

Correspondence.

Maple Tree Insects.

To the Editor of the Scientific American:

My attention was called to the number of insects on our village maples, which indicated that they were dying. I at once cut a stick and inclose it to you, to ask, if it be worthy your notice, to give it a description in your paper, and what, if anything known, is a remedy for the pest, for pest it most assuredly is.

Some of the maples are covered with them just as is the small piece of twig I send, and some of the trees are dying. Can we get rid of the pest? I remain, respectfully,

P. H. CUTLER.

Louisa Court House, Va., May, 1884.

[The twig accompanying the above letter was covered with the males of the common cottony bark louse of the maple (*Pulegnaria innumerabilis* Rathvon). This species is common all over the country on maple, sycamore, and osage orange. A closely allied species is found on the grape, which may possibly be identical with this. A very complete paper on this species was written by the late J. Duncan Putnam, and published in the first volume of the Proceedings of the Davenport Academy of Sciences. A short account with figures will be found in the Annual Report of the Department of Agriculture for 1880. As to remedies, nothing better can be recommended than the kerosene emulsion, the formula for which has already been given in the columns of the SCIENTIFIC AMERICAN. It should be well diluted and thrown over the tree in as fine a spray as possible.—C. V. RILEY.]

A Mysterious Explosion.

To the Editor of the Scientific American:

As an old subscriber I would like to inquire of you whether I have discovered something new, or what I did make. While experimenting to make a poisonless silver wash, I mixed the following articles: One part chloride of silver, twelve parts of lye of potash (which was the result of common, only dissolved by air), and the same amount (by measure) of aqua ammonia. I left that mixture stand for eight days, and then, by stirring the mixture, an awful explosion took place, and where the matter spread about, after becoming dry, and some time after, through brushing or rubbing of the spots it produced a noise like an electric spark.

J. E. F.

Washington, D. C., May 5, 1884.

[J. E. F. has rediscovered Berthollet's fulminate of silver, which has been described in the larger treatises on chemistry for about a century. It is one of the most violent and intractable of explosives; when dry, the gentlest friction of a feather may set it off. No practical use has been found for it, and many distressing accidents have resulted from handling it. It is produced by digesting precipitated oxide of silver with ammonia. In J. E. F.'s case the oxide of silver was a product of the action of the lye on the chloride of silver.—ED. S. A.]

Cure of Wens by Ether.

M. Vidal cures wens by injecting them with ether. Used for this purpose, ether acts as a caustic—but much more mildly than is generally the case—by setting up inflammation of the cystic contents, and finally inducing suppuration of the cyst itself. This it effects without producing any of the painful sensations or constitutional symptoms which are caused by throwing it into the circulation as a stimulant of the system at large. Its action is entirely confined to the structure operated upon, in which it gives rise to nothing more than a feeling of tension, if the injection be made too forcibly.

The ether employed should be as pure as possible; that at sixty-five degrees, such as is usually sold in the drug stores, answers very well. It is injected with an ordinary subcutaneous syringe, without the necessity of those precautions which have to be observed in the application of caustic solutions—since it does not corrode the metallic fittings of the instrument, or cause the formation of any deposit which can clog its piston.

As to the number of injections required and the quantity of ether to be introduced at each of them, M. Vidal has found that, for wens of the face or forehead, which are not larger than a hazelnut, no more than five or six drops need be injected at a time. Larger tumors on the scalp may require ten drops, part of which, owing to want of elasticity in the cyst walls, is liable to escape on the withdrawal of the syringe. As a rule, the injections should be suspended so soon as the cyst begins to suppurate.

The number of injections is of greater importance than the quantity introduced. Speaking generally, a wen the size of a hazelnut will require two or three injections of five drops; if as large as a walnut, ten drops must be injected four or five times. The mode of treatment in every other respect will depend entirely upon circumstances as they arise. The little operation is performed as follows: The tumor is grasped by the left hand, so as to put its integument on the stretch, thereby bringing plainly into view the glandular orifices it contains; into the most dilated of these, which is often distinguishable by a fatty scab, the needle of the syringe is inserted perpendicularly. It is then, before making the injection, moved about within the cyst cavity, so as to break up its sebaceous contents, and prepare them for the complete reception of the ether; at the same time, the walls

