THE WONDER WORLD OF THE

SEASHORE

MARIE NEURATH



A PARRISH COLOUR BOOK FOR CHILDREN



THE WONDER WORLD OF THE SEASHORE

by Marie Neurath

The seashore is not only a glorious playground; it is also a new world for the child to explore. In every pool of water, under every rock, he can find a fish, a plant or a shell he has never seen before. And each, if it is properly told, has a story which will surprise and excite him. In this book he can see and read these wonders.

SOME OF THE CONTENTS: The "flower" that catches and eats a fish – A crab which fights with claws that sting – Little fish live where big ones dare not go – The "plant" where the jellyfish grow – They live in the sea but forget how to swim – Many animals which look like one plant – The hermit crab shares a house with his friend – The father who carries his young in a pouch.

Marie Neurath's pictures are drawn to show each point simply and clearly, step by step – *and nothing else.* The colours are used to make the message clearer; the text states it vividly in words. Together they bring interest, understanding and pleasure to young minds.

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SEASHORE

MARIE NEURATH



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When the Tide Goes Out



What strange living things the sea leaves on the sand! Crabs which seem to walk sideways, starfishes with five arms, and snail-like creatures which live in shells of many shapes and sizes.

The Fiddler Crabs Come Out to Play

American fiddler crabs live together in large numbers, but each has its own burrow under the beach. At high tide, the males (shown bright red) and the females (shown dark red) all stay in their holes, stopping up the entrances with plugs of sand.





At low tide they come out on the beach. The males, which have two claws of very different size, move the larger one to and fro like a fiddler playing a jig, to attract the notice of the females. Some also build small sandcastles. But the females usually pay no attention. One will simply turn her back; another will retreat to her burrow, leaving the male still "fiddling" as she shuts him out. But just now and then a female will let one of the male crabs visit her burrow with her.

The Living Things that Hide in the Sand



If we could see below the beach we should find many strange creatures hiding there. The lugworm eats its way down, leaving little twirls of sand near the entrance to its tunnel. When it burrows forward, sand caves in above its head, forming a tiny hollow in the beach, which gives away the lugworm's hiding place. The cockle digs itself in with its single foot, and feeds through two small tubes which stick up through the sand.



The masked crab uses its long hairy feelers as a pipe leading to the water and air above. The heart urchin is covered with spines, like a tiny hedgehog. He has long, thin tube-feet which reach up through the sand, grip food, and bring it to his mouth. The prawn spends much of its time in the sea, but when in danger it scrambles under the sand almost as fast as a swimmer dives under water.

"Flowers" which are really Worms

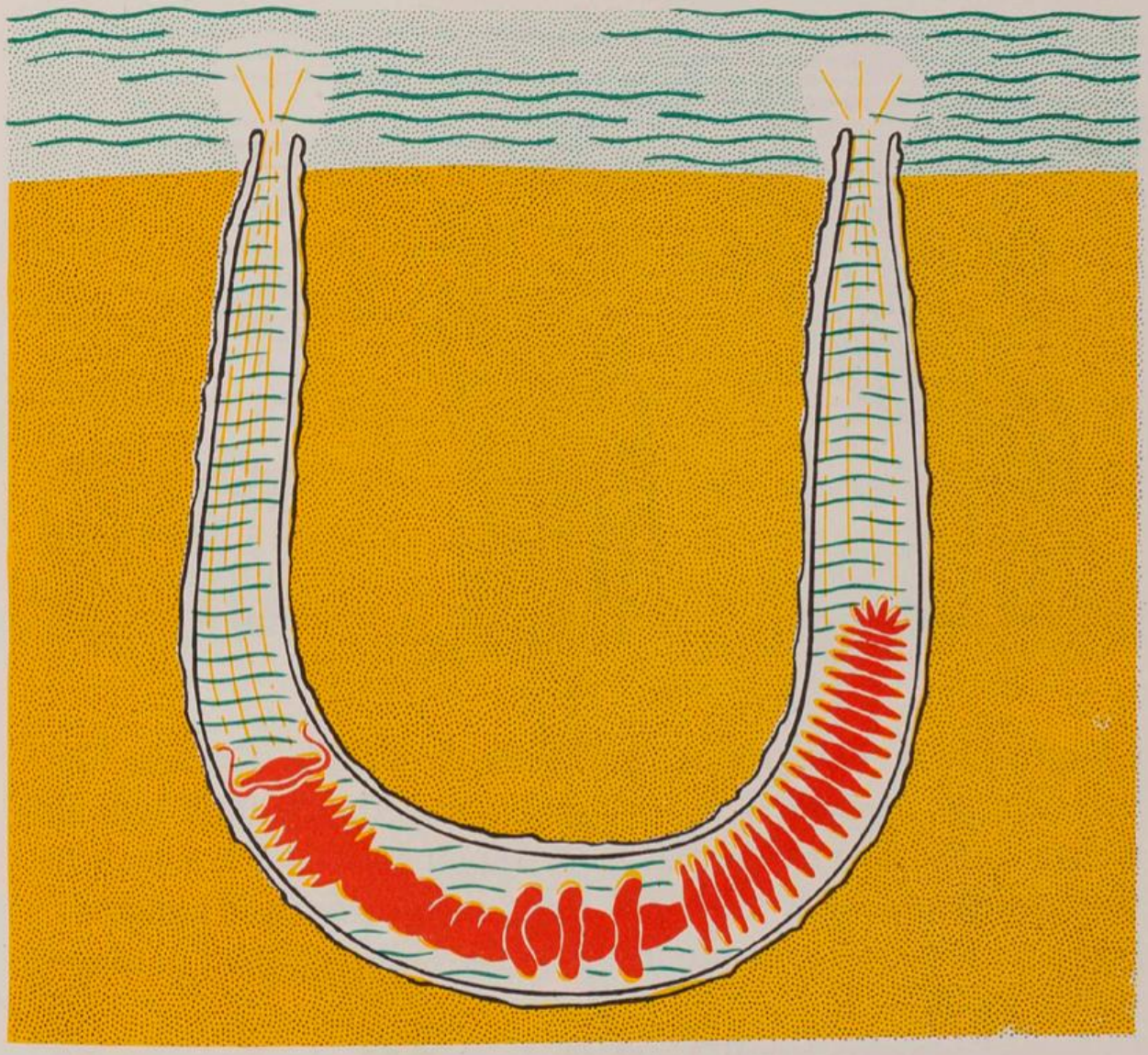
On rocky beaches along many parts of the Atlantic coast you may sometimes find small tubes jutting out of the sand like crooked chimney pots. When the tide covers them, brightly coloured ferns seem to sprout from their tops.



The tubes, made of sand and hardened with slime, are the homes of fan worms and feather worms. The "ferns" are feelers which catch the tiny sea animals and plants that these strange worms feed on.



The Glowing Worm that Lives in the Sand

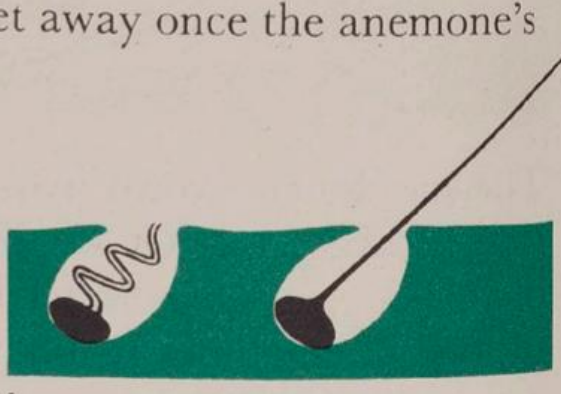


The parchment worm lives all its life in a tunnel in the sand shaped like the letter U. By moving the flaps near the middle of its body, it keeps water flowing along to bring it a supply of food. Sometimes its body glows with light.

