learned of the Pest at Honolulu—Nocturnal Mosquito Lays the Egg and it is Lapped Up in Water.

While in Hawaii to attend the initial bench show of the Hawaiian Kennel club, A. P. Vredenburg learned of a worm that kills dogs, says the New York Sun. The dogs lap up the larvae, which are believed to be the larvae of a nocturnal mosquito, in the drinking water. The developed worms penetrate the heart and cause death by choking up the blood passage. The Hawaiian name is the "heart worm."

A night flying mosquito, harmless to the inhabitants but most terrible in appearance to a visitor from the Atlantic seaboard, is believed to deposit the eggs of the worm on the water that the dogs drink. The pest is said to have been brought to the islands from Japan many years ago and in that country attacks cattle and horses, as well as dogs, but in Hawaii the live stock is free from its ravages. The worm is supposed to hatch in the stomach or intestines of the dog and when in the germ state, to gain entrance to the veins and by the blood canals to the heart. Here the worms cluster and develop, with the final effect of killing the animal by choking the main artery. It is not determined, I believe, whether the worms then die in their turn or pass into another period of life as mosquitoes.

Each worm is from two to four inches in length, white in color and without apparent organs of any sort. They are very thin, say about the thickness of a small knitting needle, and suggest bits of white knitting silk. They are found in clusters of eight or ten in the heart of the dead dog, grouped about the source of blood supply as fish gather at the inlet to a pond. I inspected the worm infested hearts kept as specimens in the museum of the local board of health. The experts said that specimens of the worm and similar exhibits had been sent for examination to the government scientists at Washington but that a full identification had not been made or any antidote suggested.

The presence of the worm is made known by a hacking cough, which is followed by a dullness of coat and eye, with an increasing debility to the end. In company with Dr. I. Charleton Fitzgerald, an Irish veterinarian, I visited the best kennels of pointers in Hawaii. The owner, a prominent merchant, showed us a puppy he knew to be infected and asked the doctor to end its misery. The pointer had never been outside of the kennel and every effort had been made to guard the dog's drinking water from pollution, which reveals how insidious is the approach of the pest. I saw the puppy killed by humane means and watched the subsequent autopsy. In the valve of the heart we discovered the deadly cluster of worms, precisely as I had been told.

The Fur Trade.

The fur trade of North America has always been largely conducted on the principal of barter, writes Lunan MacArthur in the New England Magazine. The transactions with the Indians are carried on in a very simple manner. When a hunter brings in his collection of furs to any trading post, which he usually does twice a year, in October and March, he is taken to the trading room, where the official in charge carefully examines, classifies and values each skin, and when the whole pack is gone over he hands the Indian a number of talies, or small pieces of wood or metal, each representing the value of a "made beaver," and the whole representing the value of the entire catch.

The Indian then proceeds to the storeroom and selects such articles as he requires—blankets, capots, guns, knives, tea, tobacco, etc.—in payment for which he hands back his talies until they are all gone and his purchasing powers are exhausted. He then departs, another hunter takes his place and is dealt with in a similar manner, and so on until all the furs in the possession of the whole band of Indians have passed into the hands of the trader. Formerly it was customary to give a good hunter a "dram" and some small presents in appreciation of his industry.

Meaning of a Term.

Virginia has found it necessary to pass a law declaring that for all legal purposes the words "railroad" and "highway" are to be considered synonymous.

Too Much Attention.

"Americans pay too much attention to wealth." "Yes," answered the rural millionaire, "especially the men who assess property."

NEW YORK'S GREATEST SHOW

Where There is Standing Room Only at a Goodly Premium.

A seat on the New York Stock Exchange sold for \$95,000, and \$97,000 was bid for another. The man who bought the seat will probably never occupy it, as it has no tangible existence in fact.

There are eleven hundred members of the New York Stock Exchange and the seating capacity on the floor of the Exchange is not over forty. These seats consist of the small wooden benches around the posts on the floor. They are usually occupied by specialists of the various stocks, so that unless the new member becomes a specialist, which is not likely, he will have paid \$95,000 and \$2,000 initiation fee for the privilege of standing upon the floor of the Exchange every day from 10 a. m. to 3 p. m.

This is the cost of the rare privilege of entering this exclusive body where the price of securities are made every day and which create the standard of speculation and investment in American stocks and bonds the whole world over.

While the "seat" itself is a myth, it forms an asset of the most tangible character. It is as marketable as a government bond; it can be converted into cash at a moment's notice; it is a possession that a member cannot be deprived of, although his membership privileges can be taken away from him for cause at any time by the board of governors who preside over the discipline of the great institution.

The term "seat" has come down from the old days of the Board of Brokers, when the members occupied seats in the board-room facing the chairman, through whom the trading was done by means of the callers and by open bidding. The callers are still retained on the Stock Exchange, but the membership has grown so large that the old method of trading have become obsolete. The seats were abolished about forty years ago.

A member of today must be alert and active and constantly on his feet in order to follow the market. It is a rush from post to post, according to the orders he has to execute, and he keeps track of his market through the specialists who take their stand at the posts assigned to the various securities.

