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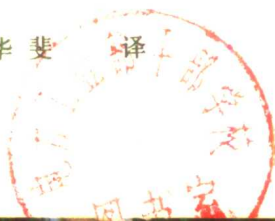
自然科学初级读物

13

ANIMALS AND THEIR YOUNG

动物及其后代

宋华斐 译



科学普及出版社

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自然科学初级读物

**ANIMALS AND
THEIR YOUNG**

动物及其后代

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出 版 说 明

当前，在实现四个现代化的新长征途中，广大青少年正在努力学习现代科学文化知识，为祖国的社会主义建设事业，增长才干，积蓄力量。编译出版《自然科学初级读物》的目的，就是为初学自然科学和英语的读者，提供一套浅近而有趣的参考书籍。

全套读物共有16个选题，细目见各书封底。英语部分采自 FEP INTERNATIONAL PRIVATE LIMITED 出版的 BASIC SCIENCE SERIES（修订版）。

为了便于阅读，对全书重新作了编排，绘制了插图，并附了参考译文。书中还配有相当数量的简单实验，使读者通过实验，加深理解有关科学内容。

由于编者水平所限，错误不当之处在所难免，请批评指正。

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INTRODUCTION

There are many living things in this world. Have you wondered how the young of these living things came into this world? Have you wondered how you were **born**? The way in which new living things are made is called **reproduction**. Kittens, puppies, chicks, calves and babies are the result of reproduction. In this book we shall learn all about how the young of animals are born.

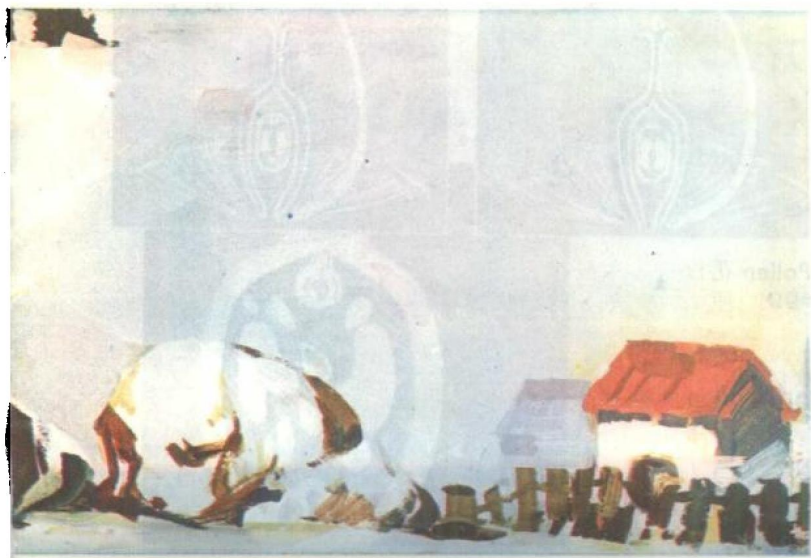


引 言

世界上有许多生物。你是否想知道这些生物的后代是怎样出世的？你是否想知道你是怎样生出来的？产生新的生物的方式叫**生殖**。小猫、小狗、小鸡、牛犊和婴儿都是生殖的结果。在这本书里，我们将要学习动物的后代是怎样出生的全部知识。

Puppies and their mother

小狗及其母狗



THE EGG AND THE SPERM

We have learned that two things are needed to make a new plant — the **egg** and the **pollen**. In animals too, two important things are needed for making a young animal. Like plants, animals produce eggs. Unlike plants, they do not have pollen. Instead animals have **sperms**. Eggs and sperms are therefore important for reproduction in animals.

We know that to have the young of most animals, there needs to be a **mother** and a **father**. The mother is known as the **female** and the father as the **male**. The female animal makes the eggs and the male animal the sperms.



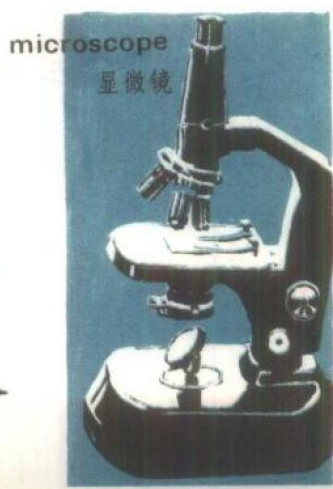
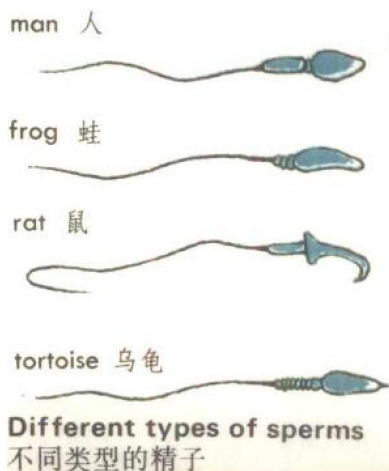
What are eggs and sperms? The egg made by many female animals is quite small, about the size of a pin head. But some eggs are quite large. Think of a hen's egg, or an ostrich egg!