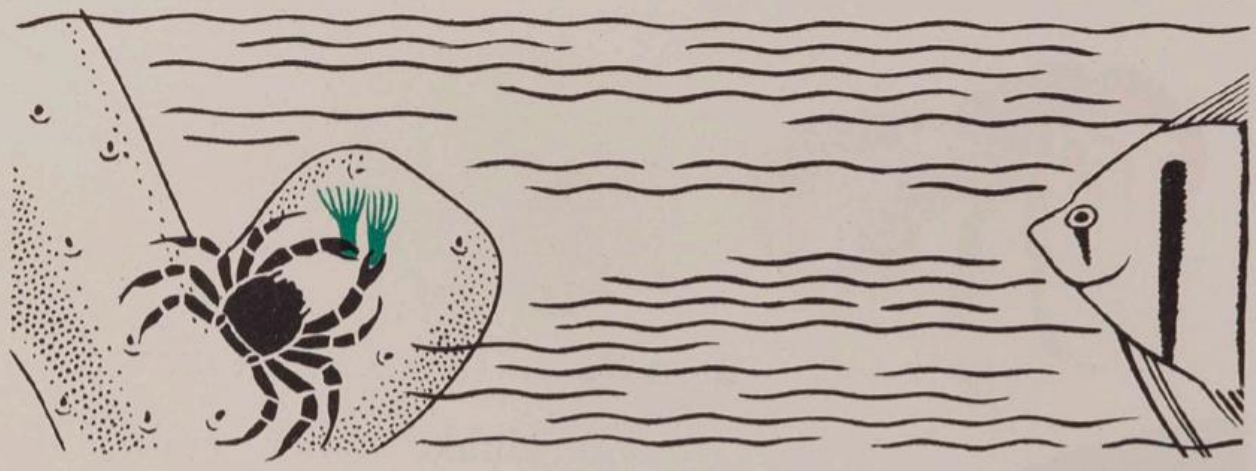
The "Flower" that Catches and Eats a Fish



Clinging to a rock, the sea anemone looks like a flower with hair-like petals. But it is an animal, and the "petals" are the feelers it uses for catching its food. When a small fish swims by, they twine round it and fold right inside the sea anemone's body. It is too late for the fish to get away once the anemone's feelers touch it. In the skin of the feelers there are small bags of poison and coiled-up hollow tubes. The tubes shoot up like needles, piercing the fish's skin and pouring the poison in.



A Crab which Fights with Claws that Sting



This small crab could not defend itself against the angel fish. But in its claws it carries two tiny stinging sea anemones.



The angel fish swims closer, ready to attack the crab. But when the anemones sting, he quickly swims away again.

The Hermit Crab Shares a House with His





Unlike other crabs, the small hermit crab has no hard covering over the hind part of his body. To protect himself, he makes his home in an empty shell which he can carry along. Often a sea anemone clings to the hermit crab's house.

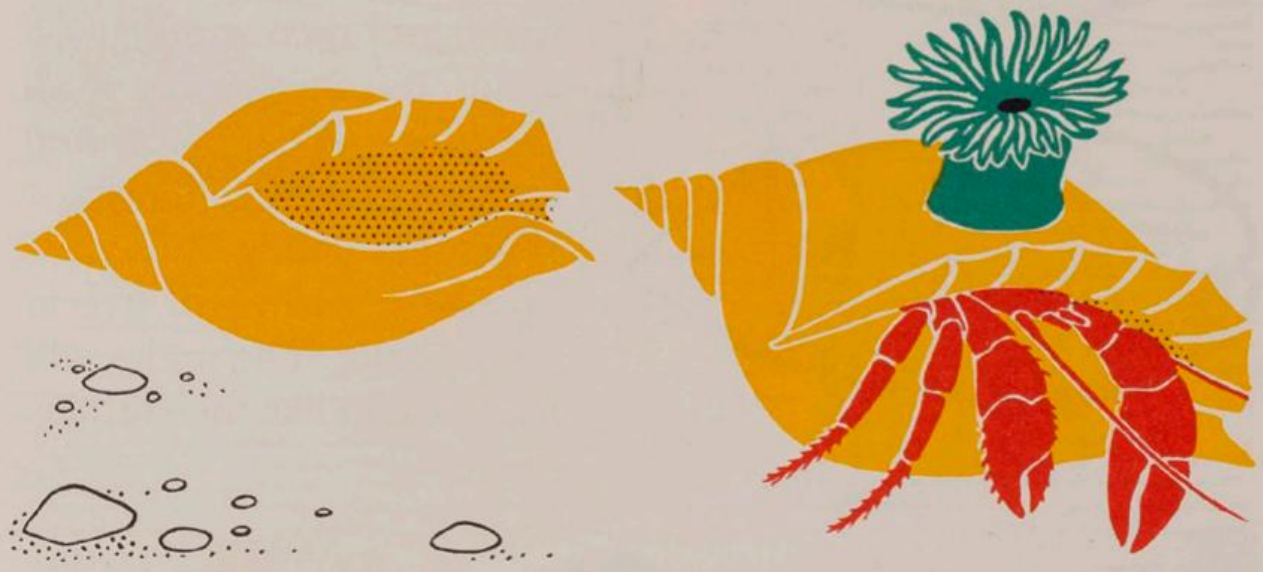


The anemone protects him from hungry fishes, and he lets the anemone share his food.

Friend



As the hermit crab grows bigger he has to find a larger shell. He feels carefully inside it before he begins moving house.

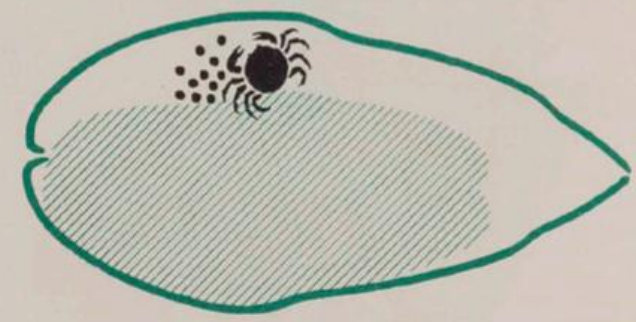


But he and the sea anemone have always gained by living together. When he moves the anemone moves with him.

