Lesson 20
Snake poison
蛇毒

First listen and then answer the following question.
听录音，然后回答以下问题。

What are the two different ways in which snake poison acts?

How it came about that snakes manufactured poison is a mystery. Over the periods their saliva, a mild, digestive juice like our own, was converted into a poison that defies analysis even today. It was not forced upon them by the survival competition; they could have caught and lived on prey without using poison, just as the thousands of non-poisonous snakes still do. Poison to a snake is merely a luxury; it enables it to get its food with very little effort, no more effort than one bite. And why only snakes? Cats, for instance, would be greatly helped; no running fights with large, fierce rats or tussles with grown rabbits -- just a bite and no more effort needed. In fact, it would be an assistance to all carnivores though it would be a two-edged weapon when they fought each other. But, of the vertebrates, unpredictable Nature selected only snakes (and one lizard). One wonders saliva into why Nature, with respect from that of others, as other on the blood.

In the conversion of saliva into poison, one might suppose that a fixed process took place. It did not; some snakes manufacture a poison different in every respect from that of others, as different as arsenic is from strychnine, and having different effects. One poison acts on the nerves, the other on the blood.

The makers of the nerve poison include the mambas and the cobras and their venom is called neurotoxic. Vipers (adders) and rattlesnakes manufacture the blood poison, which is known as haemolytic. Both poisons are unpleasant, but by far the more unpleasant is the blood poison. It is said that the nerve poison is the more primitive of the two, that the blood poison is, so to speak, a newer product from an improved formula. Be that as it may, the nerve poison does its business with man far more quickly than the blood poison. This, however, means nothing. Snakes did not acquire their poison for use against man but for use against prey such as rats and mice, and the effects on these of viperine poison is almost immediate.

JOHN CROMPTON The snake

New words and expressions 生词和短语

saliva
n. 唾液

digestive
adj. 助消化的

defy
v. 使不可能

analysis
n. 分析

prey
n. 被捕食的动物

fierce
adj. 凶猛的

tussle
n. 扭打

carnivore
n. 食肉动物
vertebrate
n. 脊椎动物
lizard
n. 蜥蜴
concoct
v. 调制
potency
n. 效力
conversion
n. 转变
arsenic
n. 砒霜
strychnine
n. 马钱子碱
mamba
n. 树眼镜蛇
cobra
n. 眼镜蛇
venom
n. 毒液
neurotoxic
adj. 毒害神经的
viper
n. 蝰蛇
adder
n. 蝮蛇
rattlesnake
n. 响尾蛇
haemolytic
adj. 溶血性的
viperine
adj. 毒蛇

参考译文

蛇是怎样产生毒液的，这是一个谜。蛇的唾液本来和我们人的消化液一样柔和，但经过漫长的时间，演变成了今天仍无法分析清楚的毒液。毒液不是生存竞争强加给它们的，它们也可以不用毒液捕捉动物而生存，就像今天成千上万的无毒蛇那样。毒液对毒蛇来说只不过是一种舒适生存的优越手段，它使蛇不用费多大力气就能捕获到食物，轻咬一口即可。为什么只有蛇才有毒液呢？譬如说，如果猫有毒液，那对猫会大有帮助，它就不必再和又大又凶的老鼠边跑边博斗了，也不必再和大兔子扭斗了，只要咬一口，就不必再费大力气。因此，任何食肉动物有了毒液，都能从中获益。不过，当它们相互撕打时，毒液就成了利弊参半的武，可以杀死对方，也可以被对方的毒液杀死。然而，在脊椎动物中，大自然神秘模测地只选择了蛇（还有一种蜥蜴），人们弄不清楚大自然为什么在某些蛇的身上调制出如此高效的毒液来。

人们可能认为，唾液转变成毒液，其中有固定的程序。其实没有。有些蛇产生的毒液也在各方面与另外一些毒蛇产生的毒液不同，就像砒霜不同于马钱子碱一样。不同毒蛇产生的毒液产生的效果不同，一种毒液作用于神经，另一种毒液作用于血液。

产生神经毒液的蛇有一种非洲树眼镜蛇和眼镜蛇，它们的毒液称为神经毒素。蝰蛇（蝮蛇）和响尾蛇产生血液毒素，称为溶血性毒液。这两种毒液都很可怕，但溶血性毒液尤其厉害。据说，神经毒液在两种毒液中是较为原始的一种，而溶血性毒液，打个比方说，是根据改良配方生产的一种

较新的产品。不过，神经毒辣液比溶血性毒液在人身上起作用快得多。但是，这没有什么关系，因为蛇有毒液不是用来对付人的，而是对付它的猎物，诸如鼠类，毒液对这些猎物会立刻起作用。