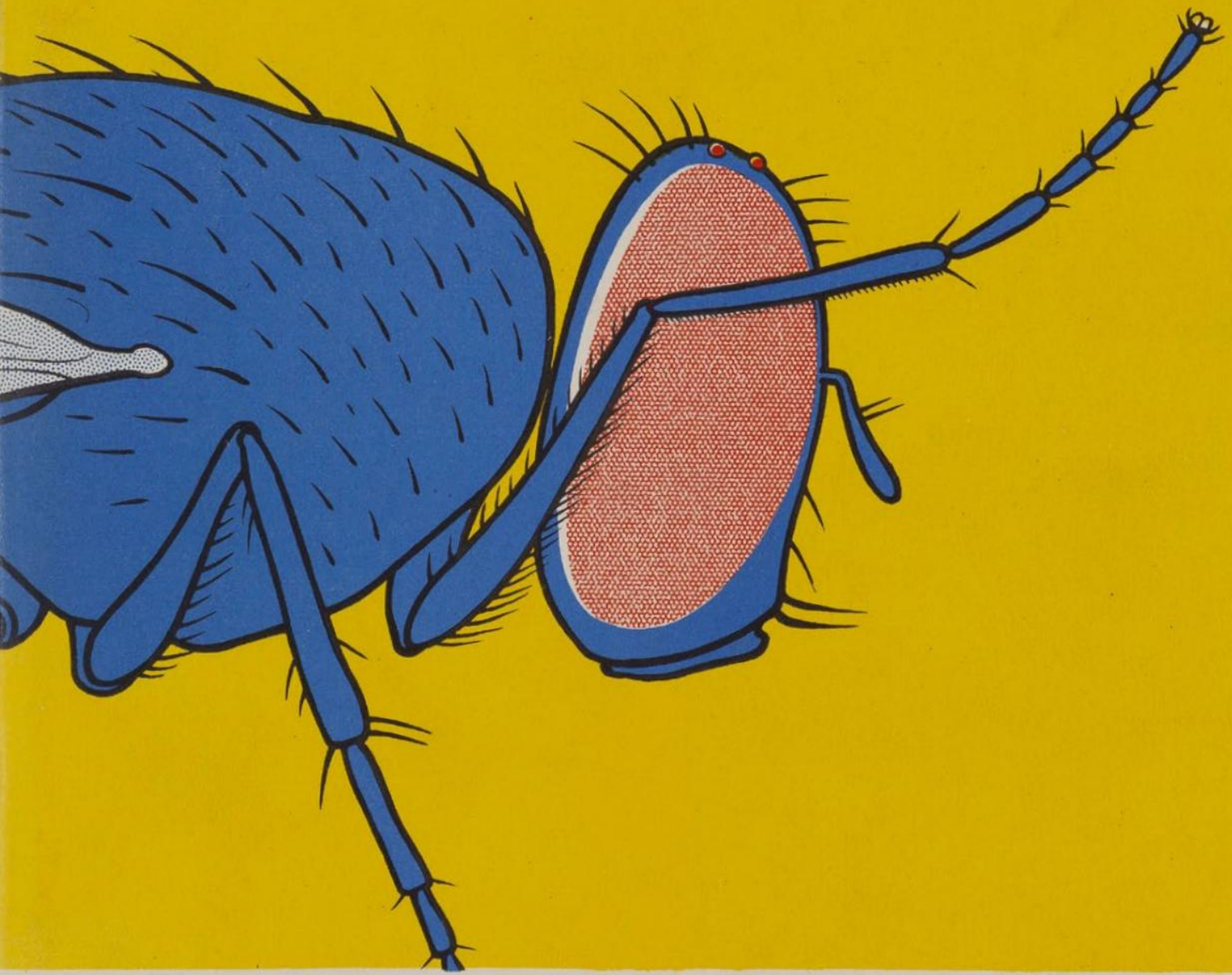
The WONDER WORLD of NATURE

Too small to see



A MAX PARRISH COLOUR BOOK

MARIE NEURATH



ISOTYPE

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Too small to see



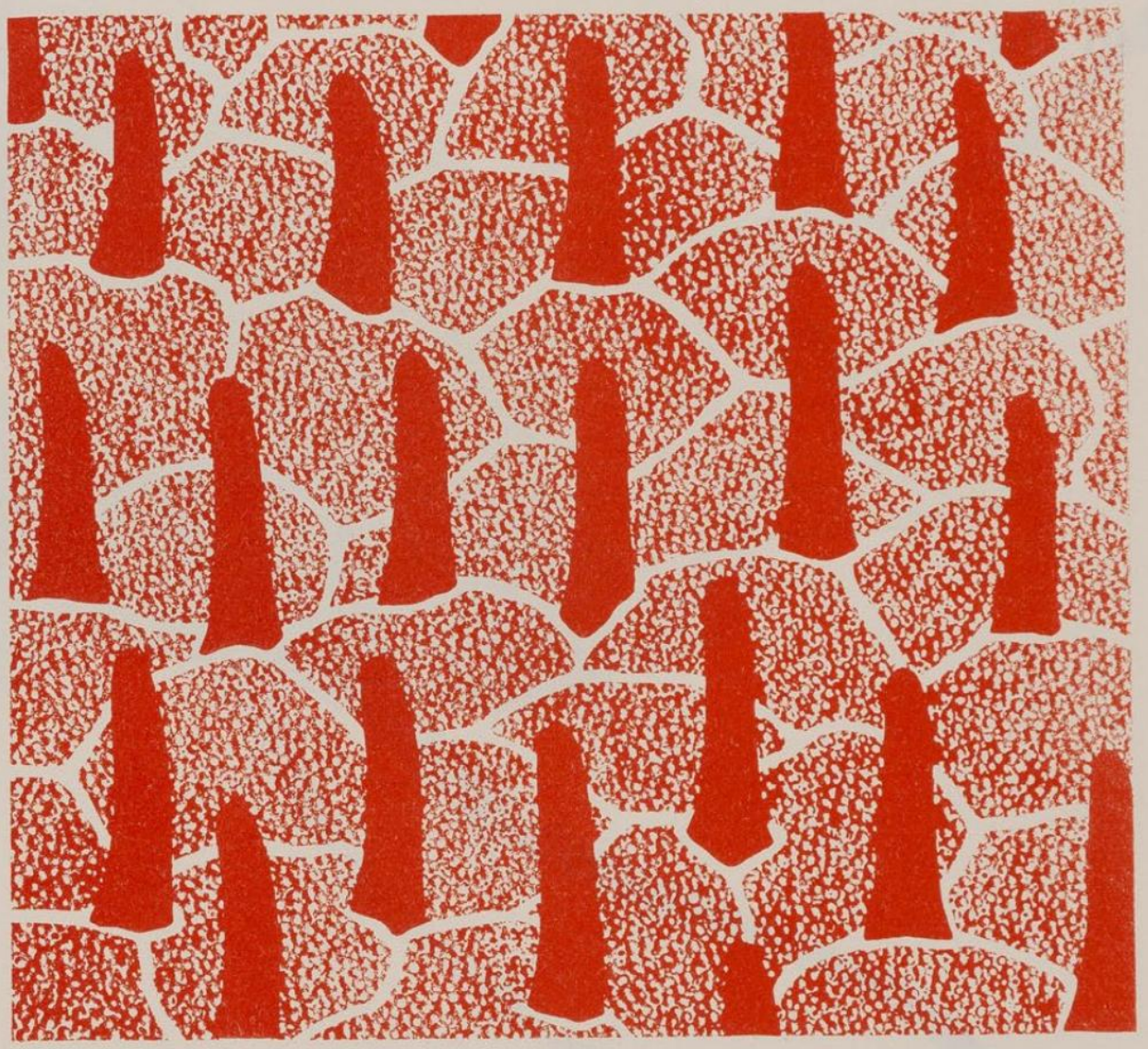
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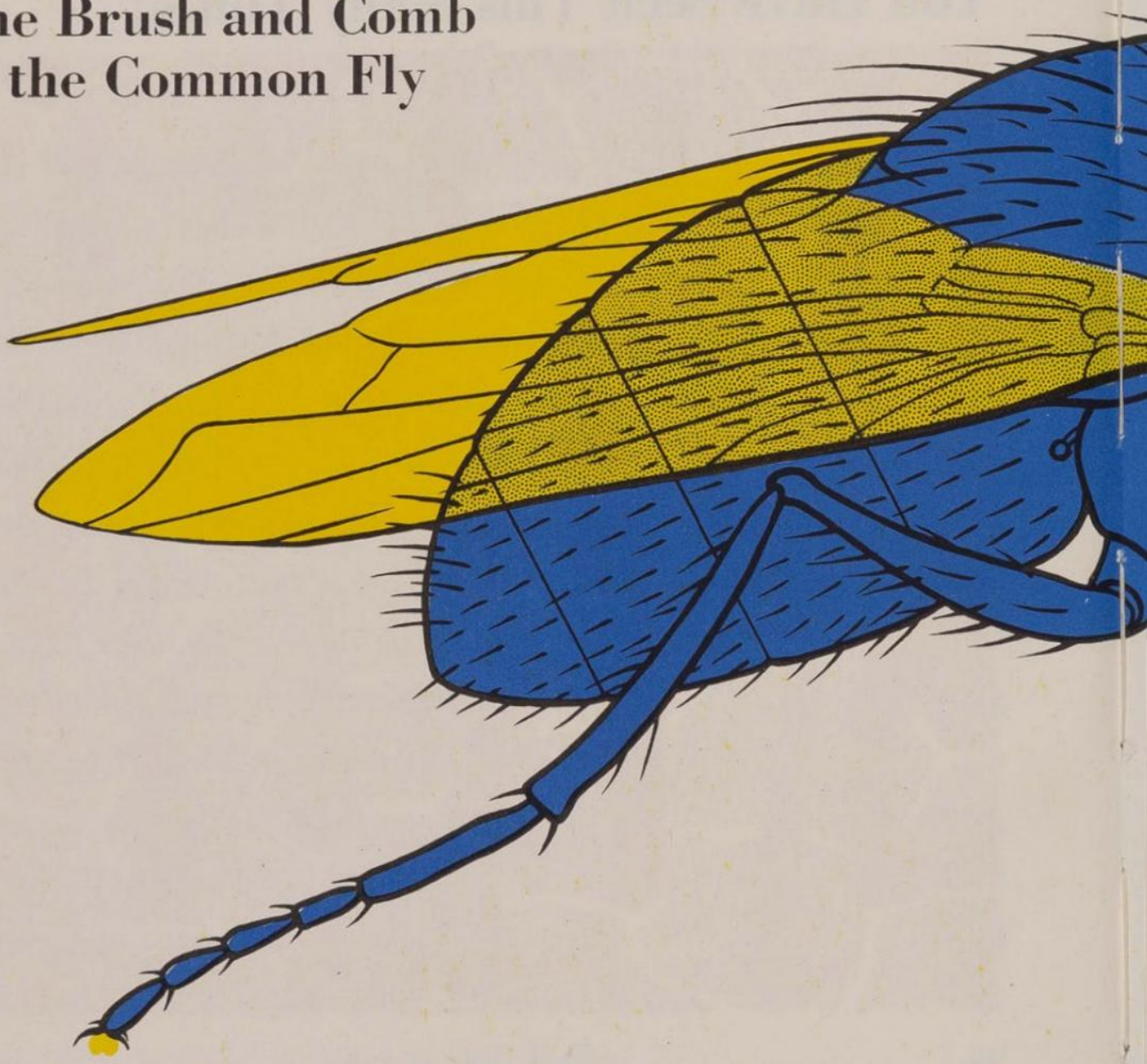
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You Have Seen This Many Times!



