

tween the various kinds of fleas, any species being typical of the remainder.

It has been proved that hares, rabbits, squirrels, and similar creatures are capable of becoming plague stricken; so that where an unusual death rate is noticed among them by foresters, farmers, and other men who have the chances of observation, suspicion should be aroused, and the authorities be informed of the matter. It could soon be determined whether the animals died of the plague.

A flea does not "bite" in the ordinary way—it punctures or bores the skin and superficial flesh. Beneath its head, almost between its front pair of legs (and generally concealed by these limbs), are a pair of triangular plates, between which depend a marvelous set of minute, yet perfectly modelled weapons. There are a couple of thin knife-like blades, and a divisible rasp with its inner faces deeply grooved throughout their length. Within this rasp, when the halves are united, can be laid a notched piercer. In "biting," a flea probes the flesh with the rasp, and then drives its internal piercer deeper down, meanwhile keeping the puncture open by means of the knife-blades. The rasp serves as a sucker for the blood, which, in comparison, resembles the proportions which would occur if an elephant sucked up a lot of marbles, Spanish nuts, green peas, and so on, contained in a thin syrup. We can only make a crude comparison.

It may perhaps be necessary, for the information of some readers to say that blood is a rich fluid (plasma when in the body; serum when withdrawn) in which float dense multitudes of red, sunk centre, discs or corpuscles, and globular phagocytes, whose duties are the destruction of insidious germs that enter the blood vessels. These phagocytes (which constitute a certain proportion of white corpuscular leucocytes) endeavor to absorb and destroy the germs. If they fail, victory for the microbes means severe illness.

In the case of fleas that have bitten diseased rats, their lancets or puncturing weapons naturally withdraw many of the microbes, and these are quite readily conveyed into the blood stream of the human being who afterwards gets punctured by that flea. That is the most significant point to bear in mind.

Many of the microbes that are disseminated from rats killed by the plague would also adhere to the comparatively formidable claws and bristles terminating each of the six legs of the insect. In this case it would only be necessary for those claws to come into contact with a pin scratch, or other slight wound, to introduce the wretched disease into the system.

Inoculating serum is made with a bouillon culture of the microbes. Blood attacked by germ poison (toxin) develops an anti-toxin or serum, which acts as an antidote. It is because the blood is weak that a fatal result occurs. The principle involved in inoculation serum is that it will induce normal blood to prepare this anti-toxin, so that should germs afterwards get into the blood they cannot multiply, nor cause mischief.

Seeing that a penalty of £100, and a daily fine of £50, may now be inflicted under recently issued orders, for neglecting to report attacks, and for other failures, it will be understood that the scare is a very serious one, and calls for precautions all over the country. A plague-smitten flea can live for three weeks, and can infect anyone during a period of fifteen days after leaving a host—or victim—so that it has plenty of time to get transported miles away, in baggage and clothes, and originate fresh plague spots.

Eating to Live.

Emory J. Haynes says that no doubt man lives to eat. That is, the enjoyment of food is one of the benefactions of nature. The social bond of the hospitable board, the family meal, the dinner of friends is strong to bind us together. The arts have not seemed too esthetic to adorn the noble feast; music, architecture, painting, oratory, literature and every lesser art have lent their graces to meats and drinks.

But for everyday life the diet is a mere means to an end. The end is strength—health and strength perhaps we should say. What we eat gives us power to do or takes away power. Diet is a matter of the utmost importance if we expect to succeed in our calling and to last to any reasonable age. Does the average young man realize this?

Not unless he has trained for a game, or been alarmed by failing health. That there