

## LESSONS FROM NATURE.

By JEAN A. OWEN, Author of "Forest, Field and Fell," etc.

## CHAPTER I.

## INTRODUCTORY.

CHRIST, the divine teacher, has taught us to go to nature for moral and spiritual lessons. "Consider the lilies of the field," He says to those who are anxious about, and careworn with the things of this life: and that old triangle of a problem with its hard points: "What shall we eat? what shall we drink? and wherewithal shall we be clothed?" does press heavily on many even of those who read our GIRL'S OWN PAPER. The fall of the sparrow, too, He tells us, is noted by His Father and ours. He bids those who are neglectful of the talents given to them, learn a lesson of the barren fig-tree. Again the rapid and marvellous development of the mustard-tree, in the mouth of the great teacher, becomes an image of the faith that He bids us have. And even when speaking of the yearning love He had for souls, He did not disdain to use the simile: "As a hen gathereth her young." And so, if the eyes are quick to note all that surrounds us, all the wonderful life, "the infinitely small" as well as "the infinitely great," and the heart makes room for love, it will be possible to learn, from the first year of our lives, until the day of our death here, lessons from nature which no man or woman has ever yet exhausted, nor ever will.

One of my earliest memories is of an old-world garden where our mother, who was an ardent lover of the beautiful, would direct the attention of my sisters and myself to the pencilling on the petal of this and that flower. God's finger painted the velvety face of the pansy, she told us. And how often I pondered over this expression and wondered if that finger did its work in the garden when we were asleep.

Our dear mother gave us a love for nature which has been our resource and consolation in many a sorrow, and which has filled the void of what would otherwise have been weary, monotonous hours.

Ruskin said, "Despise the earth or slander it, fix your eyes on its gloom and forget its loveliness, and we do not thank you for your languid or despairing perception of brightness in Heaven. But rise up actively on the earth, learn what there is in it, and when, after that, you say 'Heaven is bright,' it will be a precious truth." Lord Bacon spoke fitly of the "responses of nature," and he with many other great minds has dwelt on the marvellous analogies of nature. These analogies are indeed evidences of the unity of creation. And there are prefigurations which we may note in the animal kingdom, in the various habits of the creatures, their works, economies and instincts. Human art is prefigured in the work of the bee, the wasp, and the beaver. Democritus averred that men learned weaving from spiders and architecture from birds. Virgil said that the bees had in them a portion of the divine mind.

The Psalmist likened a good man to a tree planted by a river; Wordsworth writes constantly in a strain which bears witness to his belief that between man and the flowers of the field there is the closest affinity; in quaint George Herbert's poems we note also the same teaching. Look them up, if you do not remember them, especially that dear one called "The Flower."

How many great men have been influenced in their careers, careers which have been great factors in the world's growth, by the sight of what to many an unobservant or unthinking mind would seem too insignificant an object for notice.

There was the great traveller and explorer, Mungo Park, who was employed by the so-called African association to explore the interior regions of Africa. Once, weary, disappointed, and baffled, he was on the point of giving way to despair, when he suddenly came on a little plant the sight of which, and the thoughts which its beauty suggested, revived his courage and probably saved his life.

Most of you will remember also that beautiful story of Picciola, the prison flower, the seed of which had fallen on the paved yard of a prison where a noble Italian was confined. When he was in the lowest state of despondency, and in danger perhaps of madness, the tiny plant awakened interest, and daily delighted the poor prisoner as its beauties unfolded, opening a little world of interest to the starved heart and mind. When at last he was set at liberty he caused his wall-flower to be transplanted and placed it in a border, in a place of honour in his castle grounds. It had been made the instrument of his salvation.