Here you see it through a magnifying glass. The rough surface has spikes like the teeth on a comb. It is used as a brush and comb to clean fur. It is a cat's tongue.

The Brush and Comb of the Common Fly

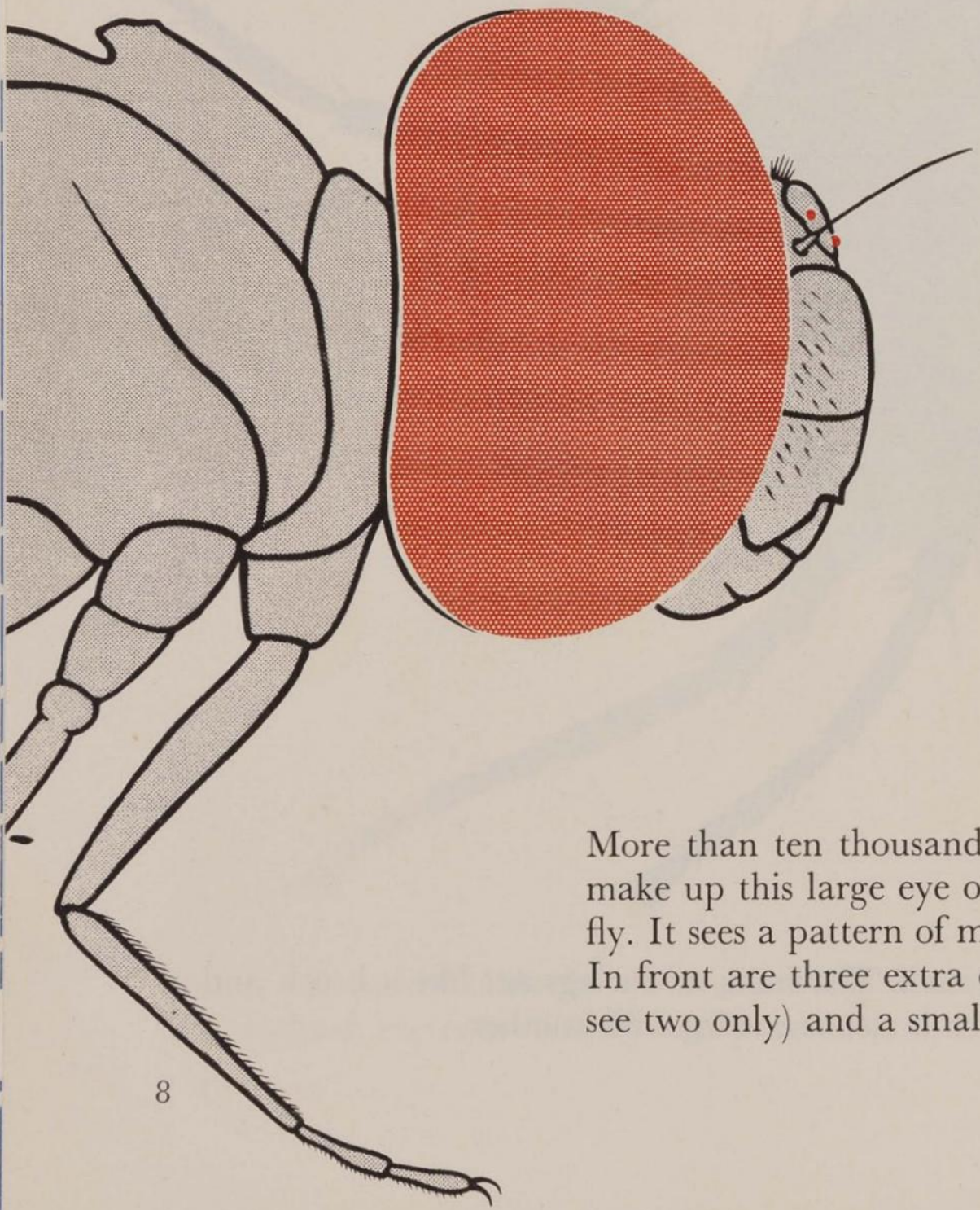


Watch a fly on the table. It rubs its front legs over its head and face, its back legs over its body and wings.

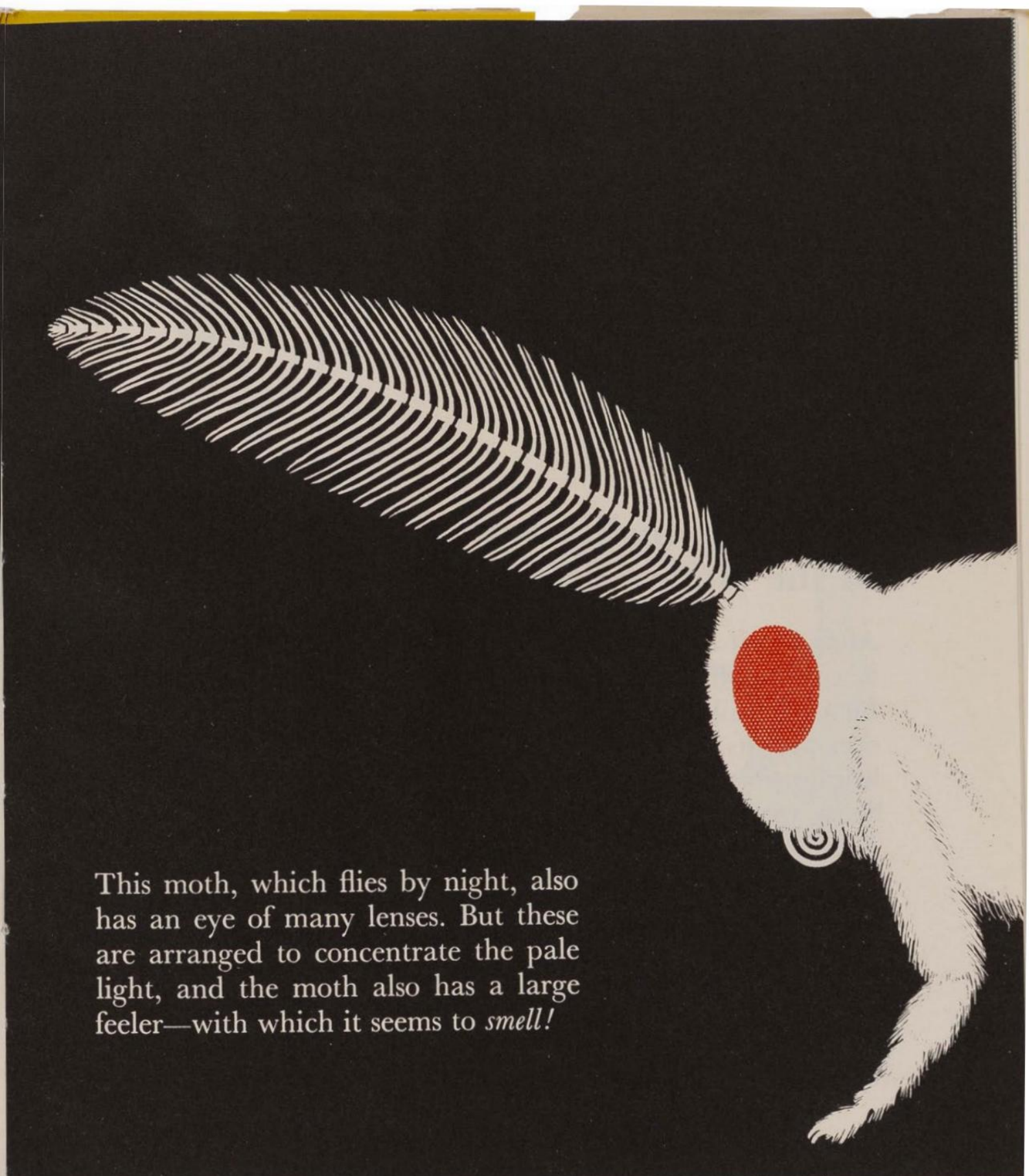


It is cleaning itself. The hairs on its legs act like a brush and comb. And then it cleans one leg with another.