A Family of Crabs in a Mussel-shell



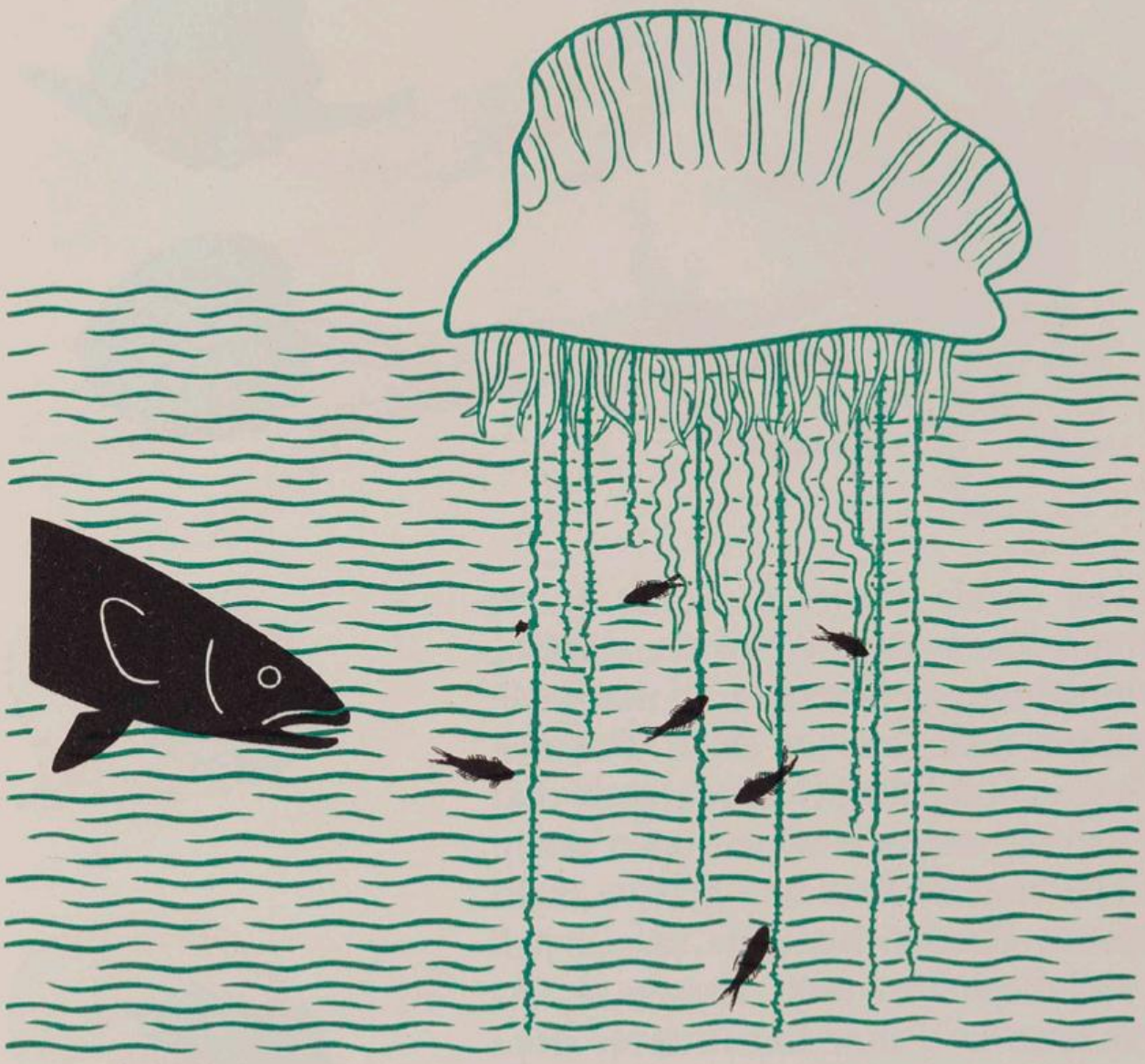




The small male pea-crab roams from one mussel to another. In time he finds one with a female pea-crab living inside its shell and sharing its food. He goes in the shell to visit her for a while and then wanders off again. But she lives there all the time—even laying and hatching her eggs there. When her young ones grow up, the females will live in other shells. The males will roam about like their father.



Little Fish Live where Big Ones Dare Not Go

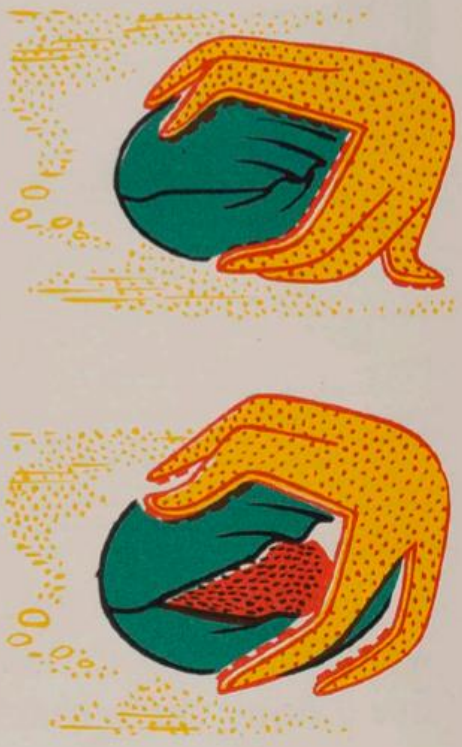


A big fish, caught in the feelers of this Portuguese man-of-war, would be stung to death and eaten. But some kinds of small fish live among the tentacles, swimming about quite unharmed.

The Strong Arms of the Starfish



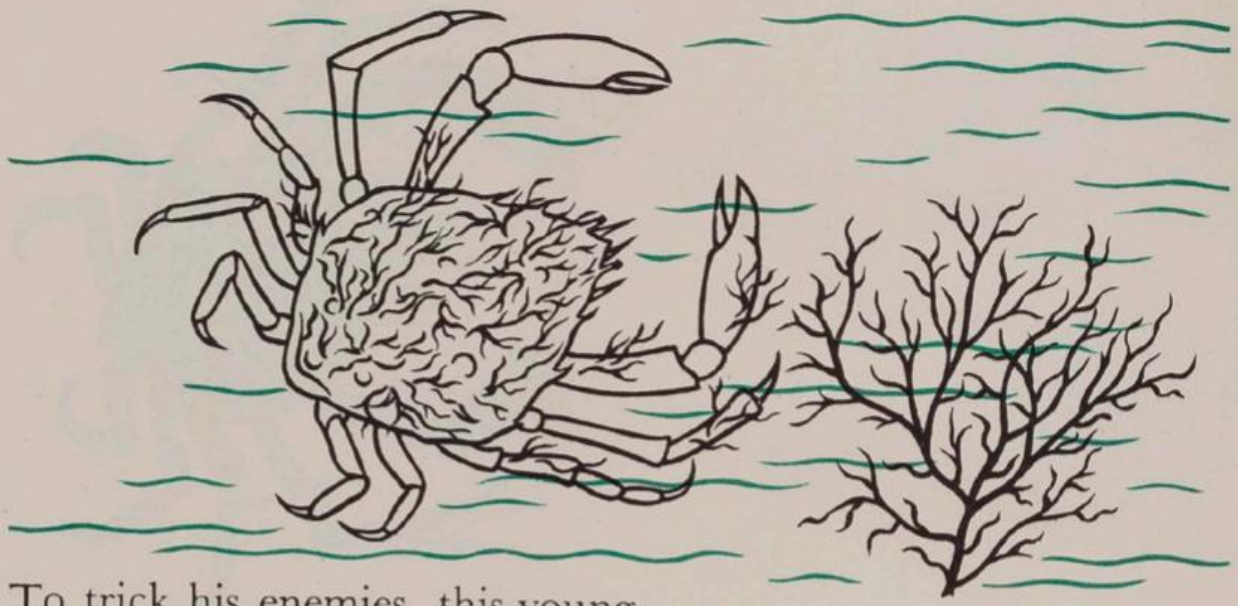
The cockle carries its house on its back like a snail. When the starfish, hunched up, crawls near it, the cockle draws back into its shell. The two halves of the shell close so tightly that a strong man could not open them. The starfish fixes one or two of its arms, edged with suckers, to each half and begins to pull. It rests a few suckers at a time but it never stops pulling. At last the cockle gives way. Its shell snaps open and the starfish has won a meal.