Some persons talk of things being insignificant or too small to notice. Perhaps it will surprise some of our readers to hear that a common house-fly is said to occupy the middle place in creation as regards the size of known creatures. Most people can see big things, but the gift of seeing tiny objects belongs rather to the few, and yet it may be cultivated, and great enjoyment may be found in observing things which seem to common minds to be unworthy of note—the simple, homely, and smaller life that surrounds us. Mr. Leo Grindon, a great student of life and a noted botanist, says very truly—

"To learn how to see and delight in little things, as well as in large, is, in fact, to make no slight progress both in true intelligence and in aptitude for genuine pleasure. Many laugh at the idea of being pleased with little things, which, they say, 'please little minds.' They should remember that the great mass of the population of our planet consists of the merest pigmies, diminutive birds and fishes, tiny insects, animalcules, only visible through a microscope, so that to turn away from little things is to be indifferent to almost everything the world contains. Besides, with Uranus eighty times greater than the whole earth, Neptune a hundred and fifty times greater, Saturn more than seven hundred times, and Jupiter more than fourteen hundred, it is rather inconsistent to talk about littleness in the objects of a world itself (comparatively) so puny."

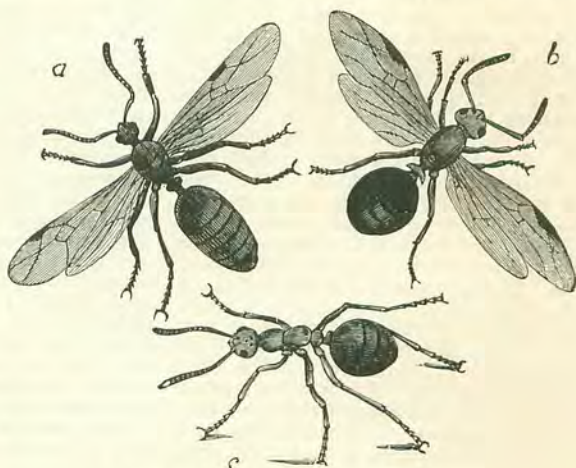
"Our spring is in our lightsome girlish days." Spring is the season of growth. Let us try to promote a healthy mental growth by studying together in the wonderful book of nature and appropriating some of those helpful lessons which she has to teach us.

## THE PROVIDENT ANT.

The wise man, in the Book of Proverbs, speaks of the ant as one of "four things which are little upon the earth," and yet are "exceeding wise." He says that the ants are "a people not strong, yet they prepare their meat in the summer." That is, when all in nature is at its richest, when food abounds, they use

forethought and gather in enough to sustain themselves before the winter draws near, and the usual food supplies have failed.

The Book of Job, that Eastern drama which is so wonderful in its lessons suited to human experiences in all time, is marvellously comprehensive in its illustrations drawn from the natural world. We are taken there into the regions of ice and snow, and again we pass through the rich verdure of the tropics. We try to sound the frozen deeps, and anon survey the hot desert plains; we wander where the lion seeks his prey, and through dense forests where behemoth, or the elephant, feeds. The coral and the pearls are there, so are the gold ore, the iron, and the brass. The Author shows us the ostrich "that scorneth the horse and its rider, the hawk that stretched her wings towards the south like our peregrine, the wander falke"—the eagle that makes her nest on high yet "is with the slain on the earth beneath." And this great observer says, "Ask now the beasts and they shall teach thee, and the fowls

THE WOOD ANT (*Formica rufa*).

(a) Male; (b) female; (c) worker.

and they shall tell thee, or speak to the earth and it shall teach thee, and the fishes of the sea shall declare unto thee."

The lessons to be learned from the ant are, of course, diligence and a careful or prudent forethought for the future. Solomon says that the ant "has no guide, overseer, or ruler," yet she provides, having gathered in during the summer and the harvest time. How many of us there are who seem to need tutors and governors to urge us on through the duties of life, not only in childhood, but far on into man and womanhood. Compulsory pressure from without alone rouses some of us to action. Man thinks himself the lord of creation, and is yet far outdone by a weak insect, not only in energy and persistent work, but often positively in intelligence.

Perhaps you have, many of you, read of the so-called warrior ants, the *Termites bellicosus* of the more tropical regions. They do not belong to the same order of insects as our own ants, and we are happily not subjected to the havoc which their building and devouring works. Two species of termites have, however, got established in France, notably in Rochefort, La Rochelle, and Aix, and there they have undermined and utterly ruined a number of houses. In one town they gnawed away the supports of a dining-room before their ravages were detected, and the floor gave way during a party, the host and his guests suddenly falling through together.