A Thousand Eyes to make One Eye



More than ten thousand single lenses make up this large eye of the dragonfly. It sees a pattern of many pictures. In front are three extra eyes (you can see two only) and a small feeler.



This moth, which flies by night, also has an eye of many lenses. But these are arranged to concentrate the pale light, and the moth also has a large feeler—with which it seems to *smell!*









The Shopping Basket of the Honey Bee

After a visit to a flower, a bee is covered in yellow pollen. First it brushes its head and eyes with its front legs; then it brushes its front legs and its body with the middle legs. Then, with the stiff combs on one back leg it rakes together the pollen from its middle legs and the back part of its body. Finally it packs the pollen in tiny 'baskets' on its back legs.



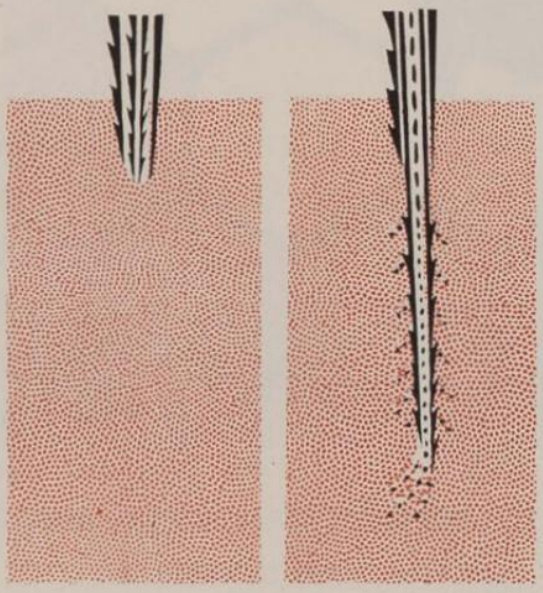
The 'shopping basket' is now filled with the pollen, and the bee flies off to the hive.



It unloads the pollen by brushing it out with its middle legs. It has brought home the 'beebread' for the bees to eat.

The Bee's Sharp Sting May Mean its Death





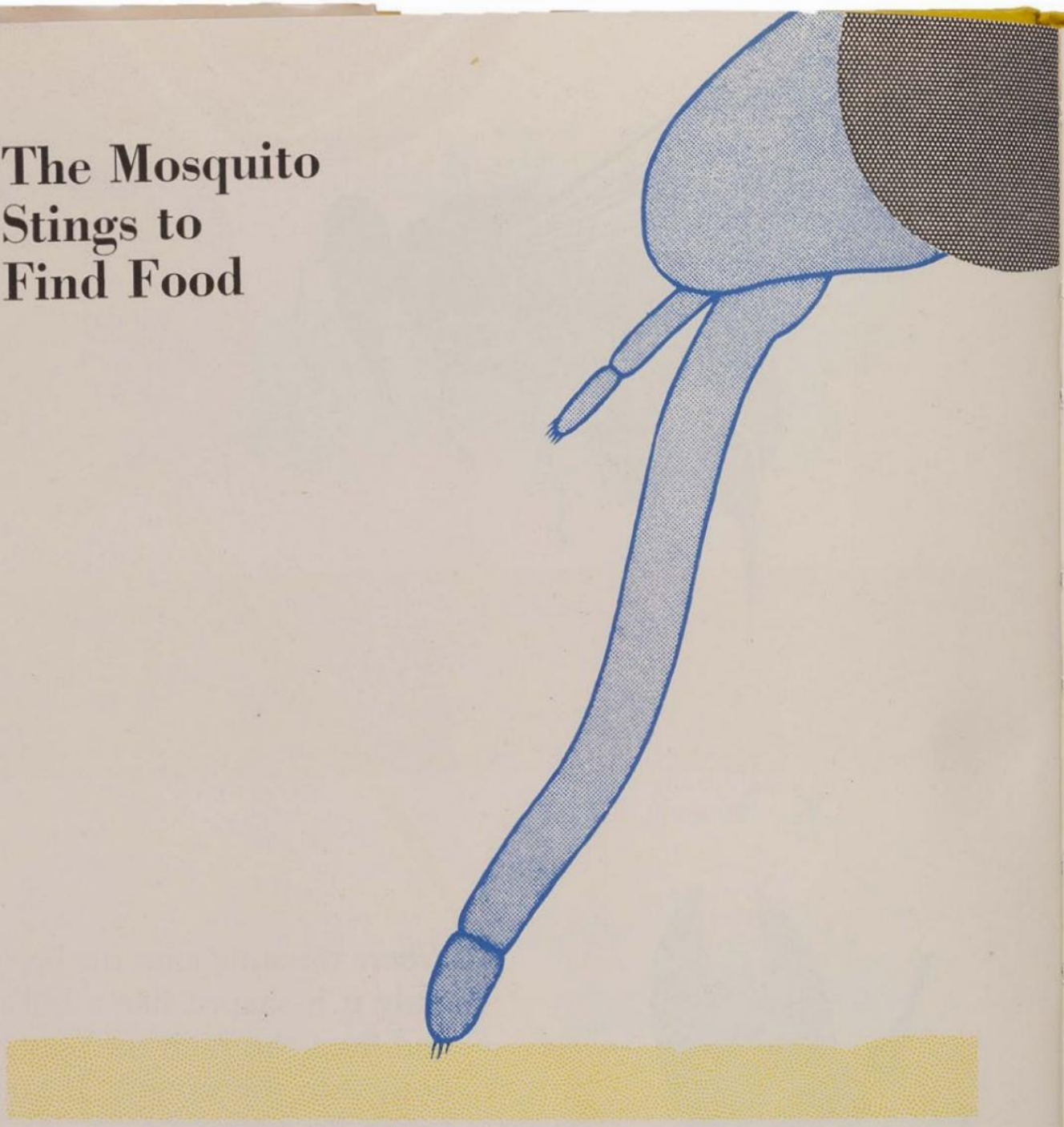
A bee's sting is usually kept hidden in its body, but it can be thrust down suddenly at any time. The sting looks like a long sharp thorn with barbed edges. When the tip is thrust into your skin, two needles inside slide backwards and forwards, one after the other. This helps to push the whole sting deeper and the barbs hold it in.





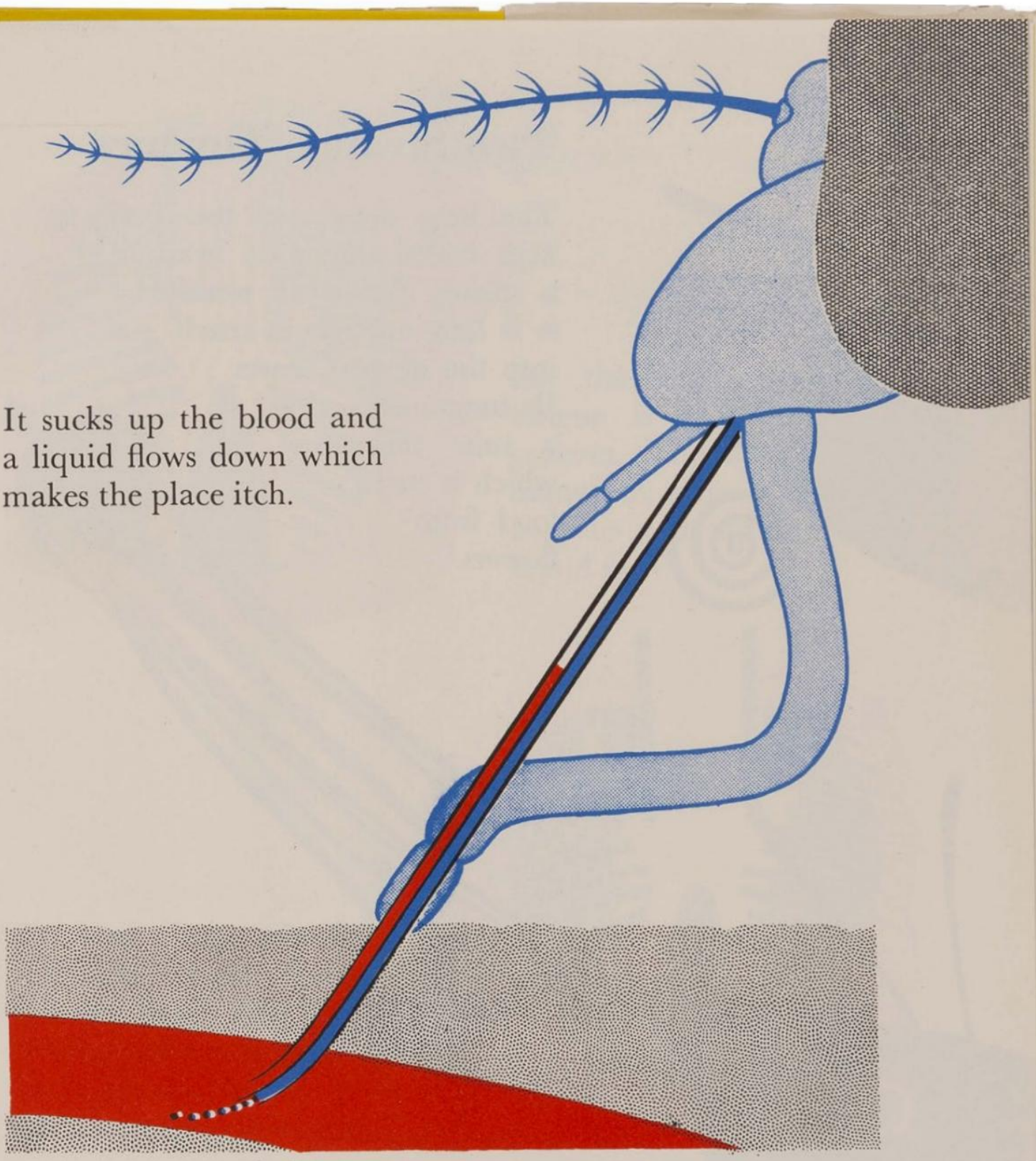
Where the sting joins the bee's body it is shaped like a bulb, and from this bulb the poison flows into the wound. If you knock the bee away, the sting and the poison bag may be torn out of its body. If this happens the bee will die.

