EYES AND NO EYES BOOK 10.

HIGHWAYS AND HEDGEROWS

R. CADWALLADER SMITH

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Eyes and No Eyes

BOOK. 10

HIGHWAYS AND HEDGEROWS

BY

R. Cadwallader Smith

PUBLISHER'S NOTE

We 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.

Living Book Press.
2025.

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HEDGEROWS (LEFT) SONG THRUSH

LESSON 1

LIFE OF THE HEDGEROW

THE game of "hide-and-seek" is part of the life of all wild creatures. It is not a game they play for fun, however, but a matter of life and death, the strong ones being the "seekers," the weaker ones the "hiders." You can imagine what welcome shelter is offered to the "hiders" by those thick hedgerows which are so plentiful in our land. When the enemy is at hand, it is the hedge-tangle which saves their lives. Some scarcely ever venture more than a few feet from its friendly shadow. But let us scan the hedge-plants before we glance at the creatures which hunt and hide among them.

HEDGEROWS ON A COUNTRY LANE

We will pass by the low and level hedgerow which the farmer has so neatly trimmed, and find one which has "gone wild"—a high tangled wall of green, with its feet in a thick mass of grass and flowers. Such a hedge is a perfect home for bird and beast, but the farmer has little use for it. It not only shades his precious crops, but provides a home for the pests which steal them. Also, it is a nursery for the weeds which shed their seed over his fields. Hedges occupy wide strips of land which, perhaps, the farmer can ill spare. But a country with no hedges loses much of its beauty; and all lovers of Nature would grieve to see our delightful English hedgerows destroyed.

In its gay summer dress our hedge looks the very home of peace, does it not? Yet there is a never-ending battle

in the plant-world no less than in the world of animals. Plants fight for food and air and light, and every hedgerow shows how fierce is the struggle. The plants we see in the hedge are the lucky ones which have been able to win their way successfully to the light. But in doing so they have smothered and killed many a weaker one. From the humble flowering plants of the hedge-bank, up to the topmost spray of the tall shrubs, there is a battle for light and life.

Even in winter, beneath the brown tangle of dead leaves and stems, you will find an army of seedlings shooting upward. They make an early start, you see, so that they may spread leaves and flowers in the sunshine before rival plants can grow up to smother them. The first spring flowers of the hedge-bank, the Violets, Primroses, and Celandines, are short in stalk. They are soon over-topped by the early summer flowers, until, in full summer, the handsome Foxglove looks down on a crowded throng of

CELANDINES

lesser plants at the foot of the hedge. If you follow the clock of Nature, and notice these plants as they appear, you soon discover that each stands on tiptoe, as it were, to obtain a place in the light.

If our hedge has run wild for several years, it will contain many a tall young tree. We see the evergreen Holly elbowing its neighbours aside with stiff, pointed leaves. Mrs. Thrush finds it useful as an early nesting-place, for she often builds when the other trees are merely tipped with the fresh green of bursting buds. The Blackthorn or Sloe, with firm, spiny branches, has won a place in the hedge; its pale blossoms, on leafless twigs, are a welcome sign that spring is near. Here and there a tall young Oak has reared its head above the rest—perhaps the Squirrel sowed it when he hid some acorns one autumn day, and then forgot to dig them up. The Ash, Hazel, Hawthorn, Maple, Crab Apple, Beech, Hornbeam, Guelder Rose, and Elm are all to be found in our hedgerow, with many another tree and shrub.

BLACKTHORN

Scrambling and twining, looping and twisting over these sturdy plants, we see the Bramble, Wild Rose, Bryony, Travellers' Joy, Bindweed, and Honeysuckle. These have their own way of winning a place in the sunshine. Roses and Brambles—as we all know to our cost—cling and climb by means of curved prickles and thorns. The others climb with the help of their twining stems which cling so tightly that they sometimes choke the life from the young tree which supports them. Honeysuckle does much mischief in this way; it is a strong climber, and may open its flowers forty feet or more up in the branches of a tall tree. It is the first plant to show tufts of green in our hedgerow, and its sweet blossom lingers until the autumn.

Let us glance at some of the creatures which find lodging in the hedgerow. It offers the birds a perfect shelter for their nurseries. Down at the hedge-foot, under a thick bush, is the nest of the Nightingale, whose youngsters croak like frogs; and the Whitethroat has earned the name of Nettle-creeper from its fondness for the nettle-beds. In the tangle of the hedge you may find the nest of Blackbird, Thrush, Robin, Chaffinch, Hedge-sparrow, and many another bird; and, when the fierce Sparrow-hawk makes its deadly swoop, all the little birds are safe once they gain the friendly shade of the hedgerow. The hawk is well aware of this, and by shooting swiftly through a gateway or gap in the hedge it tries to surprise its victims.