Stock Exchange memberships began to increase in value when a limit was set on the membership. This was originally 500, and it was reluctantly increased from time to time until 1920, when a final limit was established at 1,100. In that year the membership numbered 1,055. It was then decided to raise the limit to 1,100, and fix it permanently at that figure. In order to do this forty-five seats were sold, and they brought \$17,000 each. This price represented an advance since 1871 of \$14,250.

In the boom of 1882 seats sold as high as \$32,500, but in the panic of 1884 they sold as low as \$18,000. The following year, however, a new high record was made at \$34,000, and also for many years was the record price. When the panic of 1893 came a number of members were forced to sell their seats, and the price fell as low as \$15,250.

The Exchange is opened every business day at 9:50, but no business can be transacted until 10 o'clock, when the chairman, who occupies a seat upon the rostrum, announces the opening. It is the duty of the chairman to open and close the Exchange, give order, and make all announcements, such as deaths, insolvencies, etc. He also buys and sells stock "under the rule"—that is, when a member is unable to make good on his own stocks are bought or sold for his account by the chairman. There are five hours of trading. The Exchange closes promptly at 3. Orders can be made after that hour. A fee of \$50 is imposed on a member who makes any transaction in stocks or bonds listed or quoted in the Exchange, after that hour or before 9 a. m. in the Exchange or publicly elsewhere.

As soon as the sound of the chairman's gavel is heard at the opening a host of voices is raised. The opening is usually active, as orders accumulate overnight. To the speaker in the gallery everything is apparently noise and confusion. Here is business he would say, without any system. If he did not know he was in the Exchange, he might suppose that by accident he had entered a lunatic asylum. He sees men rush wildly into a group, with violent gestures and raised voices, push and struggle and shout, all apparently to no purpose. But now and then he will observe some one to leave the group and quietly make a memorandum on a pad.

Cold From Sympathy.

Coldness of feet and limbs is almost invariably an evidence of indigestion. The coldness is due not to the weakness of the heart or feebleness of circulation, as is generally supposed, but to the contraction of the small arteries, preventing blood from entering the parts. There is generally an irritation of the abdominal sympathetic nerve centres which control the circulation of the lower extremities. This difficulty is not to be removed by exercise or by any special application to the limbs, but by removal of the causes of irritation. This may be a prolapsed stomach, or chronic indigestion. Hot and cold footbaths are valuable. These are not simply on the feet and limbs, but by reflex action affect beneficially the abdominal sympathetic centres, which are in a diseased condition.

WATERING THE DESERT

Engineering Feats Planned for Western Australia.

WHAT WATER SELLS FOR

The Gold Mining Region of Coolgardie Supplied With Water at a Cost of \$14,000,000—The System to be Repeated to Irrigate Other Waterless Regions.

It is expected that the next few years will witness the development of the most remarkable system of water carrying in western Australia that has ever been seen. The plan is to repair, again and again, the successful engineering work that is now supply the great gold mining region of Coolgardie, far out in the desert of the interior, with plenty of water brought from the coast mountains, 325 miles away.

This western Australia desert contains perhaps the largest waterless regions in the world. When David W. Carnegie made his second journey across it, several years ago, he travelled 800 miles without finding anything that suggested a permanent source of water.

For many days he saw nothing but prickly spinifex covering the sand ridges, which were forty to fifty feet in height and extended east and west parallel with one another. He wrote that he crossed more than eighty of the sand ridges in eight hours' travel.

Under repellant sands lie the great gold resources of western Australia that are now supplying more of the metal every year than all the rest of the commonwealth. When the wish of miners to this great thirst region began, the eager search and the frantic strife for water was sometimes tragical.

The government sought for underground sources of supply, but most of this water was found to be so impregnated with salts that it was unfit for use. Engineers finally devised a plan of water delivery from the western coast mountains, about twenty miles to the south of Perth, which involved the largest pumping scheme that has yet been carried into operation in any part of the world.

The works were completed only a few years ago and they are attracting all the more attention because the population that is paying \$14,000,000 for them is still quite small.

The amount of rainfall in the basin of the Helena river, which flows through the Canning Hills south of Perth, is about 30 inches a year. It was found that by impounding this river a supply of 5,000,000 gallons a day would be available for transportation into the interior.

The problem was to transport this water a distance of 350 miles, for it was proposed to extend the aqueduct to the Kalgoorlie diggings, east of Coolgardie, and this has been done. Mundaring, the place where the Helena river was dammed, is only about 200 feet above the sea, but the surface of the desert to which the water was to be carried is about 1,650 above sea level, so the water was not only to be transported as far as from New York city to Lake Erie, but to be lifted during the process about 1,300 feet.

There are eight pumping stations, a little more than forty miles apart, and the water is kept moving up the long but very gentle incline. It finally reaches a reservoir many miles west of Coolgardie, and from this point gravitation takes it to the 45,000 inhabitants of the Coolgardie mining camps and to the Kalgoorlie region beyond.

