

EYES AND NO EYES BOOK 12.

# WITHIN THE DEEP



R. CADWALLADER SMITH

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EYES AND NO EYES  
BOOK 12

WITHIN THE DEEP

BY

R. CADWALLADER SMITH



## PUBLISHER'S NOTE

**W**E at Living Book Press are extremely proud to bring you this release of *Eyes and No Eyes*, originally published by Cassell.

Some of the old images were not of a high enough quality to reprint so we have included many high quality photographs to accompany the text throughout.

Because this book represents a broad overview of the nature we will find around us the images may sometimes be of similar creatures and plants that are native to other regions than the United Kingdom where the story was first set. This is to help children appreciate that many animal families share similar traits and can be found in many parts of the world, some may even be in their own backyard, as well as provide an opportunity for those who can't access the great outdoors to see nature up close.

We hope these new editions bring a lot of joy to your homes, and that they will help children everywhere take a deeper look at the natural world surrounding them.



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INSIDE A SHOAL OF FISH (LEFT)

HERRING

LESSON I

FISH FOR BREAKFAST

OF all the fish in the wide ocean world, the Herring deserves to be called the king. He gives work to thousands of people, and food to millions. Many towns exist because of him; if he failed to visit our seas, these big towns would shrink to tiny villages.

There are several interesting kinds of Herring, but we will first look at the one we know so well, which is such good food, either fresh or as dried “kipper” or “bloaters.”

The Herring loves to swim in a *shoal*. From the time he leaves the egg, during his babyhood, and all through his life, he explores the sea with thousands of other Herrings crowded round him. His name is from a foreign word—*heer* or *herr*, an *army*. His enemies—ourselves among them—find this habit of his a good one. It makes him such easy prey.



#### A SHARK SWIMS THROUGH A SHOAL OF FISH

Here is a dense shoal of fish, moving slowly along near the surface. To catch some is quite easy. The Dolphin, or Shark, or other large fish-hunter, merely has to rush into their ranks with wide-open mouth. Hordes of Dog-fish feast on the edges of the shoal. And Gannets, Cormorants, Gulls and other sea-birds can take their fill with ease.

The Herring shoal is a banquet at which the fish-eating sea creatures feed heartily, and man comes along, to spread his nets in the path of the shoal. But what matter a few million Herrings when the sea is packed with billions more! In the North Sea, one shoal was seen which was over four miles long and two miles wide. In such a mass there would be, at the very least, twenty thousand million Herring; and this shoal was but one out of many thousand shoals. One might as well try to count the grains of sand on the shore as the Herrings in the wide ocean.

These huge shoals do not stay long in one part of the sea. They make journeys of many miles, each shoal seeming to keep to itself. Like every other creature, the Herring goes where his food is. What food does he find? He swallows the small life of the sea, tiny transparent things like baby shrimps, prawns, crabs, and so on, which swarm even in the cold water which the Herring loves.

They are good juicy food, these little mites, and very plentiful; so no wonder the Herring becomes plump. He eats greedily of this good food. For instance, a young Herring, picked up on the beach at Yarmouth, was found to contain no less than one hundred and forty-three small shrimps. Not a bad dinner for a fish the length of this page! The ocean teems with small creatures; even the huge Greenland Whale feeds on them, and the Herring seems to live on little else.

Well, the shoals of Herring begin to move from their feeding place in the deeps, and come nearer the coast. As they get to shallower water they are crowded together near the surface. Where are they going, and why?

Perhaps you can guess—they seek warmer, shallower water, in which to lay their eggs. Now is the time for the fisherman! If the Herring kept to the deep they would be quite safe—and we should have no nice plump Herrings on our breakfast tables! Yes, now is the time to spread out miles of nets in the path of this living mass of silvery fish. They are in fine condition, well fed, and ready to lay their eggs.

They are moving slowly but surely towards the right

place where those eggs should be laid. What guides them? Why do they go *this* way and not *that* in the vast ocean? We do not really know what guides them; so we say that they obey a wonderful, unfailing guide—“instinct.”

Of course you have seen and tasted the “hard” roe of a Herring; but I do not suppose you have ever troubled to count all those little round eggs. Each roe contains some thirty thousand of them! What a huge number of young ones for one Herring! Still, this is not a large family, as fish families go. The Cod lays about nine million eggs!

At last the Herrings reach the breeding grounds that they sought, and the eggs are laid. The eggs of most sea-fish just drift on the surface of the ocean, at the mercy of their enemies, and washing here and there as the current sends them. The Herring’s eggs sink to the bottom and, being rather sticky, adhere wherever they fall.