The Mosquito Stings to Find Food



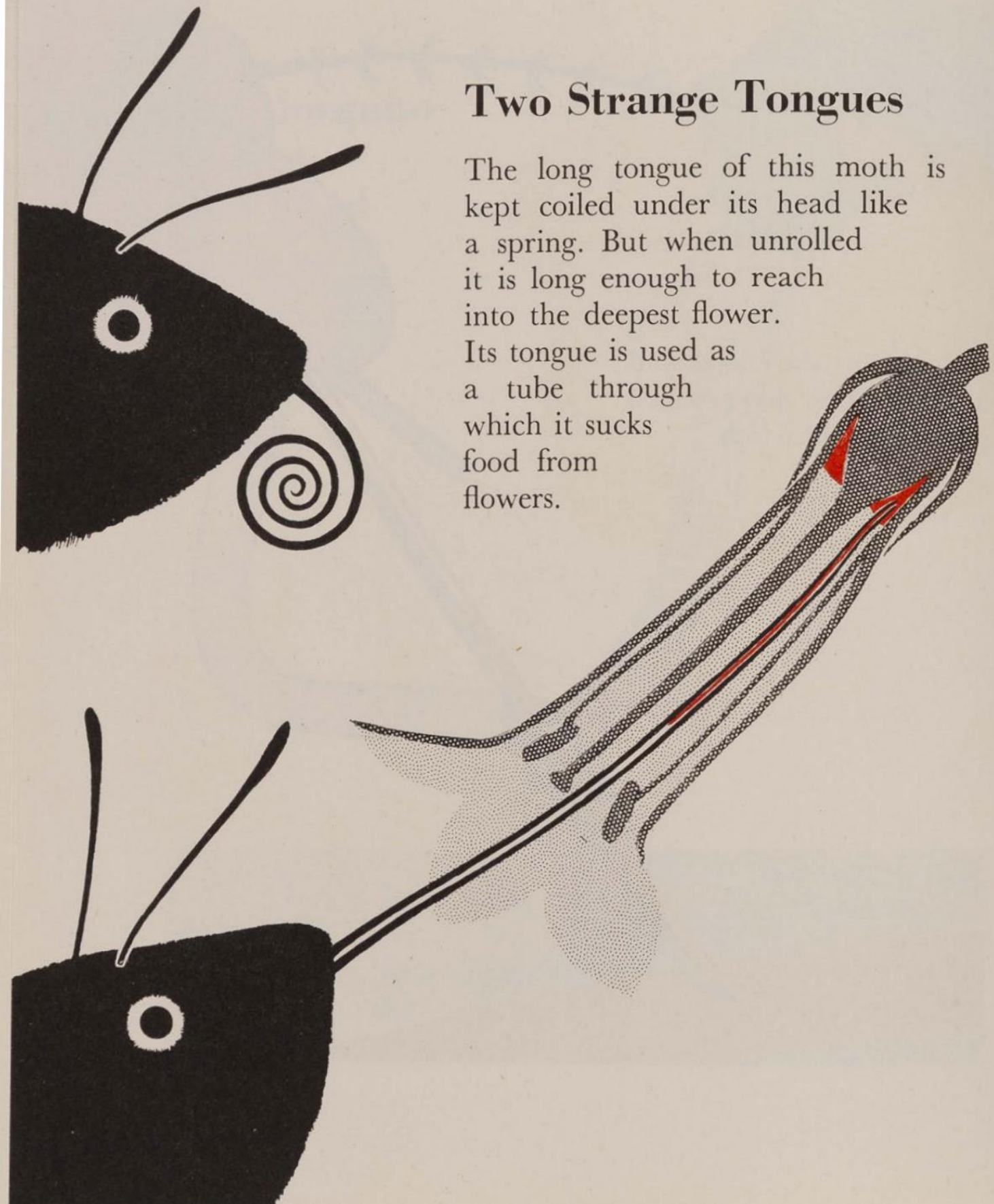
The mosquito's sting is hidden in a groove in its long lower lip. To find the blood on which it feeds, it first feels for a soft spot. Then it pushes in the fine needle points.

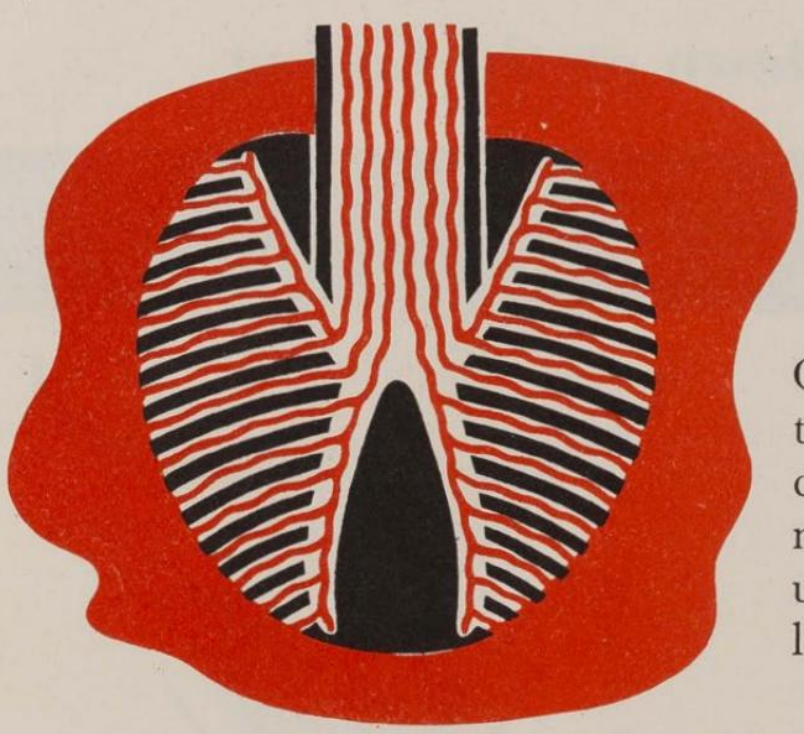
It sucks up the blood and a liquid flows down which makes the place itch.



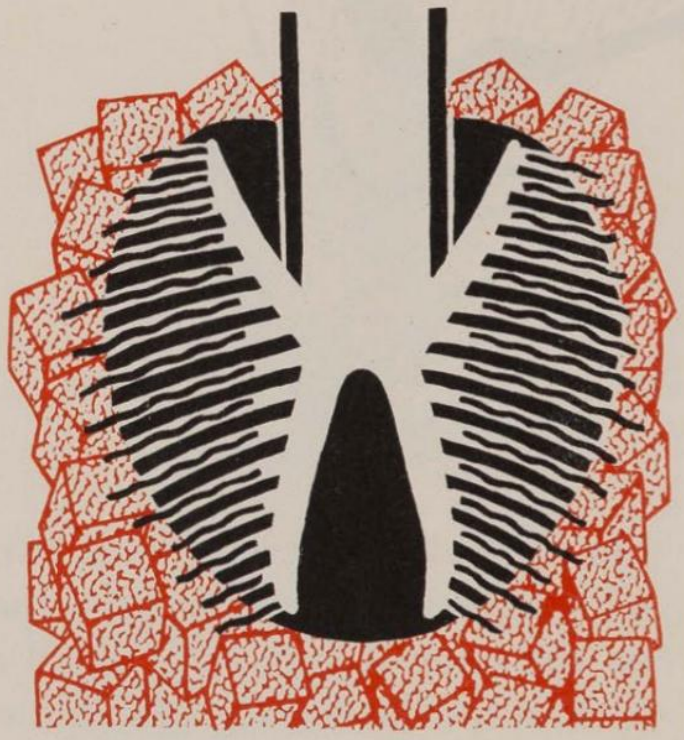
Two Strange Tongues

The long tongue of this moth is kept coiled under its head like a spring. But when unrolled it is long enough to reach into the deepest flower. Its tongue is used as a tube through which it sucks food from flowers.