of the cyst are scraped and here and there lacerated with the needle point, with the object of promoting their final elimination. The succeeding injections are made in the same way and at the same opening. They are stopped as soon as the wen begins to enlarge, becomes reddened and softer, and is the seat of a slightly painful sensation of throbbing or heaviness, which, however, never amounts to a headache. The tumor is now punctured at its base, from which issues a jet of purulent fluid; next, the contents of the cyst are discharged in the form of a whitish mass, resembling vermicelli, and mingled with the shreddy detritus of its walls. When the wen is of average size, this part of the process will be completed in six or eight days. During the ensuing days the integument of the cyst proceeds to suppuration, and is discharged through the same puncture, together with remnants of the internal membrane. As the tumor dwindles, the skin surrounding it gradually contracts, and soon it is represented by a mere core of conjunctival infiltration, which, when the last drop of pus and the last fragment of cyst wall have made their exit, shrinks into a small indurated lump covered with healthy skin, and without any sign of the orifice by which the former mass has been evacuated. This consummation is generally reached between the fifteenth and twentieth days.

The efficacy of M. Vidal's procedure was strikingly exhibited in the case of a man of intemperate habits and debilitated constitution who came under his care in the Hospital St. Louis for an eruptive disease, and who had also been troubled, for five years, with an enormous wen which prevented him from wearing a hat or cap, and from lying on his back or on his left side at night. The incumbrance was completely removed by ten injections of ether. During the treatment the patient suffered no pain; he took no care of himself, often exposing his tumor to the cold, without protective dressing, and in the ward which he occupied there were four erysipelatosus patients. Yet nothing untoward occurred; the region operated on is now perfectly smooth and level with the rest of the scalp, and not the slightest trace of a cicatrix is left to mark the site of the excrescence.—Lermoyez, Bull. Gen. de Therapeutique.

Teaching Animals to Converse.

Sir John Lubbock in a note to *Nature* says: I take the opportunity of stating the progress which my dog "Van" has made, although, owing greatly no doubt to my frequent absences from home, and the little time I can devote to him, this has not been so rapid as I doubt not would otherwise have been the case. Perhaps I may just repeat that the essence of my idea was to have various words, such as "food," "bone," "water," "out," etc., printed on pieces of cardboard, and after some preliminary training, to give the dog anything for which he asked by bringing a card.

I use pieces of cardboard about ten inches long and three inches high, placing a number of them on the floor side by side, so that the dog has several cards to select from, each bearing a different word.

One correspondent has suggested that it would be better to use variously colored cards. This might no doubt render the first steps rather more easy, but, on the other hand, any temporary advantage gained would be at the expense of subsequent difficulty, since the pupil would very likely begin by associating the object with the color rather than with the letters; he would, therefore, as is too often the case with our own children, have the unnecessary labor of unlearning some of his first lessons. At the same time the experiment would have an interest as a test of the condition of the color sense in dogs. Another suggestion has been that, instead of words, pictorial representations should be placed on the cards. This, however, could only be done with material objects, such as "food," "bone," "water," etc., and would not be applicable to such words as "out," "pet me," etc.; nor even as regards the former class do I see that it would present any substantial advantage.

Again, it has been suggested that "Van" is led by scent rather than by sight. He has no doubt an excellent nose, but in this case he is certainly guided by the eye. The cards are all handled by us, and must emit very nearly the same odor. I do not, however, rely on this, but have in use a number of cards bearing the same word. When, for instance, he has brought a card with "food" on it, we do not put down the same identical card, but another with the same word; when he has brought that, a third is put down, and so on. For a single meal, therefore, eight or ten cards will have been used, and it seems clear, therefore, that in selecting them "Van" must be guided by the letters.

When I last wrote I had satisfied myself that he had learnt to regard the bringing of a card as a request, and that he could distinguish a card with the word "food" on it from a plain one, while I believed that he could distinguish between a card with "food" on it and one with "out" on it. I have no doubt that he can distinguish between different words. For instance, when he is hungry he will bring a "food" card time after time until he has had enough, and then he lies down quietly for a nap. Again, when I am going for a walk and invite him to come, he gladly responds by picking up the "out" card and running triumphantly with it before me to the front door. In the same way he knows the "bone" card quite well. As regards water (which I spell phonetically so as not to confuse him unnecessarily) I keep a card always on the floor in my dressing room, and whenever he is thirsty he goes off there, without any suggestion from me, and brings the card with perfect gravity. At the same time he is fond of a game, and if

he is playful or excited will occasionally run about with any card. If through inadvertence he brings a card for something he does not want, when the corresponding object is shown him he seizes the card, takes it back again, and fetches the right one.