There they lie in masses, on the bed of the sea, and then guests of all kinds hasten to enjoy such a rare feast of eggs, laid ready for them. One of the first guests is the Haddock. He comes in his thousands, greedy for his part of the good food; but, knowing this, the fishermen also hasten to the spot, and the Haddock pays dearly for his love of Herring eggs.

HERRING SPAWN



Only a few out of each thousand eggs will escape their enemies, and the baby Herrings, which hatch in about a fortnight, run many



A TRAWL NET READY TO BE DROPPED

dangers; thus, in the end, the huge family of Mrs. Herring is reduced to a small one. Even so, there are countless numbers of the tiny fish. They soon grow shining scales, like those of their parents, and move towards the coast.

It is a pretty sight, these little silvery Herrings playing in the shallow water. Millions of them dart about and flash in the sunshine, during the summer months, round our coasts. Sea-birds and other enemies hover round, to feast on the tiny fish. Great numbers of these baby Herrings are caught and sold as “Whitebait.”

The older Herrings, having laid their eggs, leave the shallows, and make their way into deep water. They are no longer nice to eat, and the Herring harvest is over until the following season.

In our talk on flat-fish we shall notice how they are caught, near the bed of the sea, in the *trawl-net*. Now this net is of no use for the capture of Herrings. They swim



#### SARDINES

in the open water, near the surface, and so another kind of trap, the *drift-net*, is used.

Hundreds of vessels sail from our fishing ports when King Herring is about. Each vessel carries a number of drift-nets. These nets are to be let down like a hanging wall, in the path of the shoal, at night. Corks or bladders are fastened to the upper edge of the nets. Of course they are all mended and made ready before the vessels reach the fishing grounds. It is not easy to know where to shoot the nets; all the skill and knowledge of the fisherman are needed to locate the shoals, and, without this knowledge, he would come home with an empty vessel. Even as it is, he sometimes catches no more fish than would fill his hat.

A sharp look-out is kept. An oily gleam in the sea tells the knowing fisherman that the shoal is there; or he may see a Gull swoop down and carry off a Herring. Then the nets are put out in the path of the shoal. A big fleet of fishing vessels may let down a thousand miles of nets!

The Herrings, not seeing the fine wall of net, swim into it. Now the openings in the net—the meshes—are one inch across, just wide enough for the Herring to poke his head through. Once through, he is caught. His gill-

covers prevent him from drawing back again. Thousands of other Herrings are held tight, all around him, and the rest of the shoal scatters for the time being.

When the nets are hauled in, the fisherman beholds a mighty catch, a sight to repay him for all his trouble. On being taken from its watery home each Herring is dead almost at once—"as dead as a Herring."

Then comes the race to the market. Once in port, the vessels are rapidly emptied. Hundreds of thousands of shining, silvery bodies are piled on the quays—a sight worth seeing! An army of packers gets to work; and the fresh fish are soon on the rail, speeding to the great fish markets, on the way to your breakfast table.

The story of the Herring fishery is one of deep interest, and of great importance. Millions of Herrings are caught every year, forming a cheap and good food. Yet there are uncountable numbers left; and there is not the least danger that our nets can ever empty the sea of this wonderful little fish.

The Herring has several smaller relatives, all of them being excellent food for us. The Pilchard is one of them;

A TIGHT SCHOOL OF SARDINES



the Sardine is merely a young Pilchard. Countless myriads of Pilchards visit the Cornish coast; strangely enough, they frequent only this corner of our seas.

Another cousin of the Herring, the Sprat, is also a fine food, and so cheap that poor people can enjoy it. Baby Herrings and baby Sprats are caught in great quantity, and sold under the name of "Whitebait." It was thought, at one time, that the Whitebait was another kind of fish; but Whitebait are really the Herring and Sprat in their baby state.

### EXERCISES

1. Name several enemies of the Herring.
2. Describe the eggs of the Herring, and where they are laid.
3. What is a "drift-net," and how is it used?
4. What is a Sardine? What is a "Whitebait?"

### A HERON EATING A SNACK





PLAICE

LESSON II

THE STORY OF THE FLAT FISH

**Y**OU see fish of many shapes and sizes in the fishmonger's shop; they can be divided into two kinds—round fish and flat fish. Cod, Herring, Mackerel and Salmon are round fish. The flat fish are Plaice, Turbot, Brill, Halibut, Sole, Dab and Flounder.

Most people know the taste, as well as the look, of a Plaice; but few know much about its life in the ocean. Indeed, there are secrets in the life of this fish, and many other fish too, which still puzzle us.