卵 和 精 子

我们已经知道,产生新的植物需要两种东西——卵和花粉。动物也是如此,产生幼仔需要两种重要的东西。与植物相同的是,动物产卵。不同于植物的是,动物不产生花粉,而产生精子。因此,卵和精子在动物的生殖中很重要。

我们知道,产生绝大多数动物的后代,需要有母体和父体。母体叫做雌性,父体叫做雄性。雌性动物产生卵,雄性动物产生精子。

卵和精子是什么呢?许多雌性动物产的卵相当小,大约只有针头那么大,但是有些卵却相当大。想想看,鸡蛋或鸵鸟蛋是多大啊!



The sperm made by the male is very much smaller than the egg of the female. It can only be seen under a **microscope**. A microscope makes very, very small things look big. Sperms look like tiny tadpoles under the microscope. For every egg produced by the female, there are thousands of sperms produced by the male.

The sperms of different animals have different shapes. But all sperms usually have a large head and a long tail. Sperms can swim by moving their tails. They swim towards the eggs.

雄性动物产生的精子比雌性动物产的卵要小得很多。精子只有在显微镜下才能看得见，显微镜使很小、很小的东西看起来变大。精子在显微镜下看起来象小蝌蚪。雌性动物每产生一个卵，与此相比，雄性动物就会产生成千上万个精子。

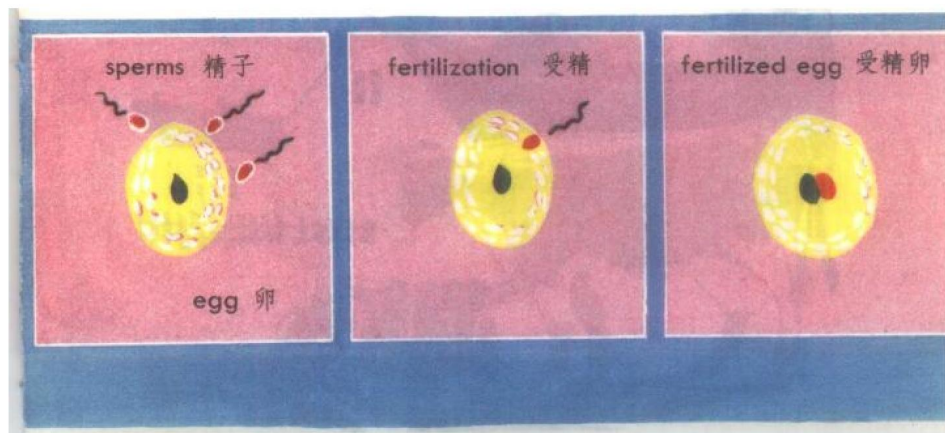
不同的动物其精子形状也不同。但是所有的精子通常都有一个大脑袋和一条长尾巴，精子能摆动尾巴游泳，向卵游去。

HOW A YOUNG ANIMAL IS MADE

Out of the many sperms that swim towards the egg, only one goes into the egg. When the sperm gets into the egg, we say that the egg is **fertilized**. During **fertilization** the egg and sperm join together to form a single **cell**. All plants and animals are made up of millions of tiny parts called cells. It is from a cell that the young animal begins to grow. Many animals, even you, started life from this tiny cell!

动物的后代是怎样产生的

向卵游去的许多精子中，只有一个能进入卵。精子进入卵后，我们就说卵受精了。受精时，卵和精子结合在一起，形成一个单细胞。所有的植物和动物都是由千百万个叫做细胞的小单位组成的。动物的后代就是从细胞开始生长起来的。许多动物的生命，甚至你自己的生命，都是从这个小小细胞开始的！



The cell soon begins to grow or **develop**. It divides into many small cells and looks like a very tiny ball. Finally these cells grow into a young animal with a head, a body, legs and arms. In some ways the young animal is like its mother and in others, like its father. This is because the cell is made up of parts which come from both the mother and father. Look at yourself in the mirror. Who do you look like?

这个细胞很快就开始生长或发育，它分裂成许多小细胞，看起来象非常小的球。最后，这些小细胞长成有头、有躯体、有腿、有臂的小动物。动物的后代，有些地方象它的妈妈，有些地方又象它的爸爸，这是因为组成细胞的成分既来自母亲，又来自父亲。照照镜子看，你象谁呢？





Parents and their young look alike.

父母和子女看上去相像

THE YOUNG OF FISHES

Now we know about eggs and sperms and how young animals are made. Let us study about how the young of fishes are made.