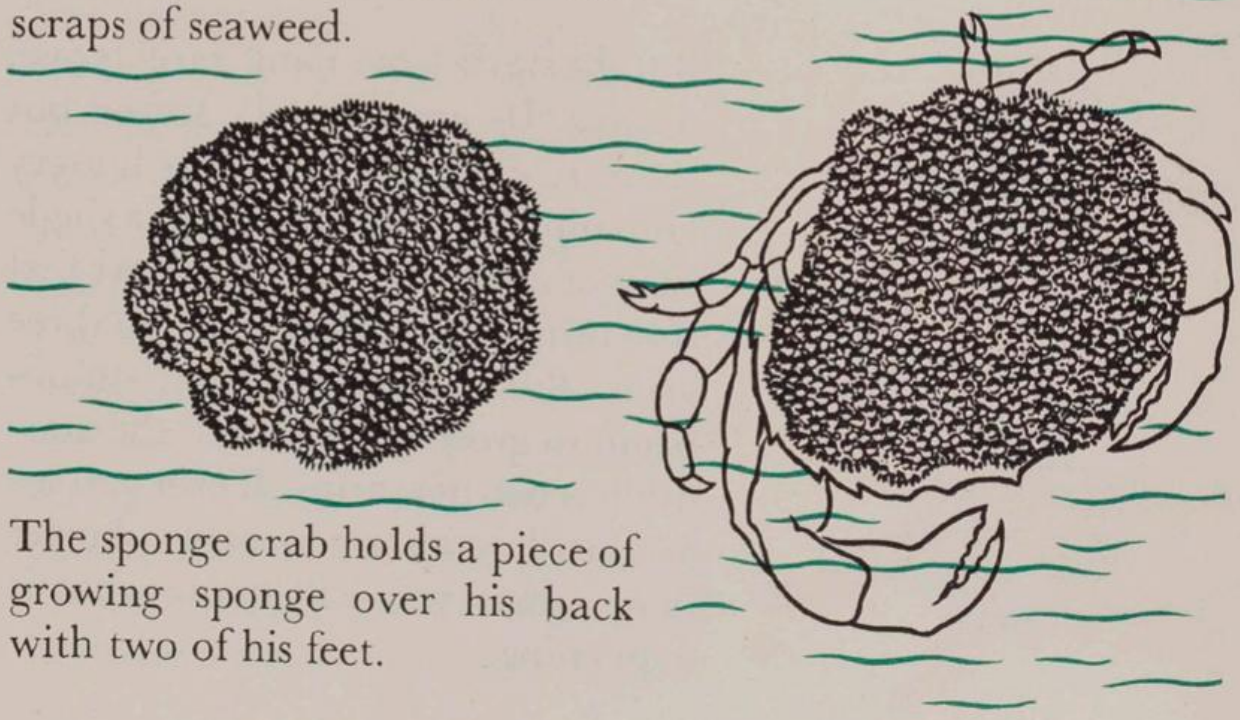


But the starfish has dangers of its own to face. Its arms may be strong but they are easily injured. This hungry crab nips two of them off with a single snap of each of its big claws. At first the starfish drags itself along on three arms. But soon the injured stumps begin to grow, and in time the starfish has two new arms. If ever you see a starfish with some arms shorter than others you will know what is happening.

Cunning Sea-Creatures in Disguise



To trick his enemies, this young spider crab covers himself with scraps of seaweed.

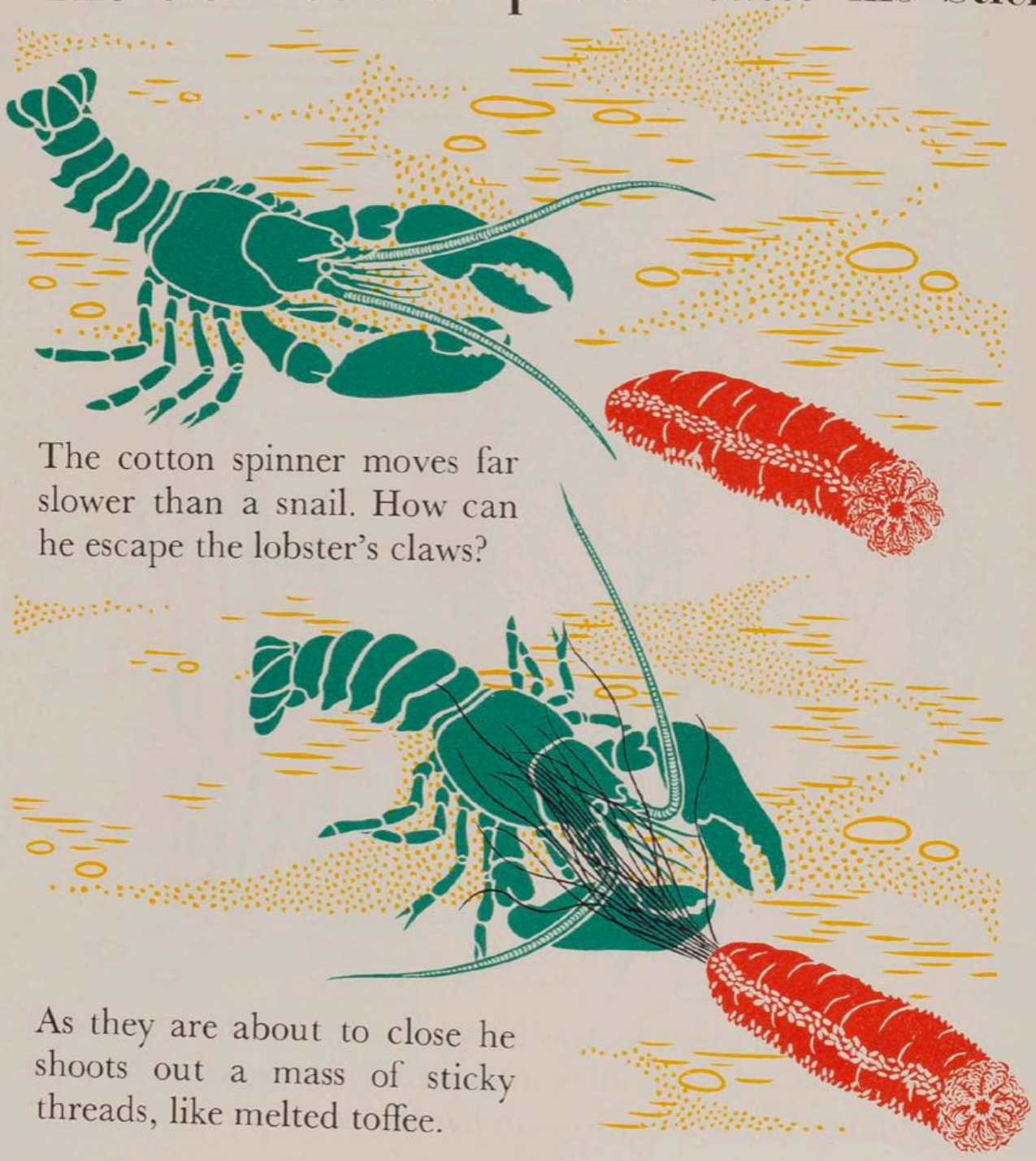


The sponge crab holds a piece of growing sponge over his back with two of his feet.



Australian sea dragons look as if they have grown leaves instead of fins. They could almost be mistaken for seaweed. The pipe fishes, hiding in the eelgrass, can hardly be seen.

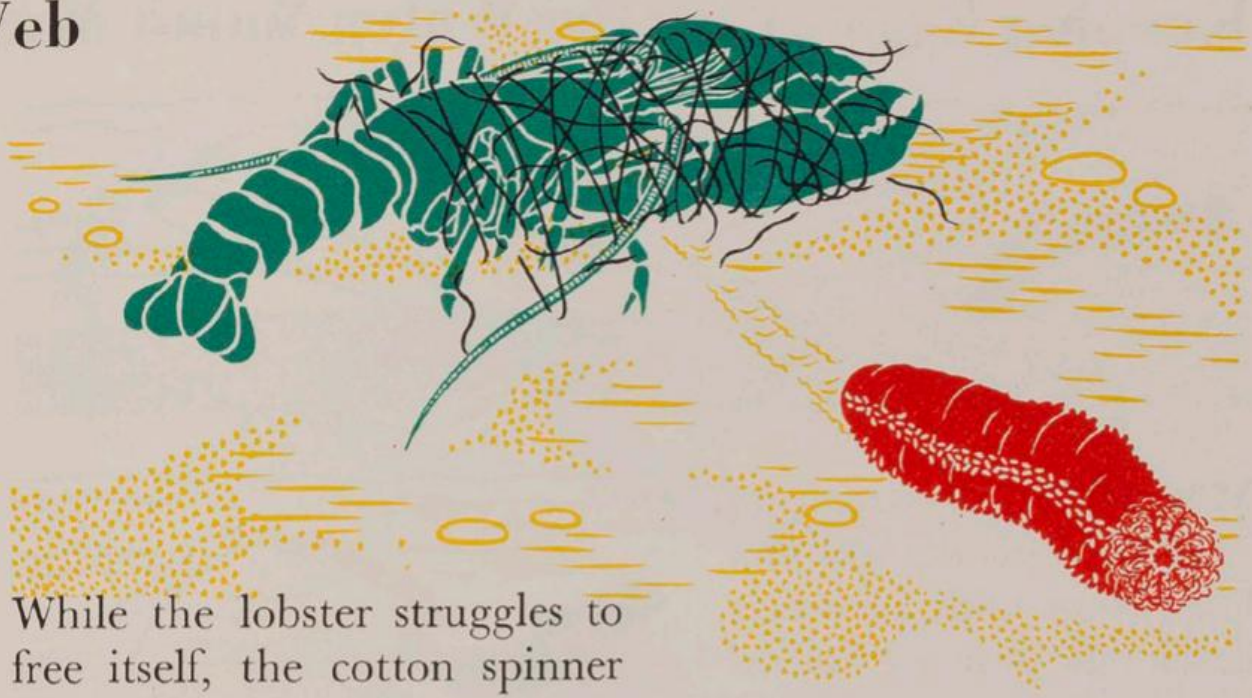
The Slow Cotton Spinner Casts his Sticky