No one who has seen him look along a row of cards and select the right one can, I think, doubt that in bringing a card he feels that he is making a request, and that he can not only perfectly distinguish between one word and another, but also associate the word and the object.

I do not for a moment say that "Van" thus shows more intelligence than has been recorded in the case of other dogs, that is not my point; but it does seem to me that this method of instruction opens out a means by which dogs and other animals may be enabled to communicate with us more satisfactorily than hitherto.

I am still continuing my observations, and am now considering the best mode of testing him in very simple arithmetic, but I wish I could induce others to co-operate, for I feel satisfied that the system would well repay more time and attention than I am myself able to give.

Speed of Thought.

Many people have noticed the remarkable quickness of thought in dreaming, how a long story, with many details and extending over a great period of time, will flash through the mind in a few minutes, but they seldom have any means of even approximately measuring the quickness with which they sometimes dream. There is now going the rounds of the press a story purporting to tell the dream of a railway engineer, which, if true, affords a means of measurement, and the story itself has every appearance of being a genuine relation of experience. The engineer had been without sleep and on duty for many hours, and at last fell asleep on his post. Then he dreamed quite an elaborate story of an accident resulting from a confusion of train orders; how he studied over the words of the dispatch, trying to make out their meaning, and then how, his train coming into collision with another, he was thrown into the air and dropped back into his seat in the cab with his hand on the throttle. At that instant consciousness returned, and he found that it was all a dream, and that although his train was traveling at the rate of 45 miles an hour, it had gone only 250 feet while the dream was passing through his mind, this distance being fixed by the position of the train with respect to signal lights on the line. This is the interesting part of the story, for if these measurements are approximately correct, the dream occupied less than four seconds of time.—Ledger.

The Bite of a Mad Dog not always Fatal.

The bite of a mad dog, it would appear, is not so fatal as is generally supposed. A report upon the subject for the Department of the Seine, issued by the Paris Prefecture of Police for the past three years, shows that of one hundred and fifty-six persons bitten by rabid dogs in 1881 eighty died; in 1882, nine out of sixty-seven bitten died; and in 1883, five only out of forty-five. With regard to the treatment of the bite of a rabid animal, the experience of the French doctors shows that the only remedy which can be depended upon to destroy the virus is the prompt application to the wound of cautery by red hot iron. Twenty persons died of hydrophobia in the Department of the Seine in 1881, nine in 1882, and four in 1883, as far as the official returns show. The decreasing number of deaths from this cause is attributed to the stricter measures adopted with regard to ownerless dogs. During the three years mentioned 11,564 stray dogs were captured in Paris and the department, and destroyed.—St. James Gazette.

Turpentine as a Preventive in Infectious Diseases.

The *Medical Record* tells us that H. Vilandt writes in the *Ugeskrift for Laeger*, vol. viii., No. 8, 1883, concerning the value of the oil of turpentine in the treatment and prophylaxis of diphtheria and the exanthematous diseases. He states that he has never seen any of these diseases spread from a sick child to other members of the family when this remedy was employed. In many of his cases no isolation could be attempted, as the mother was the only female in the family, and was obliged to take care of both the sick and the well, continually passing back and forth from one to the other. His method was to pour from twenty to forty drops of a mixture of equal parts of turpentine and carbolic acid into a kettle of water, which was kept simmering over a slow fire, so that the air of the sick room was kept constantly impregnated with the odor of these two substances. He claims also that by this means a favorable influence is exerted upon the exudation in diphtheria, although it is by no means curative of the disease, and should never be relied upon to the exclusion of other remedies.

The Maya Civilization.

With this issue we conclude the series of illustrations and information thereon concerning the ancient Maya civilization of Yucatan, furnished us by Dr. Le Plongeon from his recent explorations in that region. These interesting pictures, showing something of the life of a people living in Central America many centuries ago, and of whose very existence even the world was so long ignorant, have attracted wide attention, and will no doubt contribute materially to stimulating that spirit of investigation which is so prominent a characteristic of the age. Our representations are faithful copies of photographs taken on the spot.