Field-mice, Voles, and Shrews all have their homes at the foot of the hedge; the pretty Dormouse climbs among the twigs for food, and in autumn builds a cosy

nest under the roots or in the thick of a bramble bush. Here and there along the bank we see the entrance to the burrow of Rat or Rabbit. Both these know well that there are two sides to every hedgerow, and if on one side there is danger, safety lies on the other side.

The Stoat and Weasel often find good hunting in the hedge, climbing the bushes to empty a nest of eggs or young birds, or searching the bank for Mice, Voles, or Rabbits. In a later lesson we shall meet these fierce hunters again, as well as another who also finds a meal along the hedge-bank—the Hedgehog or Hedgepig. He, too, devours young birds, and is not above feeding on the Hedge-snails which are so plentiful. Their shells are prettily banded with colour, and, strange to say, we can collect a score of them and find that not two are coloured alike.

Jack Frost brings a sad change to our hedgerow and its little folk. He strips off the last of the autumn leaves with his icy fingers, and his chilly breath sweeps through the gaps, searching every nook and corner. Then the birds are warned that they must busy themselves or perish of hunger. Some seek gardens and farmyards; but there are many that still haunt the hedge and manage to pick up a living.

STOAT

GOLDFINCH

Food is scarce; however, there still remains some of the feast which was spread along the hedgerow in the rich autumn days. The larder is not yet empty. There are thistle-seeds for Goldfinch and his cousins, and sleeping insects to be sought by the sharp beaks of the Tits and Wrens. Every rose-bush is gay with hips, which shine in the leafless hedge like little red bottle-shaped lamps. Thrush and Blackbird eat their pulp, flinging away the hard, hairy, choking seeds—so, in robbing the plant of its fruit, they are really helping it to sow its seeds!

EXERCISES

1. Name seven shrubs and trees common in hedges.
2. Give the names of some birds and beasts which frequent the hedgerow.

BAT

LESSON II

THE FLITTER-MOUSE

When dusk creeps over the land, out come the little Bats to join the hunters of the night. Over the hedgerows and tree-tops, round barns and churches, and along the river-banks they pursue their prey—moths, beetles, and flies. Their silent flight is quite different from that of the bird, and more like the soft, zigzag flitting of a big moth.

Bats are weird little animals. No wonder we find them in so many fables, and always with imps, goblins, and witches. But the Bat is really a highly favoured child of Nature. As you may know, it belongs to her very highest class of animals, the *mammals*—those that suckle their young; and of all this great class they are the only ones with wings. No other mammal has received that precious gift—the power of flight. Most mammals walk the earth, or climb the trees. A few, like the Whale and Porpoise, live under the ocean wave. One, and one only, can spread its wings and fly with the ease of a bird.

So we find the Bat not at all "horrid" or "creepy," but a creature well worth watching. We can smile at the old mistake of calling it a "bird" because it flies, a "mouse" because it has fur, or a flying "reptile" because it has "leathery" wings. It is a true mammal, and placed high on the wonderful list of Nature's children.

Let us look at its little body, before we follow its story further. In science it has a long name, which merely means "*hand-winged.*" That name gives you the secret of the Bat's flight. Have you ever had a near look at one of these quaint animals? If so, you will have seen that its wing is a soft, elastic, silky skin. It begins by the Bat's neck, and reaches along the sides of the body right down to the leg and on to the ankle. This skin is stretched over the arm-bone, and spread out on four very long fingers, as the silk of an umbrella is stretched over the ribs. Nature has made many different kinds of living flying-machines. In the case of the Bat she has turned the front limb into

BAT HANGING FROM THE ROOF OF A CAVE

a splendid wing, by stretching a wide sheet of thin skin over four long, thin fingers. This wing folds nicely when not in use. The thumb is quite short. Instead of helping to form the wing, it is merely a claw. It shows above the margin of the wing, and is used at times as a hook.

The two legs are weak, but of great use when the Bat hangs itself head downward for the day's sleep. Watch a Bat climbing along a branch, or down the wires of cage. It shuffles along in an awkward way, first using the thumb and foot of one side, then those of the other side. Thus it stumbles from side to side and staggers forward. The queer little creature, so quick and active in the air, is nearly helpless on earth. It cannot stand up on its legs. And, strange to say, its knee points backwards instead of forwards!