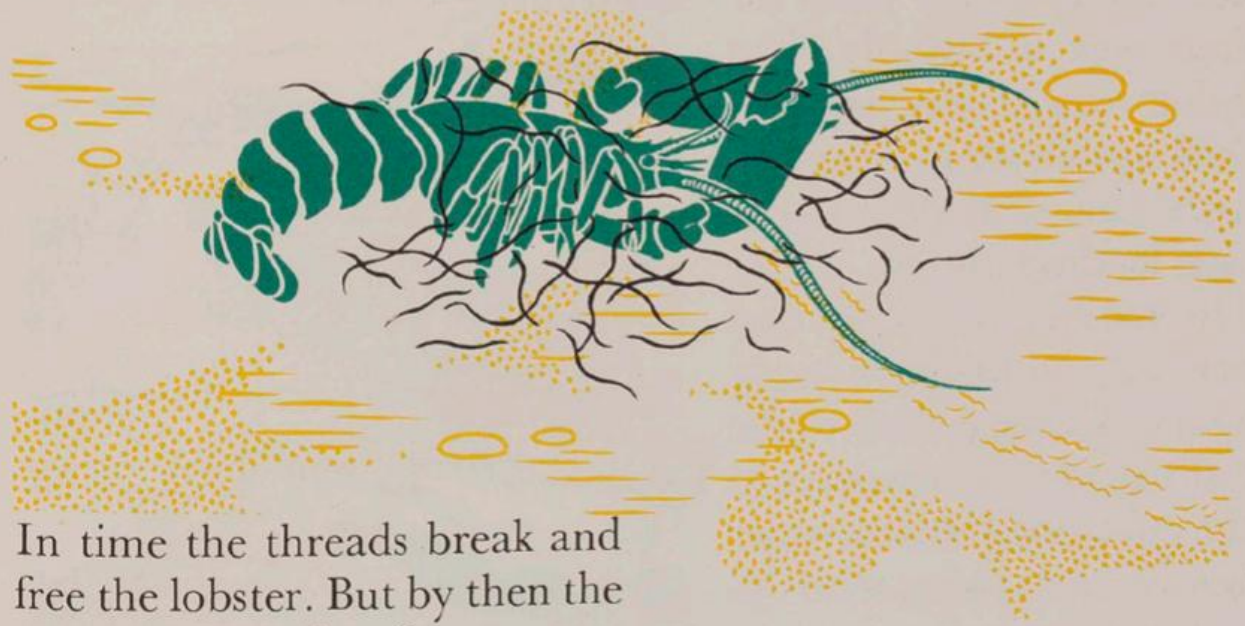
The cotton spinner moves far slower than a snail. How can he escape the lobster's claws?

As they are about to close he shoots out a mass of sticky threads, like melted toffee.

Web

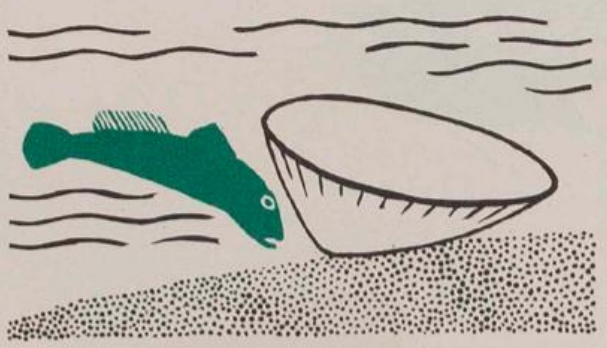


While the lobster struggles to free itself, the cotton spinner crawls slowly away.



In time the threads break and free the lobster. But by then the cotton spinner is safe.

Keeping Eggs where the Water Won't Wash





Most fish lay thousands of eggs, then swim away and leave them. Only a few ever hatch out; most are washed away and destroyed.

But some fishes care for their eggs, as birds do. The father sand goby turns a shell upside down, covers it with sand and digs a passage leading into it.

The mother swims in, lays her eggs and goes away again. The eggs stick to the ceiling, and father stays at the entrance, fanning water gently over them with his tail and fins.







Them Away



The mother and father butterfish make a ball of eggs and place it in an empty shell. Then each parent in turn lies curled up round the ball to protect the eggs.



In spring the mother lumpsucker lays her eggs in a rock crevice and leaves the father to guard them. With his powerful sucker he fastens himself to the rock and stays by the eggs until they hatch out. Bigger fish may attack him, but only the wildest of seas can drive him away.

The Father who Carries His Young in a Pouch



The mother sea-horse lays her eggs in a small pouch at the front of the father's body. He carries them about until the young ones are ready to hatch out. Then, one by one, they leave the pouch as tiny living creatures, swimming about and clinging to bits of seaweed, just as their parents do.

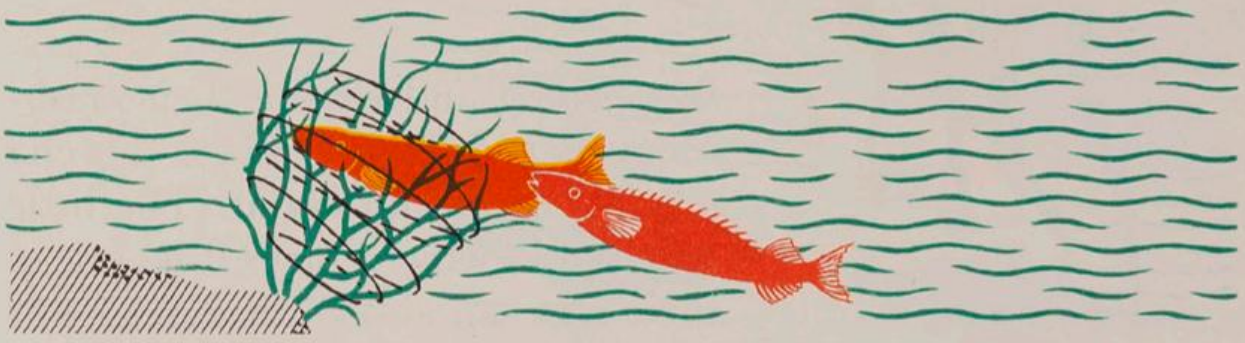




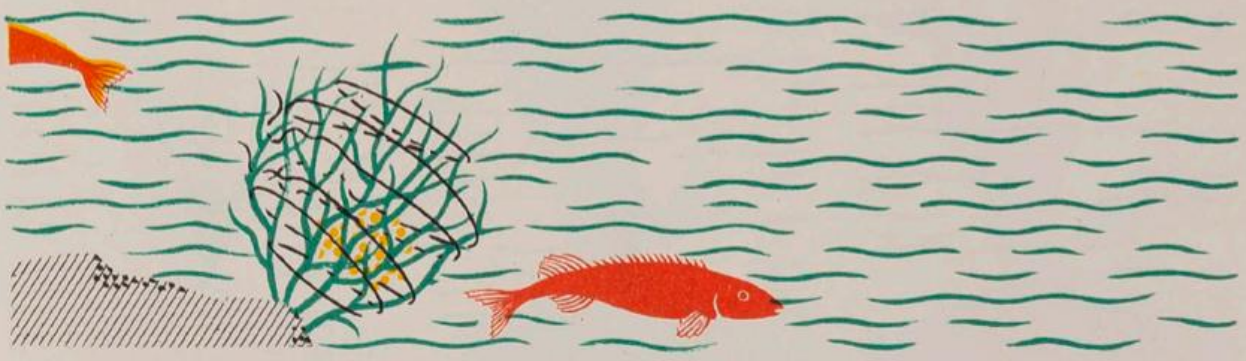
Spinning a Thread to Make a Nest



By spinning a fine thread round and round a piece of growing seaweed, the father sea-stickleback prepares a nest shaped like a pear. Then he looks for a mate.