Put a Salmon and a Plaice side by side, and it is plain that they live in very different ways. One is made to dart



#### FLOUNDER

like an arrow, the other to lie flat. One is the shape of a torpedo, the other is flat like a raft. The shape and colour of the Plaice tell their own story of a life on the sandy, pebbly bed of the sea. And look at the eyes! Both are on the upper side of the head! What could be better for a fish that lies flat on the ocean floor?

The Plaice is the best known of these flat fish, so we will try to find how its life is spent in the deep sea.

Have you ever watched those little sailing-vessels which go a-shrimping? They carry a large net—a shrimp-trawl, it is called—which is drawn over the sandy home of the Shrimp. When the trawl is hauled up it may contain not only Shrimps, but the other dwellers in sandy places. Among these, sad to say, is often a mass of baby Plaice and other flat fish. Tiny little fellows they are, some hardly as large as a postage stamp. They are thrown aside, being of no use to the fisherman.

Now these babies are quite flat, darkish on the upper side, white on the other side, like the Plaice you see in the shop. They are not such new babies after all. Though

such wee mites, it is more than six weeks since they left the egg; and, in that time, they have passed through wonderful changes, as you will see.

Plaice lay a great many eggs, which float about in the sea. Most are gobbled up by those sea-creatures—and they are many—who love fish-eggs for dinner. From each remaining egg a baby Plaice escapes. At first it floats upside down at the surface of the sea, and eats nothing at all. Then it rights itself, and begins to swallow the tiny creatures which swarm in sea-water.

Strange to tell, this baby Plaice is not a bit like its mother. It is not a flat fish now, but a “round” fish. It has one eye on each side of its head, and you would expect it to grow up like any other round fish.

For about a month this small, transparent youngster hardly alters. Then it grows deeper in the body, and begins to swim near the bottom of the sea. At last it lies on one side, and its life as a “round” fish is over.

A fish lying thus on its side would have one eye buried in the sand, and quite useless, would it not? But our young Plaice is changing its appearance very quickly. Its head is growing rather “lopsided.” The eye next the sand is, little by little, brought round to the upper side, until it looks up instead of down. Its mouth gets a queer one-sided look, owing to the twisting of the bones in the head.

Many people think that the dark upper part of a flat fish is the back, and the white under part is the stomach. We have seen, however, that this is not so, for *flat fish lie on one side*.

For the rest of its life the Plaice will remain flat, with two eyes looking up, and a twisted head. But its colour alters. The side on which it lies is white; the upper side becomes brown and speckled, dotted over with red marks. This is a good disguise. Its enemies cannot distinguish the Plaice from the pebbles and sand around it. They might swim over it, and yet not see the thin, flat, brownish body pressed down on the bed of the sea.

Also, these flat fish have a wonderful way of changing colour. Put them on light sand, and they become lightish. Put them on dark sand and pebbles, and they soon match it by becoming brown and mottled. This is a most useful dodge where so many enemies abound, all swifter in the water than the slow-swimming flat fish.

If you look for flat fish in an aquarium, you will not easily see them. Now and again one will swim up, with a wavy motion of its body. On settling again, it shuffles and flaps about, works itself into the sand, hiding its edges well under, and then, hey presto! it is gone! If the flat fish are so hard to find in a tank, you may be sure it would be impossible to find them on the sea bed. They are poor swimmers, but perfect hiders.

As far as we can tell, they feed on other living creatures. The ocean floor is a huge dining table for them, where they find very mixed dinners. They eat small fish, sand-worms, shell-fish, Shrimps and young Crabs. The Plaice has strong, blunt teeth in its throat, and is well able to grind up the shells of Cockles and other molluscs, swallowing the juicy contents.

Now we have seen that the Plaice is first a floating egg, and then a tiny transparent “round” fish. It sinks to the sea bed, lies on one side, and becomes a flat fish like its parents.

These little baby flat fish, not much larger than your thumb-nail, crowd in the shallow, sandy parts of the sea near the coast. There they often end their lives in the shrimp-trawl, as we have already noticed.

After leaving this “infants’ school” the Plaice, and other small flat fish, go to deeper water. There they feed and grow fat. Our fishermen know where to find them. Indeed, these special fishing grounds are so well known that flat fish are scarcer than they used to be. Some kinds are much too dear ever to be seen on the poor man’s table.

There is a special net for catching flat fish, called a *trawl*. This is a large net, dragged over the bed of the sea by ropes, or steel wire, attached to the sailing vessel or

BRILL



steam trawler. The net is kept open under water by means of beams or boards.

When the flat fish are disturbed, they rise a foot or two from the sea floor, and are then swept into the gaping mouth of the deadly trawl. Once in, there is no escape. There they remain, pressed together, until the net is hauled up and emptied.

### EXERCISES

1. Give the names of five kinds of flat fish.
2. How does the Plaice escape its enemies in the sea?
3. What is the food of the Plaice?
4. How are flat fish usually caught for the market?