Turning somersaults and "looping the loop" seem

THE EARS AND FACE OF A BAT

easy to the Bat. In this way it catches prey, and munches it with sharp teeth. Our largest Bat, the Noctule, may often be seen to tumble in the air. While doing so, it is pushing an extra large insect into its mouth by means of its hooked thumb.

These Noctules like to inhabit hollow trees. In the dim light a score or so of them, hanging by their toes, make a weird sight. Each wrinkled face—rather like a small bulldog's—is turned towards you, the deep little eyes glinting with a look of fear. The sharp teeth are bared, ready to bite you, but they are too small to do any harm. Your visit to the Bat's bedroom will be a short one, for the smell is strong and not pleasant.

The Noctule flies high in the summer twilight, and utters a cry like two pennies clicked together. The common little Pipistrelle Bat has a high, squeaky note, which many people are quite unable to hear. One of the puzzles of the Bat's life is its strange power of finding its way in the dark. Its eyes are quite sharp, but even if they were bandaged the Bat could find a clear path in the air. It is said that the secret lies in certain very, very delicate nerves on the bare skin of the wing, ear and nose.

Some Bats have wonderful noses, like bunches of leaves; others have two or three ear-trumpets. Bats often live in dark caves, where the keenest sight would not help them to steer a clear course. Yet they fly freely and swiftly. A few of these Bats were once shut in a dark passage, with strings hung here and there from the ceiling and from wall to wall. Yet these gifted animals were able to guide their

way without once entangling themselves in the string. We can only explain it by saying that the Bat is able to feel even small objects *at a distance*.

The nursery life of a baby Bat is not a very comfortable one. As the mother makes no nest, she has no choice but to carry the baby with her during the evening flight. At first it is quite hairless, with pinkish, wrinkled skin, and a curious, ugly, puckered face. It has no brothers or sisters, for how could Mrs. Bat care for a large family! The baby clings to its mother as she flits in the air hunting moths and beetles. So tightly does it cling to her fur with its tiny thumbs and toes that it can only be pulled off with difficulty. When the mother returns to rest, she hangs herself head-down and folds her large wings round her child. The young one is left at home by the time it has grown a short, thick fur. It dare not venture out until its wings and muscles are ready for flight.

Bats are timid, nervous little creatures, lovers of darkness, hard to tame, and far from being clever. Also, many of them have a very unpleasant odour; and their pretty fur is apt to contain a number of unwanted insect guests. They look so large in the air that one is surprised by the actual size of their furry little bodies. They are mostly wings and ears! The tiniest hole in a cage gives them a chance of escape, which they are not slow to seize!

Like other insect-eaters, the Bat has to find a way of living through our winter months. Instead of flying to a warmer country, it sinks into a sound sleep. A hollow tree, a barn roof, or a church tower makes a suitable sleeping-

BATS HANGING FROM THE ROOF OF A CAVE

place. You might there see clusters of Bats, hanging as if dead, each wrapped in its wings, and sound asleep. The little Pipistrelle is the lightest sleeper of all our British Bats. In the south of England it may be seen on the wing when a warm wind drives the feel of winter away, and tempts flies and gnats to dance in sheltered corners.

EXERCISES

1. Describe the wing of the Bat.
2. Of what use is the thumb?
3. Why is the Bat so helpless on the ground?
4. Describe the nursery-life of the baby Bat.

DODDER

LESSON III

WAYSIDE BEGGARS

Most animals and plants work hard for a living. It is easy to see the busy life of the ants' nest, each little ant working, always working, for the good of the ant-town. It is not so easy to see that the green tree also leads a busy life; yet, day and night, the tree is at work. Each rootlet and each green leaf works in its own way for the benefit of the whole tree. If for any reason the green leaves cease work, the life of the tree cannot go on, and it dies.

There are several common plants which do no work. Like the tramp, they prefer to let others work, and take a share which they have not earned. Such plants steal their food from other plants. They are known as *parasites*, and the plant from which they steal is known as the *host-plant*. We shall find that some of these plant-beggars do nothing

to earn food, while others do a little work on their own, and make the host-plant do the rest.

On many a field and common you can find one of the worst of these wayside beggars. The farmer, looking over his clover crop, sees brown patches and withered plants, where all should be fresh and green. No need for him to look closer; he knows too well that his crops have "clover-sickness." In other words, they are attacked by the *Dodder*, which is one of the worst of plant-thieves. It has relations which attack Hops, Nettles, Furze, Clover, Heath, and other common plants. The clover-pest often becomes a serious nuisance; it is a very complete beggar, as we shall see by watching it at work.