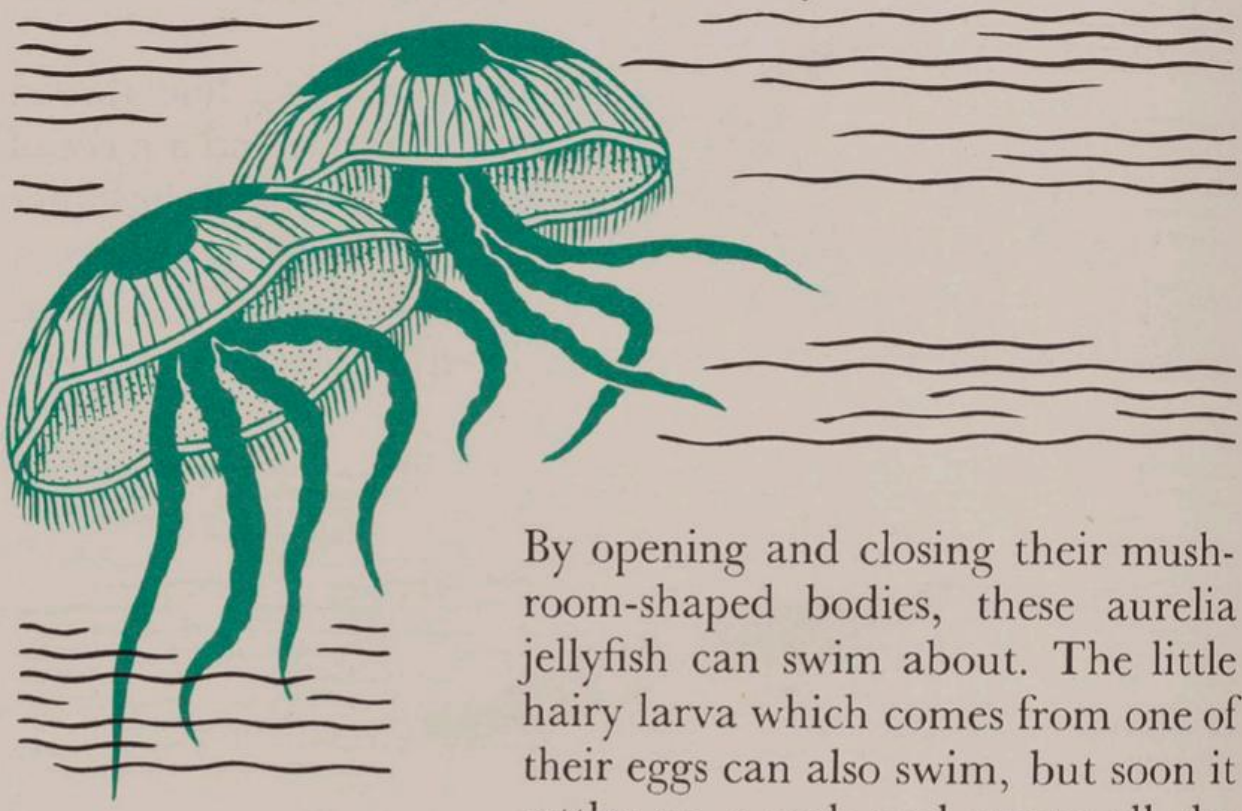


He encourages her to enter the nest and lay her eggs there.



She goes away, but he stays, guarding the eggs until they hatch and moving his fins to keep water flowing through the nest.