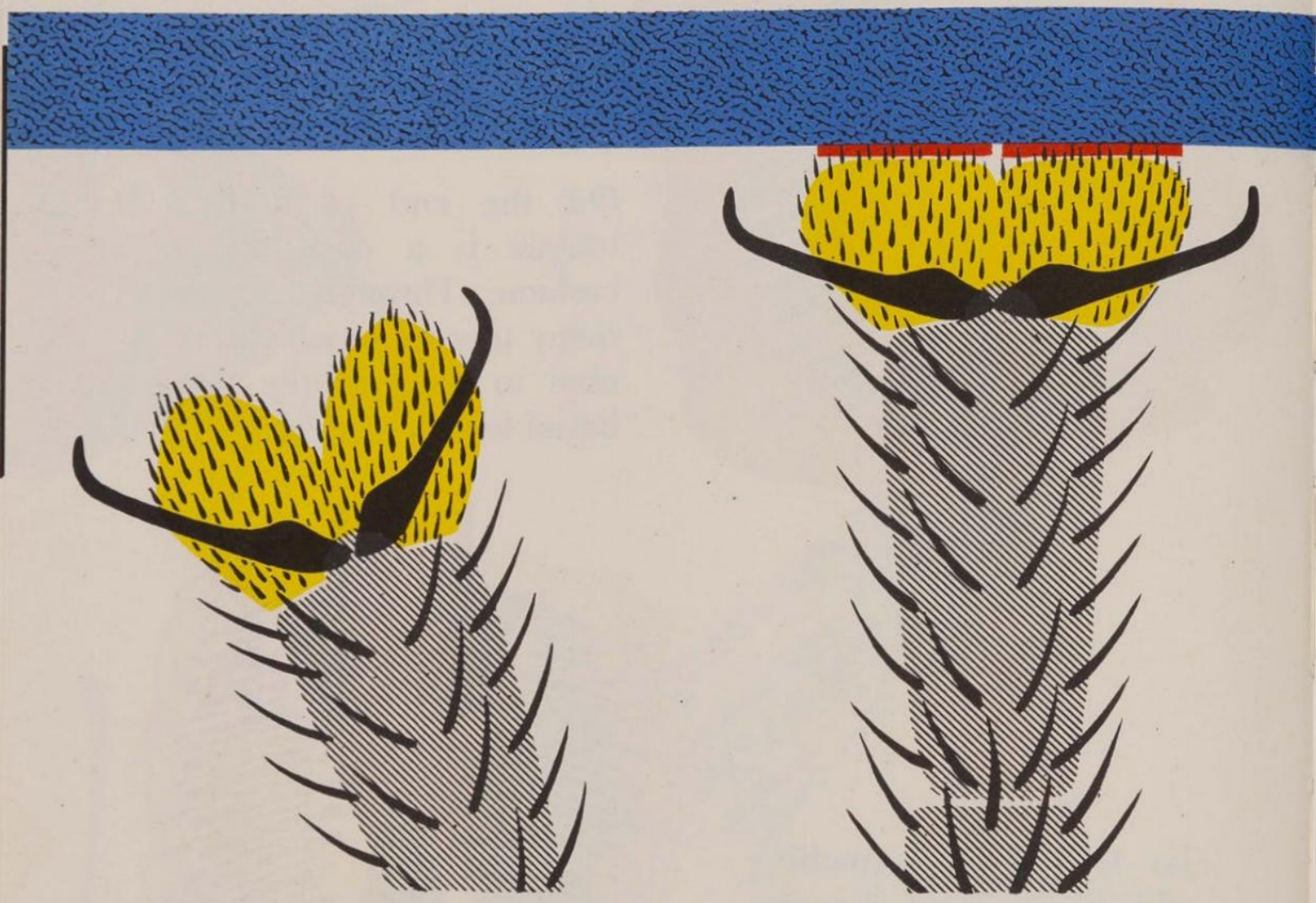


On the end of a fly's tongue is a pad like a cushion. Through it pass many tiny tubes which are used to suck up the fly's liquid food.



To feed from something solid like a lump of sugar, the fly must first wet it with its tongue. Then it can suck up the liquid sugar juice through the tubes.

Walking Upside Down on the Ceiling



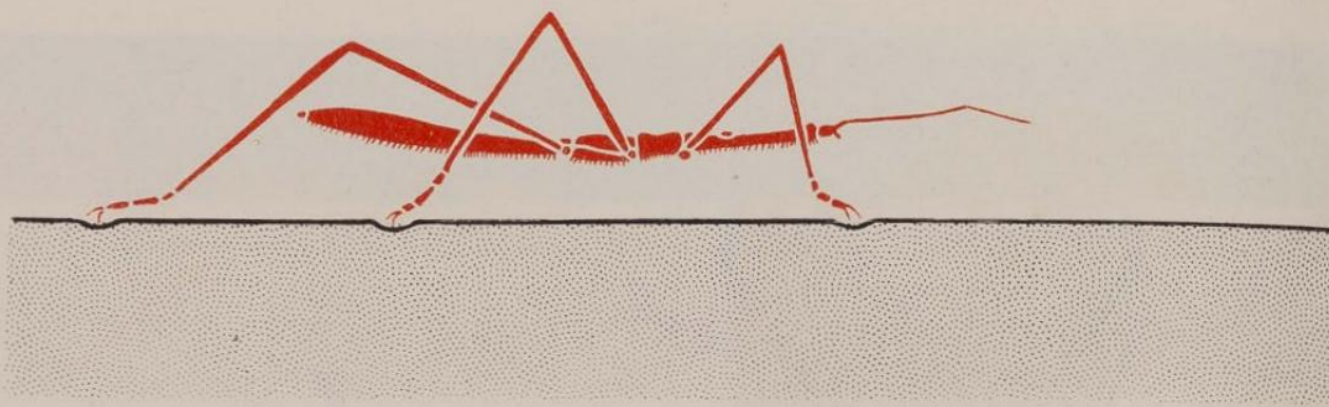
On the end of its feet a fly has two claws and two pads, covered with hairs. When it lands on the ceiling, the fly presses hard on the pads and a sticky liquid oozes from them. Now it can stick to the flat surface and hold on upside down.





When the fly presses with its claws, the sticky pad and hairs are released and then it can walk or fly away.

Many Legs with Many Uses

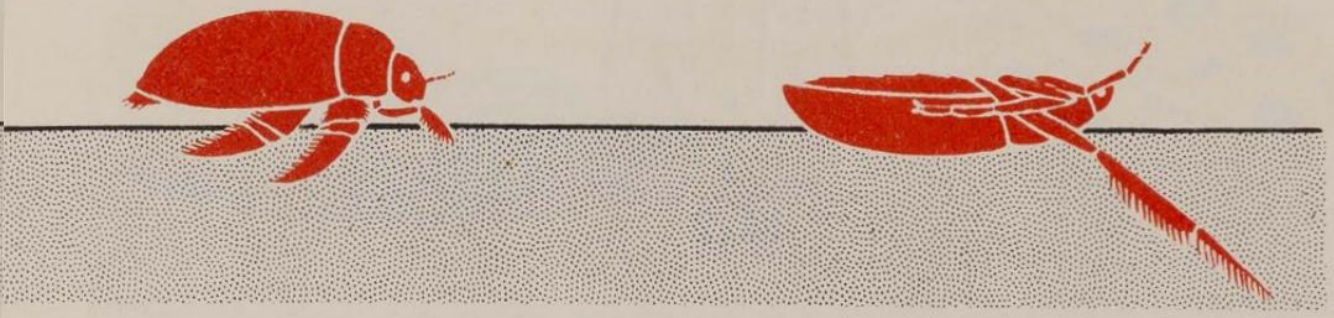


The watergnat runs rapidly on the top of the water. Its long slender legs touch only lightly on the surface.





This flea has especially long and strong back legs with which it can jump. The water scorpion catches food with its front legs which have 'elbows' to help it to snap up its prey.



The whirling beetle uses its legs as paddles and the water boatman often turns over on its back to row itself along.



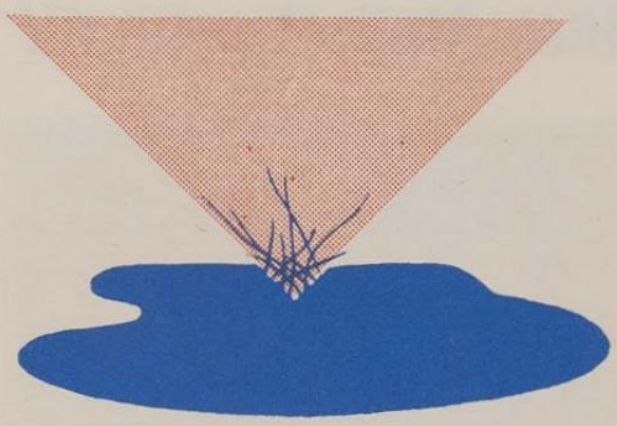
The mole cricket spends a great deal of time digging in the ground. It burrows with its front legs which are shaped like a shovel with teeth on the end.