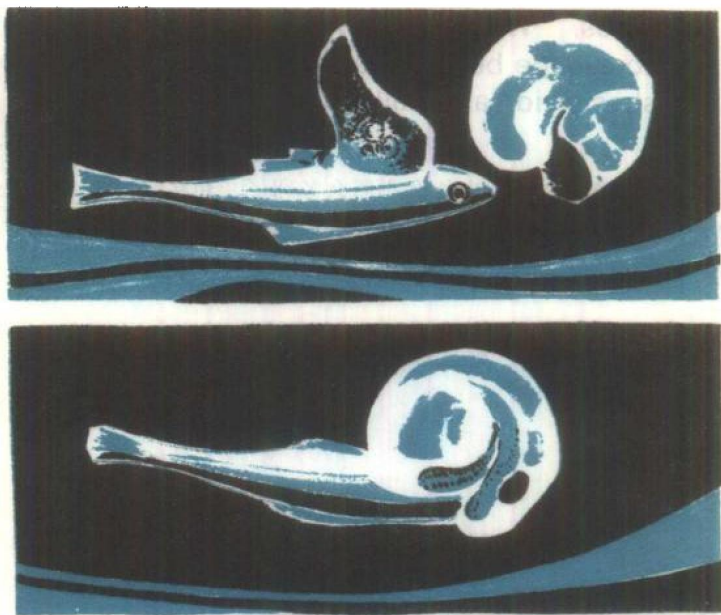
The female fish lays many eggs in the water. The eggs of the fish are tiny and may float in the water. The male fish also lays many sperms near the eggs. The sperms swim towards the eggs. Some of the eggs become fertilized by the sperms. The fertilized eggs grow into small fishes. The little fishes look like their parents but are very much smaller. However, not all these little fishes grow into bigger fishes. Many of them are eaten by big fishes and water insects. Thus, out of the thousands of eggs laid, only a few hundreds get fertilized and grow into baby fishes.



The eggs of some fishes float in the water.
某些鱼的卵飘浮在水中

Fertilized eggs grow into baby fishes.

受精卵发育成鱼苗



鱼 苗

现在我们了解了卵和精子以及动物的后代是怎样产生的。让我们研究一下鱼苗是怎样产生的。

雌鱼在水中产了许多卵，鱼卵很小，能在水中飘浮。雄鱼也在卵附近排出许多精子。精子向卵游去，有些卵由于精子进入而受精。受精卵长成鱼苗，鱼苗看上去很象它们的父母，但小得多。然而，这些鱼苗并不都能长大，许多鱼苗被大鱼及水中的昆虫吃掉了。因此，在产出的成千上万的鱼卵中，只有几百个卵受精，长成幼苗。

Now we know why so many eggs are laid by fishes. It is necessary that many eggs are laid by fishes. The large number helps at least a few to escape being eaten. What would happen if fishes laid a small number of eggs?

现在我们知道鱼为什么产那么多卵了。鱼必须产许多卵，数量多了，至少使一些卵免遭吞食。如果鱼只产少量的卵，那会发生什么情况呢？



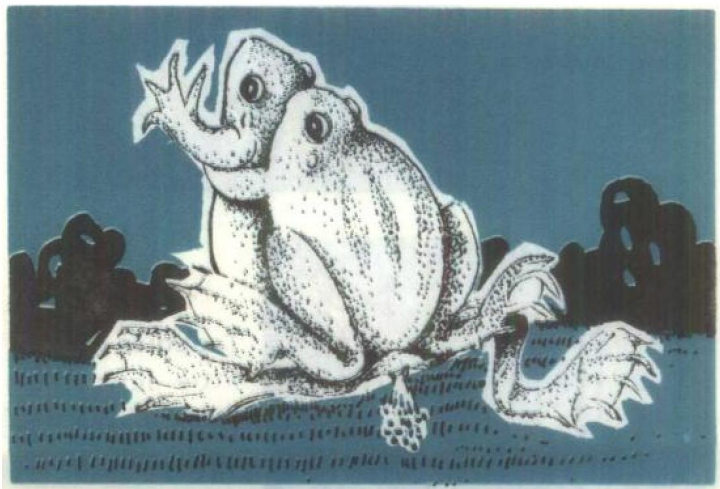
Big fishes eat many baby fishes.
大鱼吃掉许多小鱼

THE YOUNG OF FROGS

Female frogs lay many eggs also, but not as many as fishes. They reproduce in a different way. The male frog sits on the female frog's back. Then while the female frog lays her eggs, the male frog gives out his sperms. Most of the eggs are fertilized. This is because, unlike the fish, the sperms and eggs are laid very, very near one another.

幼 蛙

雌蛙也产许多卵，但不象鱼产的卵那么多。青蛙生殖的方式与鱼类不同。雄蛙趴在雌蛙背上，然后在雌蛙产卵的时候，雄蛙排出精子。大多数卵都受精了，这是因为青蛙和鱼不一样，青蛙产的精子和卵互相挨得很近很近。



The fertilized eggs grow into small **tadpoles**. These tadpoles are not like their parents. Each tadpole is black in colour and has an oval head and a tail. The tail helps it to swim. Many of these tadpoles are eaten by fishes. The tadpoles grow little legs after some time. They lose their tails and move closer to the land. They soon look like their parents, and are able to walk on land. After a few days they begin to live like their parents.

Since many tadpoles are eaten by fishes, it is necessary for frogs to lay many eggs