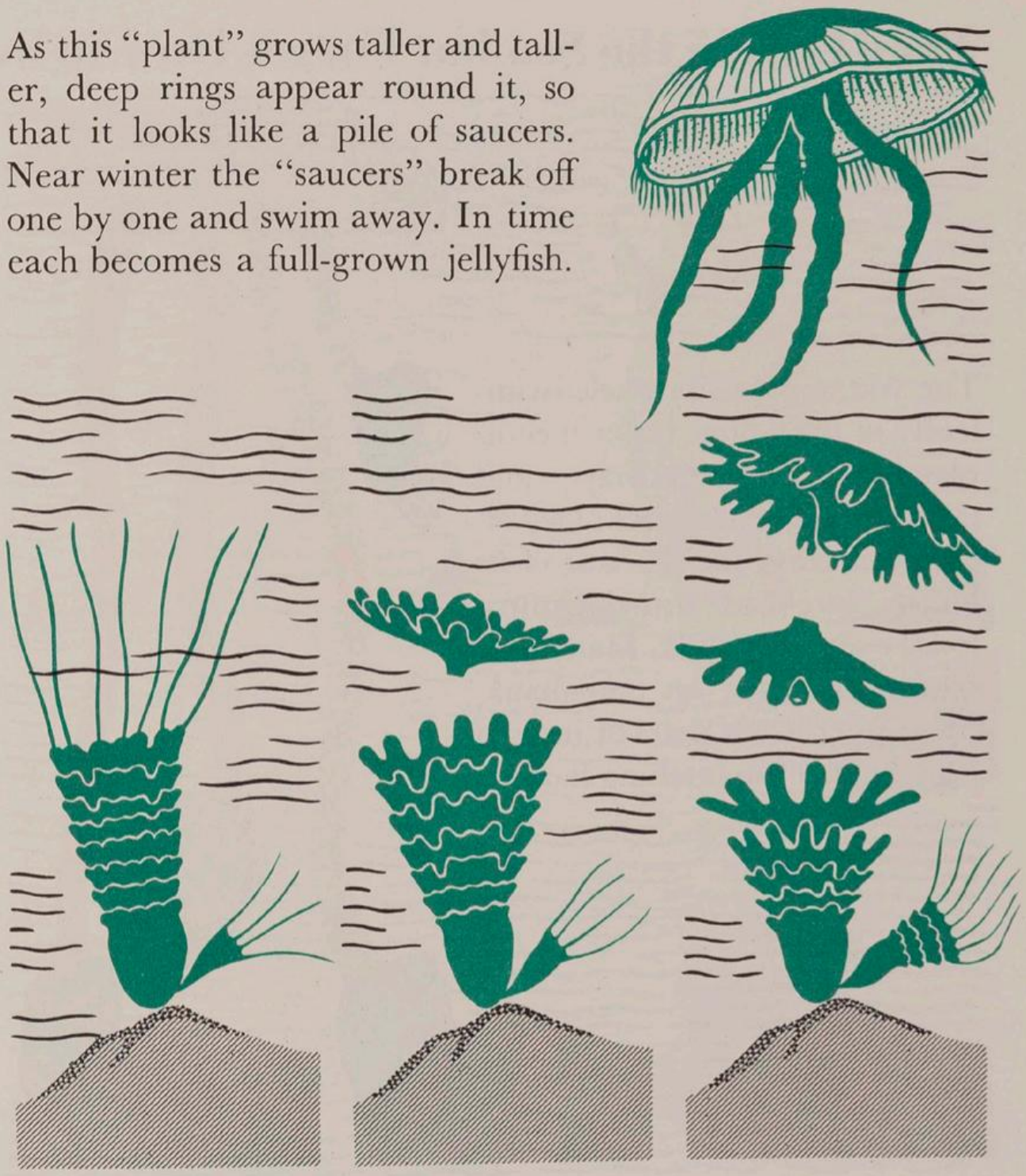
The "Plant" where the Jellyfish Grow



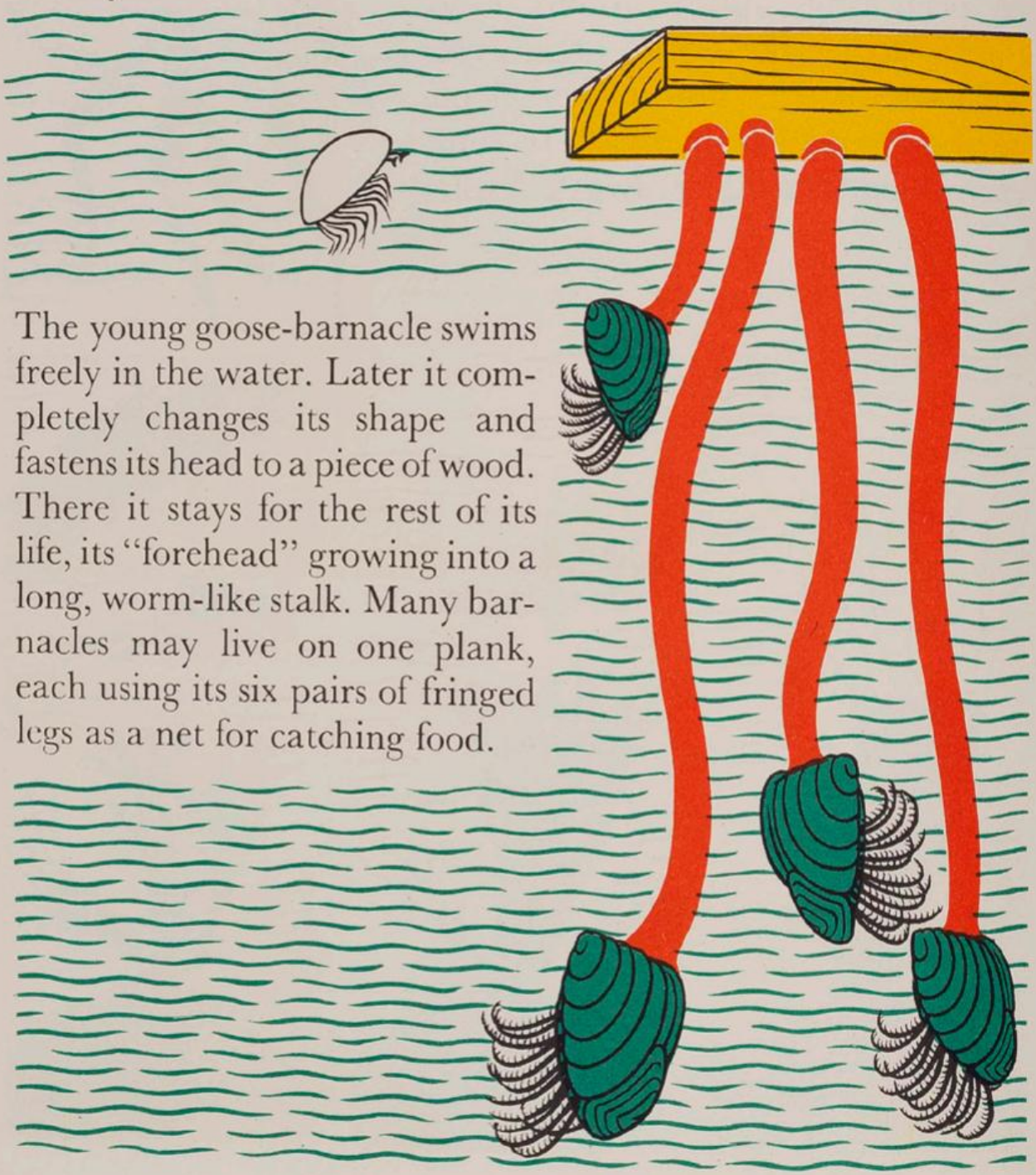
By opening and closing their mushroom-shaped bodies, these aurelia jellyfish can swim about. The little hairy larva which comes from one of their eggs can also swim, but soon it settles on a rock and grows all the summer, like a plant.



As this "plant" grows taller and taller, deep rings appear round it, so that it looks like a pile of saucers. Near winter the "saucers" break off one by one and swim away. In time each becomes a full-grown jellyfish.



They Live in the Sea but Forget How to Swim

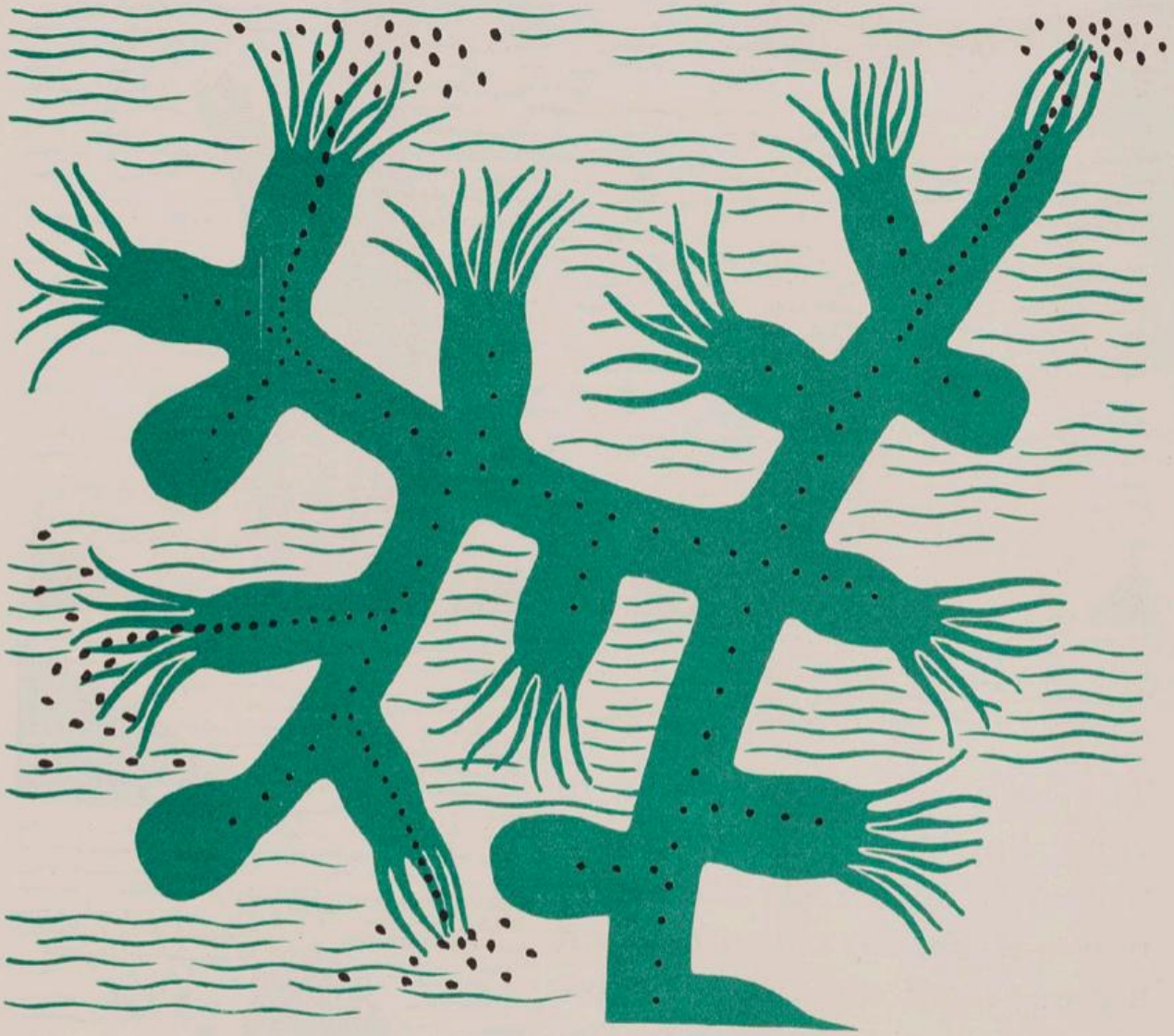


The young goose-barnacle swims freely in the water. Later it completely changes its shape and fastens its head to a piece of wood. There it stays for the rest of its life, its "forehead" growing into a long, worm-like stalk. Many barnacles may live on one plank, each using its six pairs of fringed legs as a net for catching food.



The baby sea-squirt is able to swim, but after a day or two it fixes itself to a rock and never moves again. Its tail withers and it grows like some strange hollow plant. It has two openings; sea-water enters one and brings it food, leaving by the other. When touched it squirts out all the water and collapses.