The Bath Sponge and the Blotting Paper



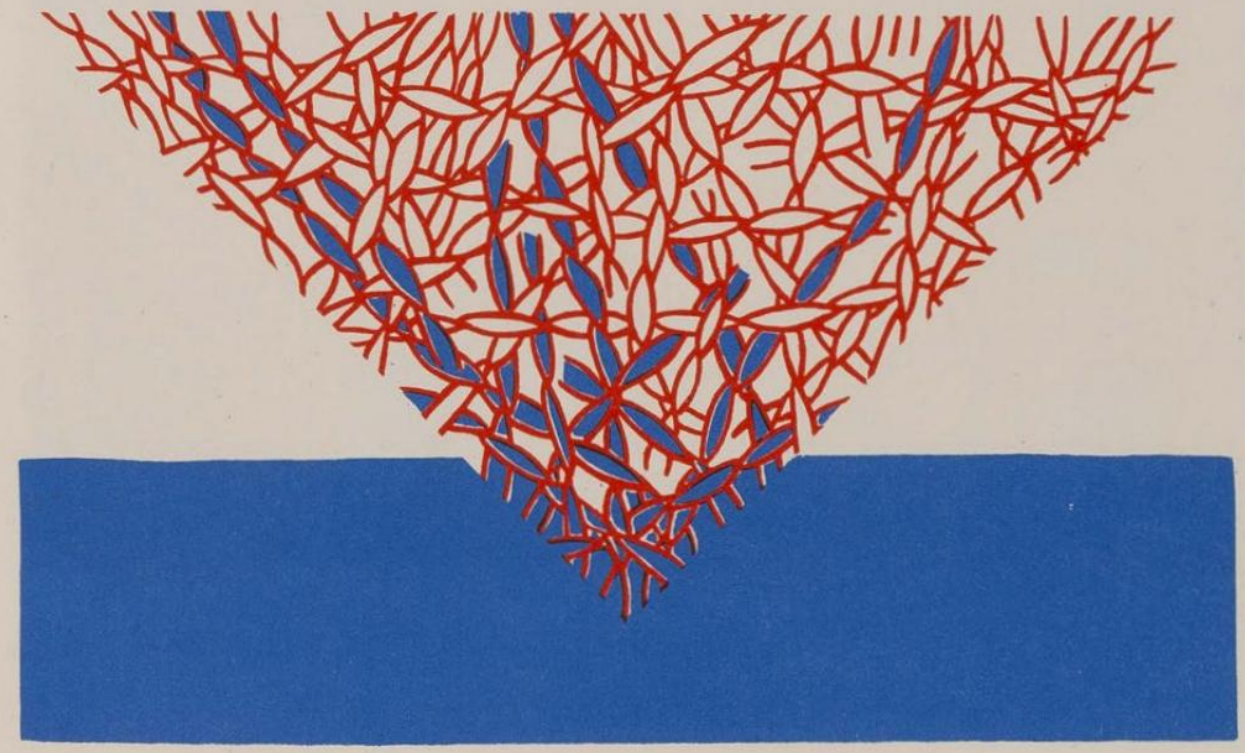
Squeeze the water out of a sponge and put it down. It regains its shape. The sponge's network of tiny, hollow, horny fibres springs back into shape, drawing in air in the place of the water.





If you put the corner of a piece of blotting paper into ink, it soaks up the ink.

The blotting paper is made of cotton fibres which are fine hollow tubes twisted and tangled together. The ink creeps up into the fibres and the small spaces between them.

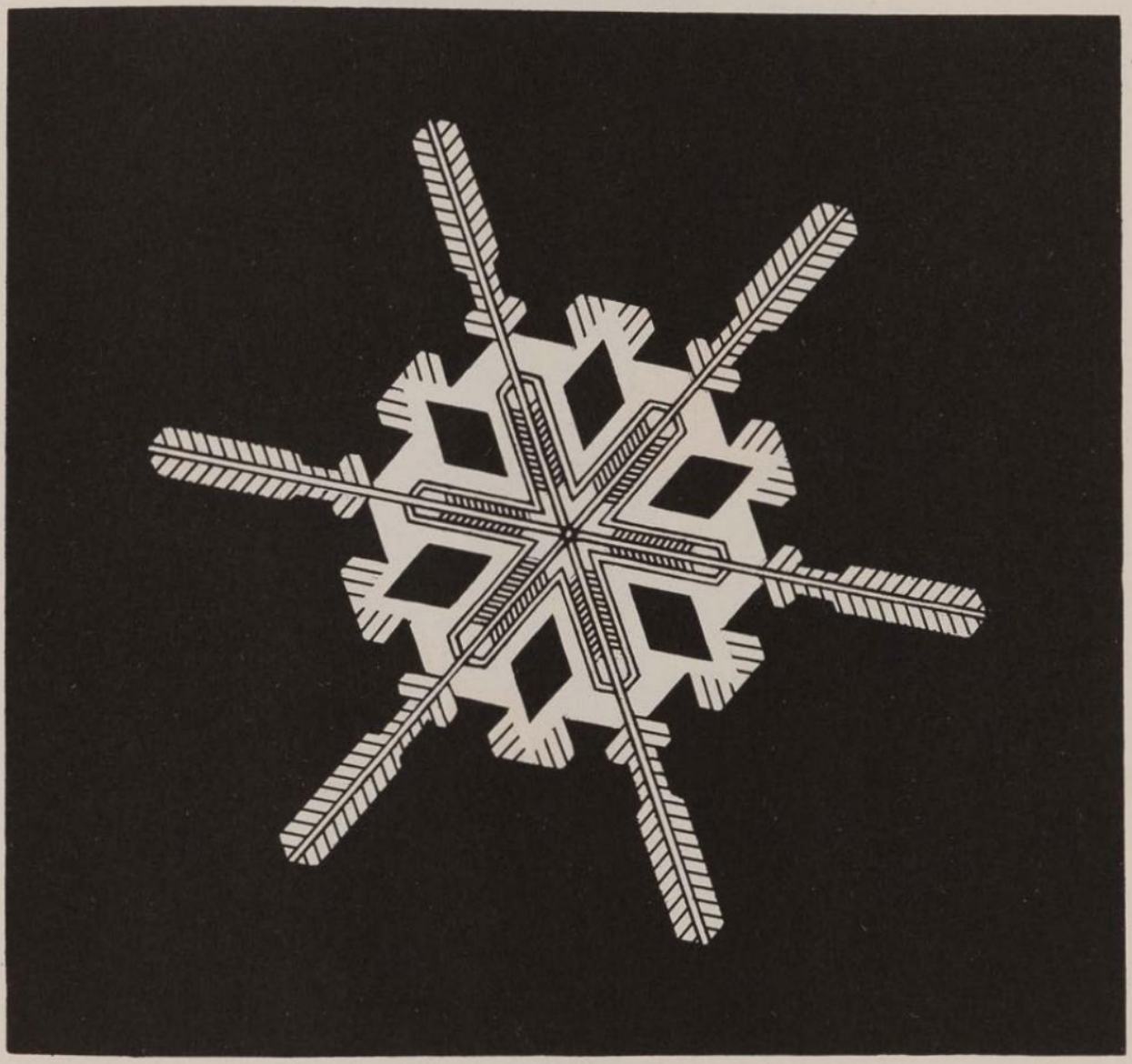


Millions of Shells Which Make Up Chalk



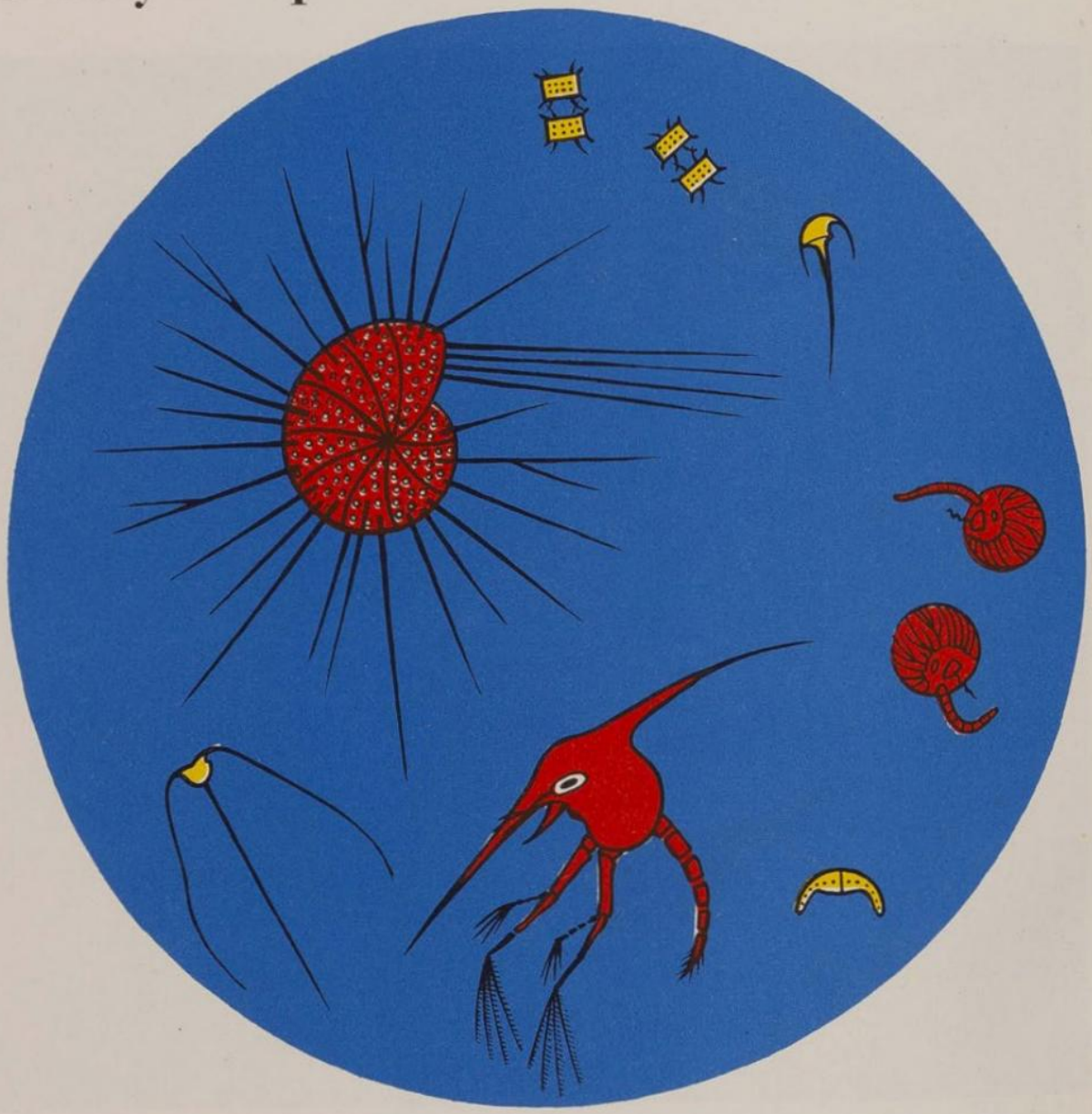
All chalk was once under the sea. You can still see in it many shells of the sea-creatures of which it is made.