### TURBOT





SEAL

### LESSON III

## SEALS

**T**HERE are many different kinds of Seal; the family is a large one, but all have one thing in common—the fish-like body, with toes joined together by a web. Anyone who has seen the diving power of a Seal, and its wonderful way in the water, will agree that the “flippers” of the Seal are as useful as the fins of the fish.

In fact, the flipper beats the fin, for the Seal earns his dinner by chasing and catching fish. He slips through the water with perfect ease, and seizes the darting fish in their own home. The Seal is nearly always hungry, but so wonderfully quick that his hunting is made easy for him.

It is quite another matter on land, where his best pace is a waddle and a shuffle; but his life is in the wide sea, where he can feed and sleep as easily as other mammals can on land.



#### SEA ELEPHANT

Seals are easily tamed, and soon become fond of their owners. Some fishermen once caught a baby Seal, which they gave to a boy, knowing his love of animals. The strange baby soon made itself at home, and loved to lie in the warmth of the kitchen fire. It knew the voice of its young master, and would follow him like a dog.

The older it grew, the more milk and fish it needed each day. At last, this food was not to be easily obtained, and so the boy had to get rid of his pet. He rowed out to sea, taking the Seal, and let it free in the ocean to fend for itself; but the Seal would not leave him; it swam swiftly round the boat, calling pitifully. Needless to say, it was taken back again, and well cared for.

Seals have even been trained to catch fish for their owners. Being docile by nature, and having larger brains than most animals, they can be taught. Perhaps you have seen Sea-lions performing surprising tricks, showing clearly how intelligent these fish-like creatures really are. The

Sea-lions at the London “Zoo” are not specially trained. But they are clever enough to teach themselves, especially when rewarded by a few extra fish. They know well the voice of their keeper, and clap with their flippers to let him know that feeding-time is near; and in many other amusing ways they prove their intelligence.

You have noticed, perhaps, that these Sea-lions can shuffle along on their hind flippers, which are turned forward under the body. The real Seals, however, cannot do this. Their hind limbs, so wonderful in the water, are merely dragged behind the body on land. “Sealskin” should be called “Sea-lion-skin,” to be exact; for it is the Sea-lions, not the true Seals, which men kill and rob of their lovely warm coats.

The giant of the Seal family is the Sea-elephant; a big lumbering fellow, with a most peculiar nose. Of course

## SEA LION



this gives him his name, though it is not much like the trunk of the real elephant. It is just the baggy skin of his nose, a foot long, which hangs down past his mouth.

When the Sea-elephant is angry or excited, this loose nose of his becomes filled with air, and bulges out. Our picture on page 16 shows you Mr. Sea-elephant, full grown; his wife and children have ordinary seal noses. Perhaps we should say wives, not wife, for he has many.

The Sea-elephants go to wild, lonely islands, and there make their nurseries. Year after year tens of thousands of the big Seals gather, to fight and to rear their young. The clumsy great father Sea-elephants fight terrible battles; and at this time always seem to be in a very bad temper, tearing each other with their tusk-like teeth. Their roaring can be heard far out at sea; but the lady Seals take no part in these combats.

We have no room in this lesson to look at all the other

#### JUVENILE GREY SEAL



kinds of Seals, Sea-lions, Sea-bears and Walrus. As we have already noticed, the sealskin sold in shops is really the skin of a Sea-lion. Sometimes these are called *Eared Seals*, for they possess little ears, while the real Seals have only small holes in the side of the head for ears. Again, there are some Eared Seals whose fur is of no use to us, for it lacks the deep under-fur of the fur Seals.

Nature gave this coat to the Seal to protect him from the cold, but it has caused his destruction! For these animals were killed by the hundred thousand. Worse than this, they were killed in the most cruel manner. Laws have now been made to help protect the poor fur Seal from its merciless hunters. It lives in cold seas where its deep rich coat is a splendid protection. No finer fur is there for keeping out cold and wet; and the skilful furrier can make it into soft garments of great value.

The habits of these Seals are strange indeed. For nine or ten months of the year they wander freely over the open seas. They dive for their food, and sleep calmly amidst the restless heaving of the ocean. This is the happy life of the Seal, though enemies—Sharks, Killer Whales or Grampuses—sometimes snap him up as he sleeps.

Then, in the springtime, there comes a change. The Seals leave the open sea and take to the land. They go to their special breeding-places, or “rookeries,” as they are called. The big “old man” Seals arrive first, and haul themselves on shore. Each chooses a spot for himself among the rocks. He then settles down to defend it; for more and more “old man” Seals come, all eager to own the best