This water is sold out there in the desert at a comparatively small price considering that interest must be paid on the money borrowed to develop the works. It sells for about 75 cents a thousand gallons, and it supplies not only those distant mining camps, but also some twenty or thirty settlements on the way to them; small pipes carry water to stockmen or villages miles away from the main line.

Up to this time the consumers have been able to obtain all the water desired of the very best quality and at all times of the year. Stockmen along the route who had supplied their animals from scanty wells that might run dry at any time have lost this fear for the pipe line is an unending source of good fresh water at all times.

There has been no interruption of the flow on account of accident to the pumps, because extra pumps are installed at every station for use in case of need.

It is to give the widest possible application to this great idea whose practicability has been so thoroughly demonstrated that the people of western Australia are now turning their attention. The rivers do not come from far in the interior, for the rainfall is too small to have much surface flow.

But nearer the coast the precipitation is quite large, and engineers are now working on plans for saving all of this water that can be collected and sending it out through pipes far into the interior, not only to supply mines, but also to give life to many thousands of acres of farm and grazing lands, so that the agricultural and grazing industries may be far more widely extended over the country than was formerly thought possible.

CONSTRUCTING A BALLOON.

Doctor Julian Thomas Gives an Interesting Account.

It may interest the reader to hear something about the construction of a big modern balloon and its equipment, says Dr. Thomas in Appleton's Magazine. It is made of what is known as balloon cloth, which sometimes is of silk and is sewn in small sections of about a yard square, so that if one of the sections should burst the whole balloon would not collapse and destroy the aeronaut.

At the top of the bag is the valve to let the gas out when one wishes to descend. A rope for opening it runs from this valve through the center of the balloon to the operator in the basket. The balloon is filled through the neck, and this is left always open, so that when the gas expands from the heat of the sun or the lesser pressure of high altitudes, the gas may escape and not burst the envelope.

As soon as the balloon is sewn together it is blown full of air and given three coats of varnish. Each coat must be allowed to dry thoroughly before the next is applied, or else they would never become perfectly dry and the balloon would be likely to be destroyed at any minute from spontaneous combustion.

This spontaneous combustion is not a burning in flame, but a kind of exceedingly quick dry rot. I myself have lost three balloons through it. Once, in my factory we were looking at a beauty when some one snuffed the air and remarked: "Thomas's balloon is gone," and so it proved to be. Five minutes saw it destroyed—rotten so that you could poke your finger through it.

Sometimes the balloon is so affected in only a few sections, and a man may make an ascension thinking his balloon is all right. Protected by the fine netting which envelopes the balloon itself he may even get up to some height before discovering his danger. In former times there were many fatal accidents from this cause.

When a balloon is packed tight or some other powder is sprinkled over the folds to keep them from adhering to each other. If this is neglected the balloon will be ruined, especially in hot weather.

As I said, a fine netting covers the balloon proper, both to strengthen it and to carry the weight of the basket and its contents. All the strands of the netting come together in the concentrating ring, just above the basket in which the aeronaut stands. The anchor and guide rope, as well as the basket, are fastened to this concentrating ring.

All modern balloons, besides the valve, have a rip cord, fastened to a long patch sewn in the envelope, by means of which the balloon can be cut open and brought to the earth instantly. This is never used except in cases of extreme emergency and when the basket is within ten or fifteen feet of the ground.

The first cost of ballooning is smaller than that of automobiling, but each ascension costs about \$300. The delights of the sport are so intense that in the reaction after they are over the earth seems tame and not worth while. One has almost to become acclimated to descending from the high altitudes; for a week after an ascension I have no appetite and am depressed. Incidentally I should not recommend ballooning to a person of weak heart or nerves.

When one leaves the earth the impressions come so fast that one can hardly differentiate them. They produce a kaleidoscope effect. A man must stop and concentrate his mind on certain special sensations, or else on returning to earth he will find that he has no sensation in particular to tell about.

There is the impression of the crowd of people shouting and waving their hands. Before you realize it they have vanished as individuals. The earth sinks from you; the houses become tiny boxes, the streets lines, and large rivers appear brooks that you could easily jump across.

The lakes are pools, and marshland seems solid. Forests become smooth like pasture land. Railroad trains are like crawling worms and all the earth sounds eventually cease. At one or two thousand feet you pass the dust line, which is as clearly marked as the line between water and air.

As high as two thousand feet there are still frequently seen butterflies, mosquitoes and other insects. Remarkably beautiful effects of clouds are seen from the balloon. They often seem like snow banks, and their edges are always bluish like water and ever give the aeronaut the sensation of approaching the ocean.

When in the clouds you can see only the basket and its occupants; and suddenly pass out of them to find that you are driving straight into a mountain peak, as we did once. If you stay in the fog there is nothing to warn you of such danger except the roaring of the wind in the tree tops, and a quick casting out of ballast may be necessary to save you from balloon wreck on the crags.

Masterpiece of Peter Palooko.

On a poster of the usual size shown at the Bucharest Exhibition is written the Bulgarian constitution in full, the opening speeches of various European parliaments and two poems by Rudyard Kipling—12,000 words in all. The calligraphist, Peter Palooko of Sofia, spent nine hours a day during three months to accomplish the feat.

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