One Small Part of One Snowflake

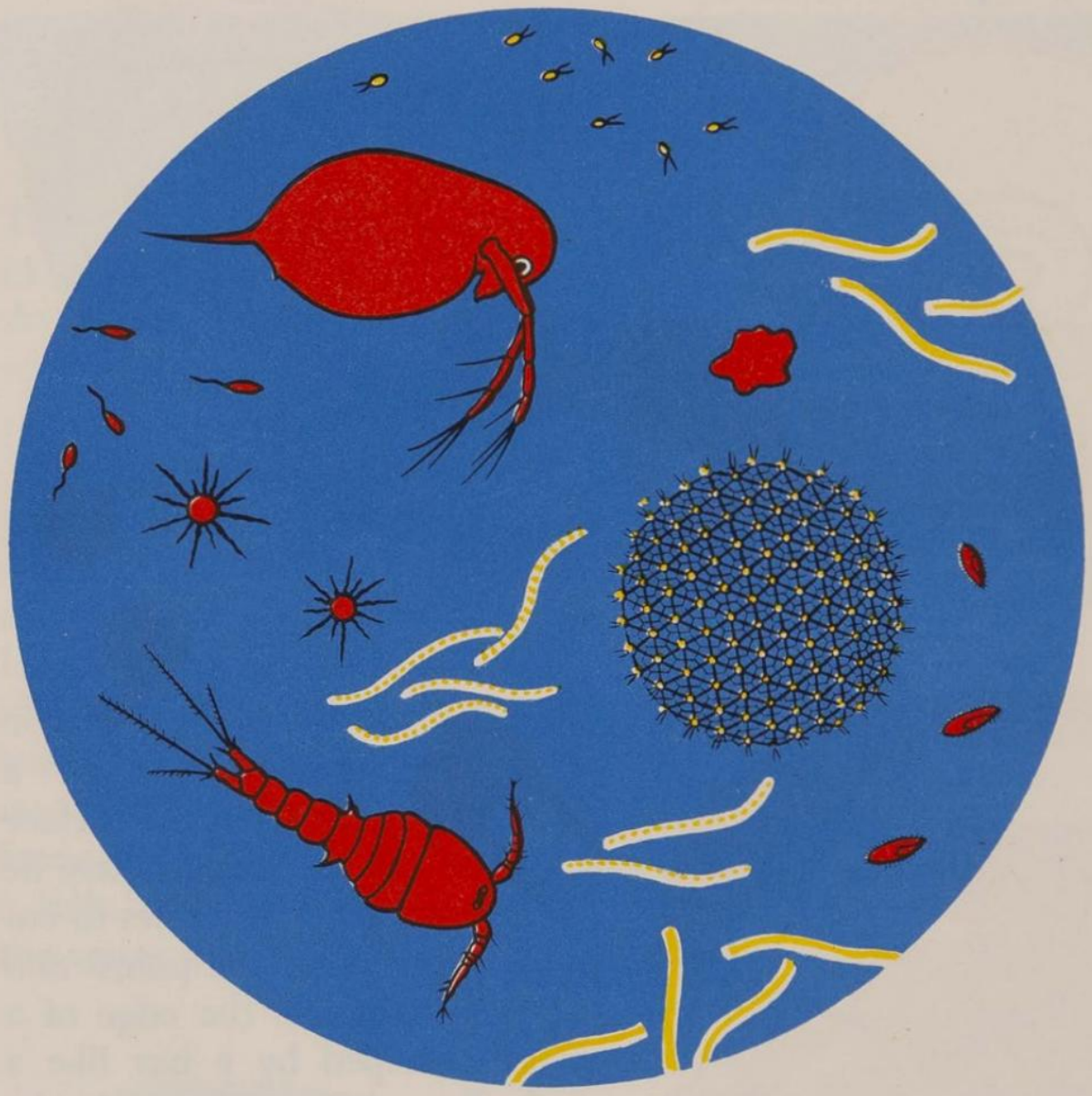


Snowflakes are formed when many tiny crystals join together. They form many patterns, but have always six sides.

A Tiny Drop of Clear Water



These strange living creatures can be seen in one tiny drop of clear sea water. But you must magnify it many times.



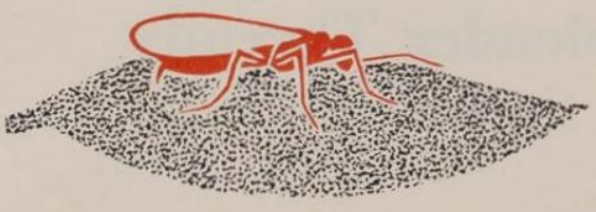
There are strange creatures, too, in a tiny drop of pond water.
They are animals and plants, alive and growing.

Sharp Saws Too Small to See

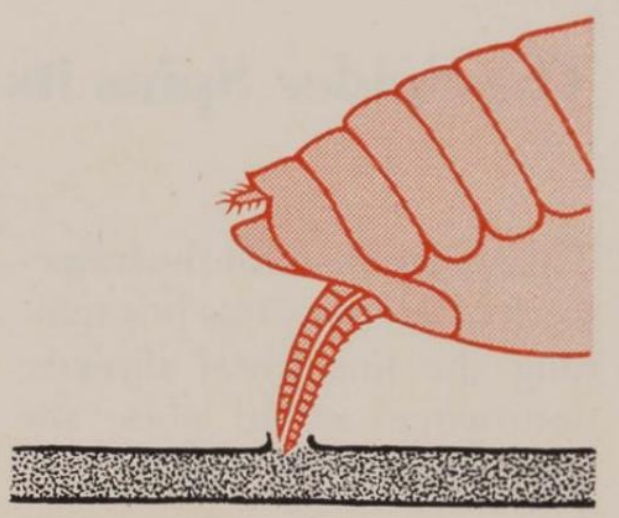




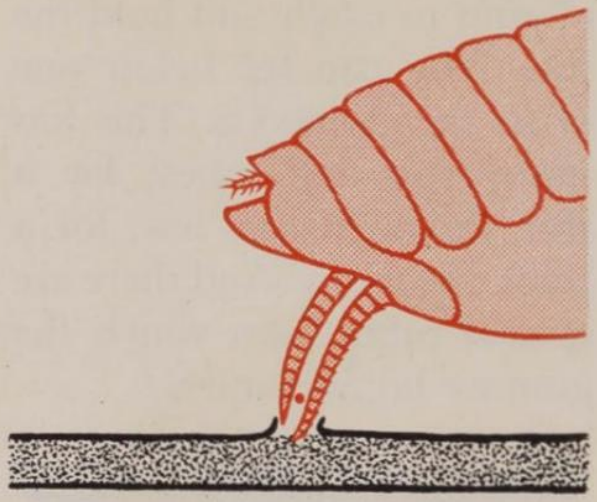
A snail has more than a thousand teeth on the surface of its tongue. Usually they lie flat, but when it wishes to cut a leaf, it raises the points and uses them like the edge of a saw, helped by a bar like a knife on its jaw above. As the teeth wear away, new ones grow to take their place.

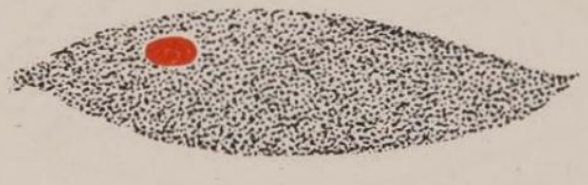


The saw-fly uses its saw to lay its eggs. First it cuts a tiny slit in the upper skin of a willow leaf.



But the saw is also part of a hollow tube. It rolls the egg down this tube and into the slit it has made in the leaf. It seals up the slit, and later a spongy red blister forms on the leaf. The egg finally hatches into a tiny caterpillar which feeds inside the leaf, biting a hole underneath to let out the waste material.