To begin at the beginning, let us follow the fortunes of a Dodder seed which fell into the ground in autumn, about the same time as the clover shed its seed. There it remains until the next spring. The clover seed sprouts first, the Dodder seed perhaps a month afterwards. There is, as you will see, a good reason for this long wait.

The Dodder seed sends a tiny root into the ground, and a thin pink shoot into the air. At the end of the root is a swelling, which we might call the "feeding bottle" of the baby plant. There are no green leaves, and from the very first this plant-beggar makes no food for itself. For the early part of its life it depends on the rich food in the "feeding-bottle." The pink thread grows quickly, and slowly turns a complete circle in the air, as if it were feeling for something. At last it finds what it needs—a clover stem. In a very short time the pink thread makes

two or three coils round the clover, and then its troubles are over; for the future, the poor clover will have to find board and lodging for its unwanted guest!

Let us see how the Dodder steals its food. Wherever it touches the clover, a growth, like a small flat sucker, appears. Then from this sucker a number of threads grow out. These make their way right into the juicy clover stem, where they find a store of food. This food the Dodder-threads suck away, and slowly starve the clover to death.

All this time, you remember, the Dodder has a small root in the earth.. As soon as it begins to feed on the clover, a strange thing happens. The root withers away; and now the Dodder makes no pretence at earning a living.

If you look at this plant-beggar a week or two after, you see a big tangle of thin pinkish threads around the dying clover. Look again, and you notice that the Dodder-threads have grasped the next clover plant, and the next. Later on, clusters of little flowers appear on the Dodder. Then seed is formed and scattered, to wait in the earth until the following spring.

BROOM-RAPE

Another common plant-thief is the *Broom-rape*. This plant does not steal food from the stem, but from the living roots of other plants. Its seed sends down a long "feeler," which grows until it finds a root of clover, pea, broom, or other plant. Being a plant-thief, the Broom-rape scuds up no shoot to earn a living in the sunlight; all its strength goes to the "feeler." As soon as this has found a rootlet, it forms a "sucker," and so fixes itself. Then little threads grow from the sucker, and steal food from the clover or pea-root, just as the Dodder stole from the clover-stem.

When the Broom-rape is safely fixed to its "host," the long feeler withers away. Soon after this, a little bud grows up from the Broom-rape "sucker." It shoots straight up to the sunshine. If you look in the hedge-banks and meadows in June or July, you will find a stout brownish stem about ten inches high. It is clothed with thin purple

MISTLETOE WITH BERRIES

in colour. This is the flowering part of that lazy thief, the Broom-rape. Like the Dodder, it never at any time of its life grows green leaves; instead, it gropes in the earth until it finds a plant which will provide it with food. If it cannot find that plant, it lingers for a time and then dies.

We could find other plants in hedge-bank and meadow which, like the Broom-rape and Dodder, are beggars and thieves. But we will pass them, and look at one which helps to find its own living.

On many a tree you will see the Mistletoe growing in thick clumps among the branches. It favours the Hawthorn, Elm, Poplar, Lime, Apple, Pear, and a few other trees. As we know that green leaves are a sign that a plant is working for its living, it is plain that the Mistletoe is not such a thief as the Dodder. But what are its roots doing so far away from Mother Earth? They are stealing food from the tree in which they are firmly fixed.

Every one knows how the Missel Thrush helps to spread this plant by eating its rich, sticky berries. He flies to another tree, and perhaps a stray seed is left when he cleans his bill on the bark. This seed is sticky enough to

MISTLETOE IN A TREE

MISSEL THRUSH

remain there until it sprouts. Then one or two little green rootlets come from the seed, looking almost like suckers. They grow into the bark, and through to the sap-wood beneath; then, of course, they begin to rob the tree of its store of liquid food. In a short time two yellowish-green leaves appear. As the Mistletoe drains more and more food away, so it thrives until it becomes a thick bunch, ready to be cut for our Christmas decorations.

Plant-beggars behave in strange ways, so we are not surprised to find the Mistletoe standing on its head. Most rootlets grow downwards, and refuse to grow in any other way. But the Mistletoe roots do the very opposite; they grow upwards, and the plant stands on its head. It is amusing to know that this habit made the Mistletoe famous as a cure for all kinds of giddiness!

EXERCISES

1. How does the Dodder steal food from other plants?
2. What are the "host-plants" of the Dodder and Broomrape?
3. Why was the Mistletoe said to cure giddiness?