

CHAPTER IV

PART I

The Birds and Their Families



THE next step to be taken was the study of the birds. Everywhere could be seen father and mother birds busy making their house for the babes which were soon to come to live with them.

Great fun it was to hunt for nests and count the number each one discovered. First right in Bobby's yard was a young horse chestnut tree and here in this tree Mr and Mrs Thrush had already built their nest or house and were even now waiting for the first egg to come.

Again the children were told that Mrs Bird was more active and more intelligent than Mrs Frog or Toad that altogether she was a *higher* creature than either the flower the fish or the frog that all father birds and all father creatures on up the scale of development use greater care to fertilize the egg than either Mr Buttercup Mr Fish Mr Toad or Mr Frog. For instead of fertilizing it in the water or with the help of the insects or wind the egg of the higher

creatures is fertilized while still in the mother's body

Just like the flowers Mrs Bird has an ovary where the little seeds or eggs are kept. This ovary is attached to a tiny tube and this tube has no separate opening directly out of the body but runs into the intestine very close to the outer opening of the body where the intestines throw off the waste food.

Now these little eggs have been within the Mother Bird's body *always* ever since she herself came out of the egg and they have been growing slowly all the time until a time comes when like the stigma of the pistil (which at a certain time is ripe for fertilization and becomes moist and sticky) they too are ripe for fertilization.

That this time has arrived is shown by many outward signs—such as beautiful plumage and charming songs. Especially in the male bird does this show itself. His whole nature seems bubbling over with the desire to mate and the knowledge that at last he too has developed. For though there are no eggs within his body there is something else there just as important to the creating of new little birds and he feels the time has come when this fertilizing substance is ready to do its work. His color becomes bright even brilliant and his voice becomes

enchancing Thus he tells the world of this glorious happiness

This period is called the mating season—the time when both father and mother birds awaken to the desire of building their nest and creating offspring

The egg has become as developed as Mr Bird alone can make it For like the flower seed the fish and frog egg it needs the fertilizing substance from the father bird to complete its development

As has been said before the father bird knows that there are so few eggs that he and Mrs Bird cannot afford to lose even one so *great very great* care must be taken to fertilize every egg

There is an instinct in all creatures implanted there for millions of years to preserve or perpetuate their species and this instinct shows itself when the father creature like the father bird places himself in such a position that the fertilizing fluid can get into the mother's body as near as possible to the undeveloped eggs And as every atom of this substance is alive it moves on and on until it reaches the egg where it mingles with it and the two different substances have become one Now after the two substances have mingled the egg passes down the little tube on through the opening out of the body into the nest While it is passing

through the tube however it accumulates a food substance called the white of the egg This is not the *living* part of the egg but simply food just as the frog eggs were incased in a soft substance which served as food for the tadpole—so in the yolk is the new baby bird incased within the white of the egg

At the bottom of the tube through which the egg passes to its opening is a fluid which also incases the whole egg and hardens into a shell and it is then ready to go into the little nest

After the fertilization takes place the egg is soon ready to be laid and so the nest must be ready soft and cozy And this is what Mrs Thrush was now waiting for in the nest she and Mr Thrush had built in the horse chestnut tree

But even this was not all For though the eggs were here the new little birds were not yet here And again it was shown that while the frogs and toads left the eggs in the water to care for themselves Mr and Mrs Bird do not and can not do this The eggs must be kept warm almost constantly and so Mrs Bird gathers them close to her warm body and sits on them day after day until they are ready to burst the shell open and come out—the real new birds