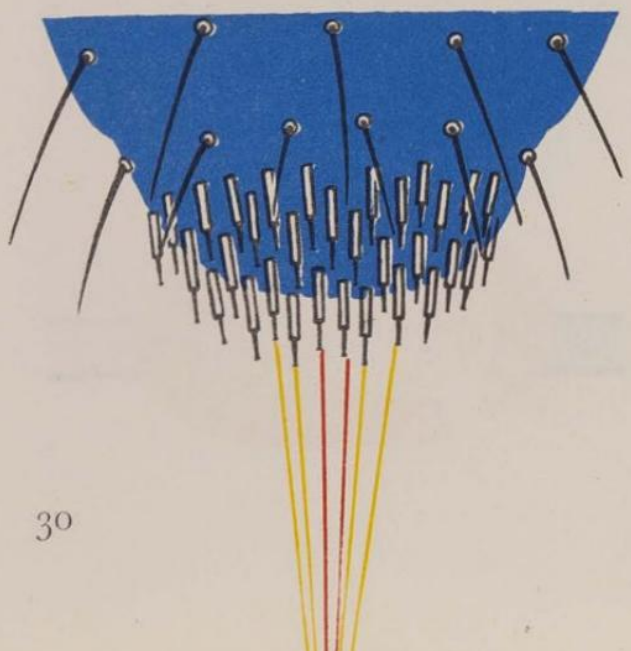


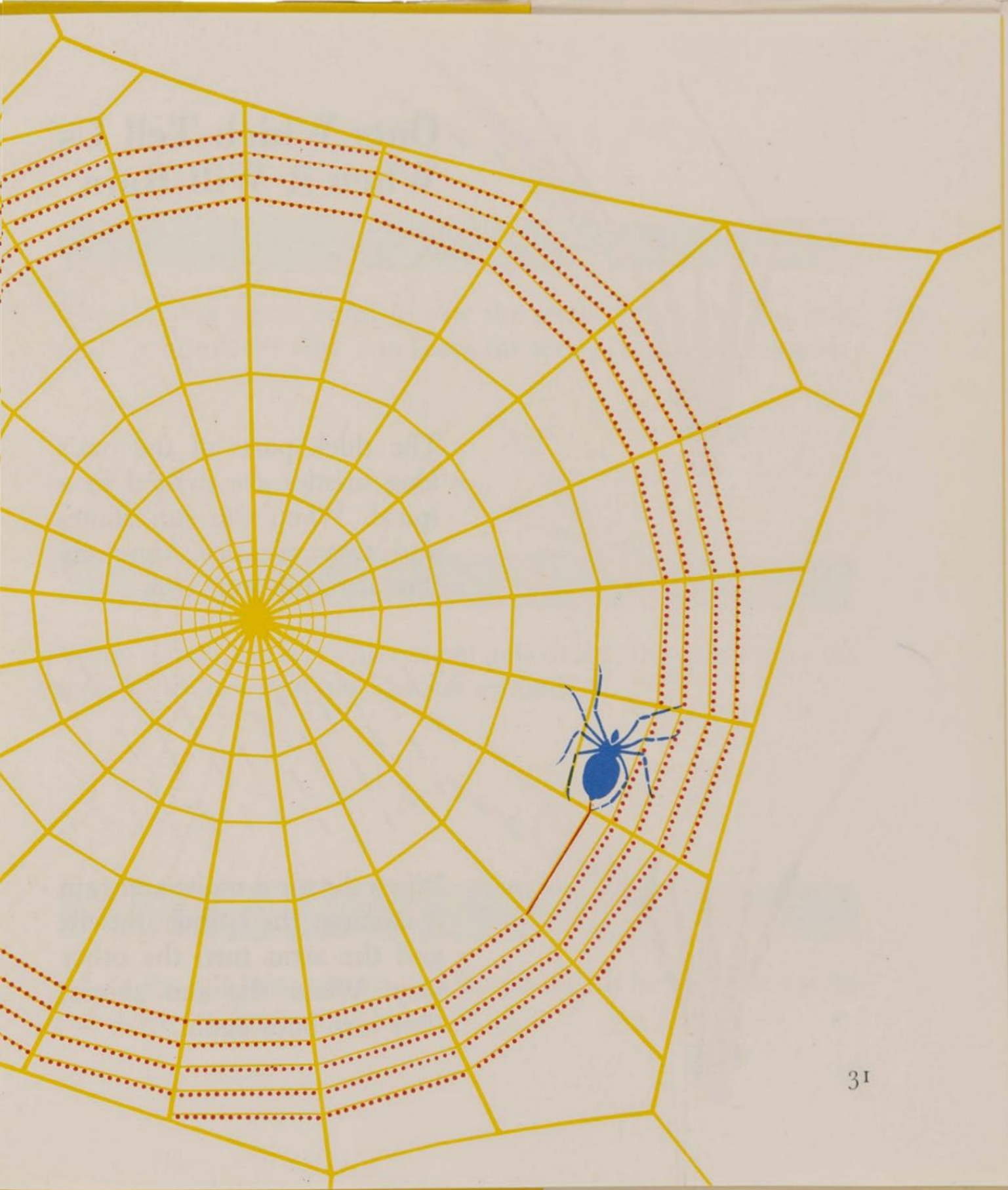




The Spider Spins its Slender Threads

This spider has built the framework of its web. Now it is spinning the fine spiral threads, destroying as it goes the thicker spiral it made first. As it spins, it leaves tiny specks of gum to catch and hold the flies. You can see below one of its six spinnerets. This has many spinning tubes; for a thin thread it uses few, for a thick one many. And there are special tubes from which the gummy liquid comes.







Oats Which Tell Us When it Will Rain



The thick parts of the oat's long bristles are twisted in a spiral. When the sun shines and they are dry, the long thin arms turn one way.





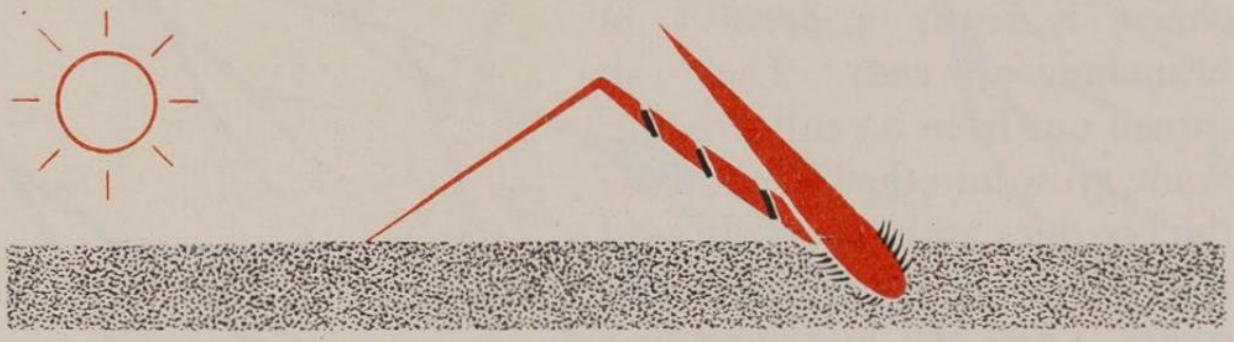
When the air is moist and rain is coming, the spirals untwist and the arms turn the other way. When the sun shines, they turn back again.



The twisting spiral helps to sow the seeds. When the oat falls to the ground, the long arm keeps the seed pointing downwards.

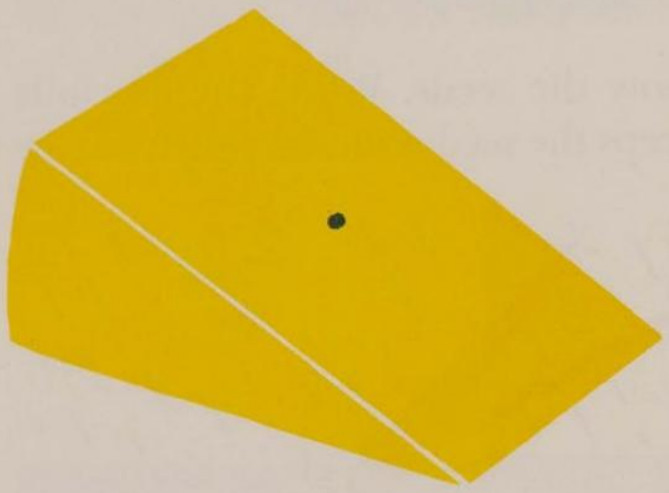


When the air is moist and the oat gets damp, the spiral untwists and worms the seed into the soft ground.



When the oat becomes dry again, the seed is held in the soil by the short stiff hairs at its base.

The Strange Network in a Patch of Mould



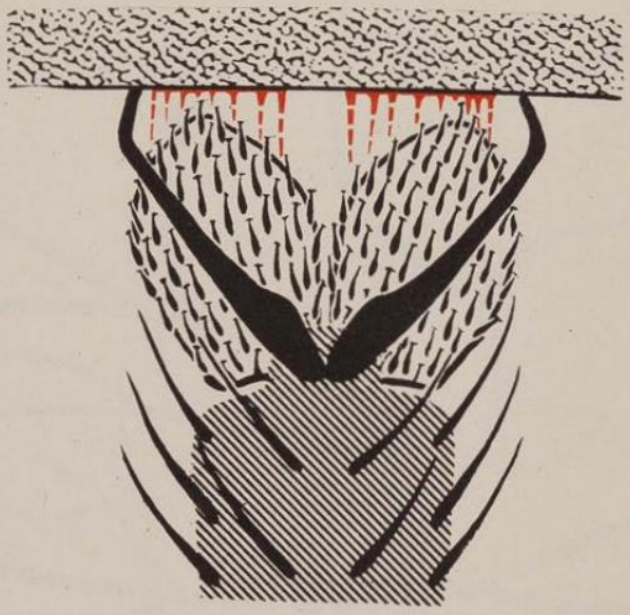
The green smudge which you sometimes see on a piece of cheese is really a network of branching threads. They all spread out from a central point. Some grow into the cheese; some thicker ones grow upwards, and their tips swell and fill with tiny spores. Later the tips burst and the spores spread. Where they fall they may start new mould.



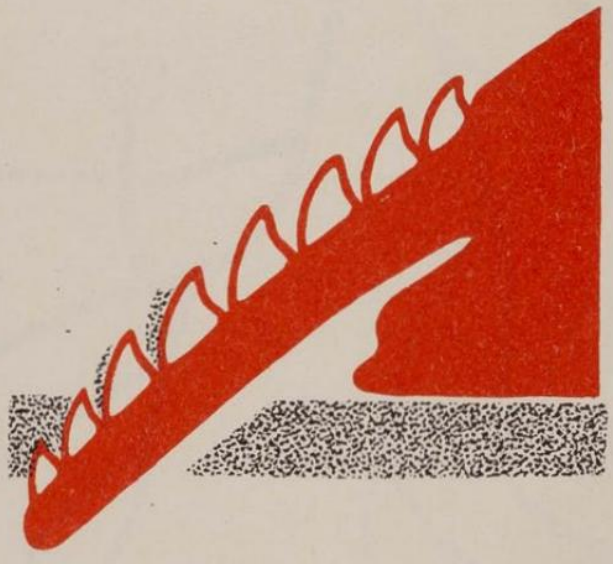


These Queer Things are All in This Book!









Turn back the pages and see if you can find them.

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