Scientific American

INOCULATING ANIMALS AGAINST DISEASE.

Of recent years practical attempts have been made to use the antitoxin treatment for the prevention of disease in animals of the lower orders, and many domestic pets have been inoculated in order to ward off

the various complaints to which they are peculiarly subject. The laboratories making a business of preparing such serums are now putting up animal antitoxins as a regular thing, and are said to experience no difficulty in disposing of them.

The originators of the idea reasoned, and apparently correctly, that if antitoxins were beneficial to the man, they must be to the dog and cat. The only difference would be in the material of the serum. Mr. George Cugley, who has made animals his life study, began two years or so ago to experiment with antitoxins intended for the lower animals, and he now claims that complete success has attended his efforts.

The method is simply to inject the serum hypodermically into the blood of the animal by means of a needle-pointed syringe. The "vaccination" in the case of a dog or cat does not "take" as it does with human beings. There is no eruption. The serum is injected into the blood, and according to the advocates of this method of treatment, renders the animal immune from the attack of the disease it is intended to fend off.

The greatest demand is said to be for distemper antitoxin. Despite the fact that innumerable distemper cures are advertised, the animal experts know that it is scarcely worth while trying to save a dog when once he has contracted this very common complaint. Animal dealers themselves, notwithstanding the long list of "guaranteed cures" for distemper, have about agreed

that the most satisfactory method of dealing with a dog who has contracted distemper is to put him out of his misery at once, as the difficulty of curing the animal, combined with the immense trouble involved in treating him and the danger of other dogs contracting the disease, makes it poor economy to attempt to save the animal's life.

It is another matter, however, to successfully prevent the contracting of the disease, and this, it is claimed, is now possible by means of the inoculation method. Instead of deliberately exposing the puppies to the danger of contracting distemper in order to have

it over and done with, no matter whether the dog live or die, the owners will now be able to have the animals hypodermically treated with an antitoxin that, it is claimed, has proved efficacious in many cases. In pursuing the investigations, experiments were made in which healthy animals, some inoculated with the serum and the others without it. were confined with dogs afflicted with the disease. In no case did an inoculated animal contract distemper, while those not treated with the antitoxin did so freely. The complaints to which cats are subject are very much the same as those that attack dogs, and the antitoxin has

been adapted

for use in the

feline family. Monkeys and rabbits are also inoculated as a safeguard against various diseases peculiar to the species. A monkey is a delicate little creature, and is subject to many ills. As they are rather valuable pets, it is therefore very desirable to insure the



OLD CLOCK OF THE CITY HALL OF ULM.

animal's life as far as it can be done by inoculation. More important than the prevention of diseases of the common variety in the domestic animals, is a series of experiments now being conducted to determine whether or not there is any means of eliminating the scourge of rabies from the list of evils to which the canine race is subject. Strangely enough, it is a subject on which there is little reliable information, and around which controversy rages. Some medical men declare that there is no such thing as hydrophobia in the human family, and others contend that frequent cases of the disease in human beings result

from mad-dog bites. Regardless of these theories, the prevalence of rabies among dogs is recognized, and earnest work is being done on the problem of procuring a serum that will kill the disease in the canine family. Beginning with the theory that dogs are no

more subject to attacks of rabies in what are known as the "dog days" than at any other time of the year, the investigator argues that the disease does not originate spontaneously, but is communicated only by contagion, extremes of temperature having little to do with its propagation.

In Russia, where the disease is quite prevalent, being spread chiefly by the wolves, it rages most violently after an excessively hard winter. This is thought to be due to the fact that hunger encourages the wolves on such occasions to roam more freely than usual in the inhabited regions in search of food, thus distributing the contagion. Statistics that have been compiled show that apparently just as many persons are bitten by dogs supposedly mad, during the months of April and May, as in the hot months. If this belief that the question is one of contagion is correct, there may be grounds for thinking it possible to find an antitoxin that will kill the germ, and destroy this phantom that causes disquietude in every household in which there is a pet animal. And as animals have been inoculated with a serum making them immune against one complaint, it appears to be only a step to the discovery of an antitoxin that will make hydrophobia a dread of the past in dogdom.

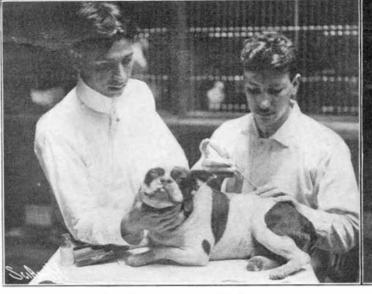
THE ASTRONOMICAL CLOCK OF THE CITY HALL OF ULM.

BY CHARLES A. BRASSLER.

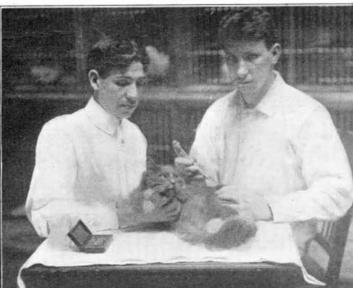
Visitors to Ulm, a city of the olden time, cannot but be struck with its quaint architecture, its crooked streets, and the "go-as-you-please" manner of its busy inhabitants. Almost unconsciously they drift to the business center of the town, where they find the ancient Rathaus situated on one side of a spacious square, raising aloft its high peaked roof and towers. The astronomical clock installed in the eastern end of the old hall is a noteworthy production of the clockmaker's art, and dates from the beginning of the sixteenth century, it having, according to information there obtained, been thoroughly repaired in 1549. At that time there could be found in Ulm no horologist or

competent to undertake the reconstruction of the complicated mechanism. Application to the adjacent towns of Tübingen and Kirchheim were likewise without result. Finally the common council, in 1580, commissioned the most famous German clock-maker of the day, Isak Habrecht, of Strasburg, the builder of the famous clock in the cathedral of that city, to effect the necessary repairs, which he did to the perfect satisfaction of all concerned. On the 12th of April, 1581, so the story goes, he was paid 200 thalers and allowed to leave the city. From an artistic point of view this clock is a masterpiece; it shows not only the passing hours of the day but also the diur-

clock - maker



Giving a Dog an Injection.



Inoculating a Pet Maltese Cat.



Fortifying a Rabbit Against Disease.



Antitoxin for a Monkey.