Many Animals which Look Like One Plant

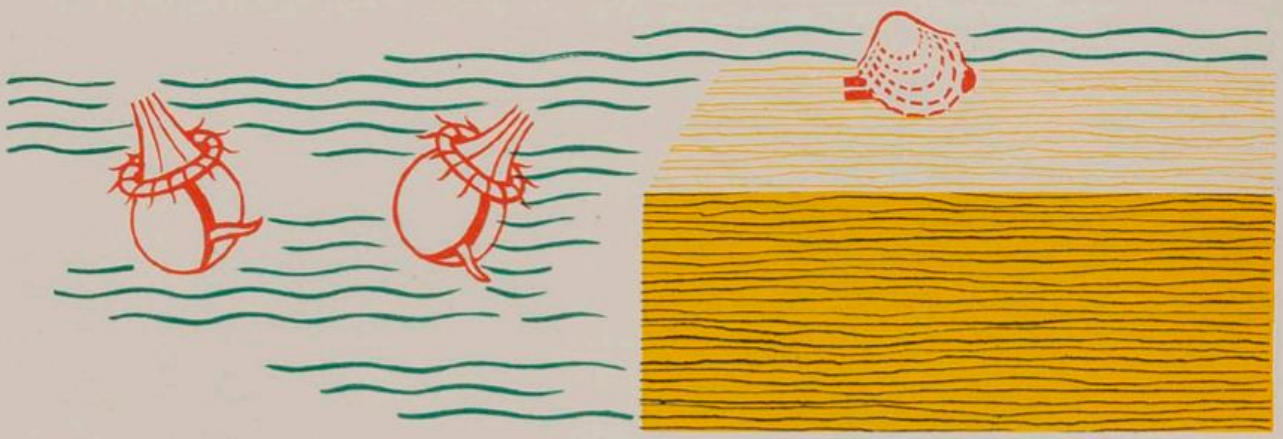


Around Florida and the West Indies, sea fans grow like tall trees under the sea. Here is a twig, greatly enlarged. Each "bud" is a living creature, catching food with its feelers. The food flows through the whole "plant" as sap does through a tree.



Each "bud" of this obelia is also a tiny animal. Those with feelers catch food which passes along the stems to be shared with all the rest. Those without feelers form little buds on a stalk which break off and swim away like baby jellyfish.

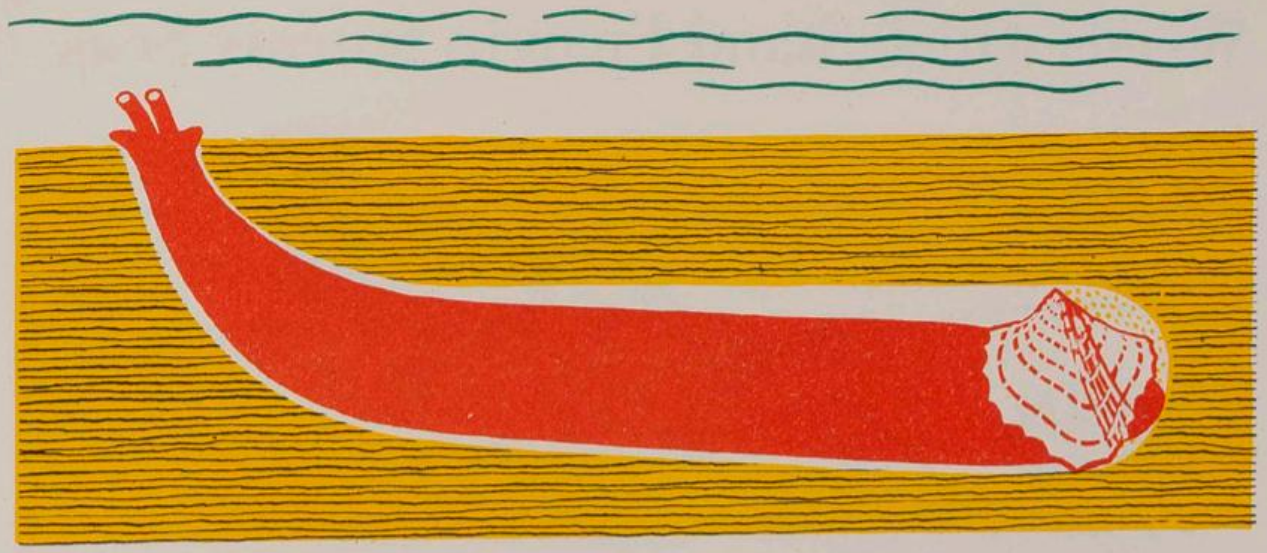
The Tiny Teredo Drills Wood with its Shell







The young teredo, like a tiny cockle, has one tongue-shaped foot, and a pair of pipes covered with hairs. With these it swims about until it finds a piece of timber. Then, rocking to and fro on its foot, it drills its way in with the sharp edges of its shell. It eats the sawdust made by its own drilling, and as the hole deepens the teredo grows longer and longer to fill it. The two pipes at the back of its body stick out from the end of the hole and allow the teredo to breathe and feed.

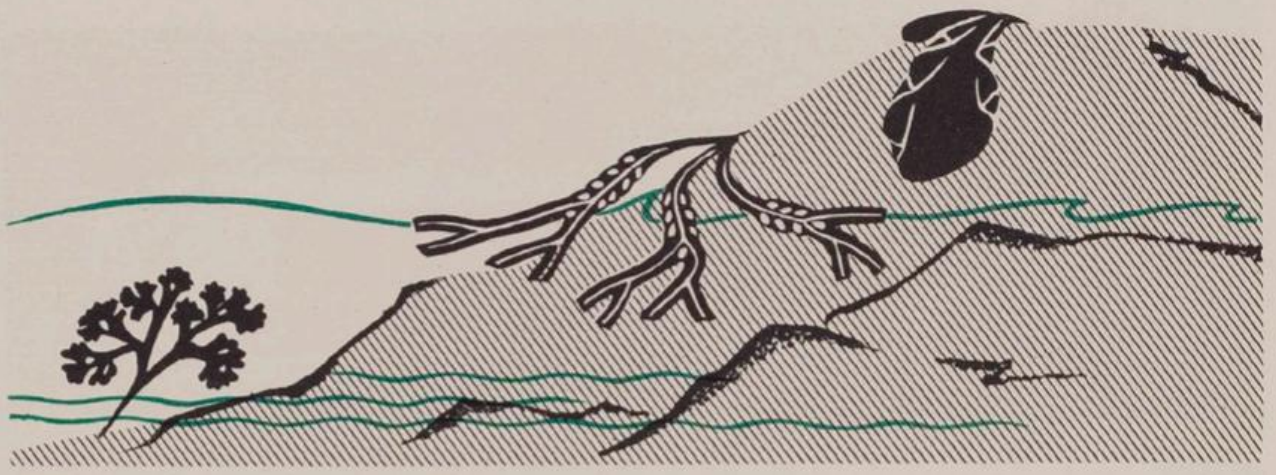


In time the teredo (and the hole it has bored) may be several feet long. But where there is one teredo there are usually many, each busy drilling a hole of its own and each avoiding the holes its neighbours make. Imagine what damage a few thousands of them can do to a wooden wharf!

Years ago, teredos were called "ship worms". Wooden ships were covered with thin metal strips to keep the worms out.



Weeds which Stand Firm in Stormy Seas



Seashore life is not easy. Look at these seaweeds. At low tide they are dry and parched. At high tide waves sweep over them. They have no roots, but their stems, bedded deep in sand or stuck like cement to rocks, hold them firm, even in storms.



The Wonder World of Nature

Miss Noel Streatfeild has said of this series : "They are the perfect books for the home. . . . It is impossible to recommend them too highly."

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Teeth that fell trees, paws that build dams – The strangest animal of all – Forest animals too young to climb – The battle to be leader of the herd – It looks like a mouse, it flies like a bird.

THE WONDER WORLD OF INSECTS

The parasol ants which grow mushrooms – Keeping the cattle on an insect farm – The weaver ants whose children spin – The still watch of the fighting mantis.

THE WONDER WORLD OF BIRDS

These birds with no nests hatch eggs on their feet – The tailor bird stitches a cradle of leaves – Cockatoo watchmen sound the alarm – The hedge sparrow hatches the cuckoo's egg.

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The WONDER WORLD of NATURE



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