Artillery charged with grapeshot has been employed to destroy great fortresses that these ants have made in a tropical country. In South Africa the termites work enormous havoc. They live in a social republic of their own. Some of them, the males, have wings; the workmen, the soldiers, and the queens however have none. The workmen construct their buildings, the soldiers defend the colony and keep order, and the females, or queens, are worshipped by all the others. These become in point of fact mere egg-laying machines, which have at last to remain tied to one spot.

Twenty feet high their nesting-homes often are, and pyramidal in shape. Wild cattle can climb upon them with impunity without crushing them, the walls are so solid. A dozen men can find shelter in some of their chambers, and native hunters do often lie in wait inside them when out after wild animals. They construct galleries also which are as wide as the bore of a large cannon, and which run three and four feet underground. The nests are said to be five hundred times as high as the ant's body, and it has been estimated that if we built our houses as high, proportionately, they would be four or five times as high as the pyramids of Egypt, on which we look with such wonder and awe.

In speaking of the havoc some ants make, let us also remember some good service rendered. In the West Indies there is a red cockroach which is four times as large as the English one. It smells horribly, and scents everything that it touches, is far more destructive than the ant, and quite omnivorous. Now, although one cockroach in bulk outweighs two hundred ants, the latter little creatures kill and devour innumerable cockroaches. Whenever an ant comes upon a cockroach that is at rest, eating, or in its hole, suddenly myriads appear, swarm round it, as if by magic, surround it completely, and then, with one consent, rush all over it, and as it is dragged away, you see only a mass of ants moving along. All the time they carry they are busily devouring it, until only its shell is left.

We read also that in forests in Switzerland and Sweden the ants form lofty hillocks which serve as a compass to travellers who have lost their way by night or in a fog. The

nests being always made from east to west, their peak is at the east end, which is steep, the ridge sloping, however, gently down to the nest. So the wanderer can tell from these ant-hills in which direction he ought to go.

Tamerlane, the great Tartar prince, learned a helpful lesson from an ant once, when he had taken refuge from the pursuing enemy in a ruined building. Having to stay there for hours, at the end of his resources, ready to give way to despair, his attention was attracted by an ant which was carrying something larger than itself up a high wall. Noticing that it often let its burden drop, he began to count the number of times that it began the ascent again, and he found that sixty-nine times it failed, its burden falling to the ground. The seventieth time was a success. "This sight," he said, "gave me courage at the moment, and I have never forgotten the lesson it taught me."

Our own ants afford a marvellous study for those who can and will give a little time to—as Solomon says—the considering of their ways. Ants are said to stand higher than any other insects in intelligence—so-called instinct. And insects in general have more of this faculty developed in them than have any other creatures. They are watchful, unwearying nurses; they take the eggs out on fine warm days so as to warm and strengthen the coming ants, and they will wait, to be cut in bits, rather than forsake their charge. When the eggs are hatched, the nurses clean and brush their young, and even shampoo the thin skin which cover their limbs, so that they can go free. Each grown ant knows its own business and can, when necessary, fight its own battles, and yet there is always a community; they have all things in common and work for the general good. They are enduring, persevering, faithful in friendships, and most industrious. One writer has said, in describing an ant-hill, that whilst there was a twittering of birds, and a buzz and hum of insect life around, the ants were all silent, only "the sort of low hiss which arose from the collected workers, resembled the noise of a London street more than any form of speech."

Their power of self-sacrifice is a marvellous fact. A man once saw a line of ants, on travel,

trying to pass a little rapid stream. They hooked themselves on to each other so as to form a chain which was carried in a slanting direction by the current to the opposite shore. Many of this chain were drowned, dropping off in the forming process; those in front were often baffled and overwhelmed in the rushing current. At last the bridge was completed and the main body of the army of ants marched across the stream in safety upon the massed bodies of their self-sacrificing companions.

Milton has written of "the parsimonious emmet, provident of the future. . ." "In small room, large heart enclosed." A writer has stated that a son of Mr. Darwin dissected the head and brain of an ant, which latter the great scientist declared to be "one of the most marvellous atoms of matter in the world," more marvellous even than the brain of man. Speaking of the brain of ants, Sir John Lubbock says, "The head bears the principal organs of sense, and contains the brain, as the anterior portion of the nervous system may fairly be called."

Forethought is at the root of all thrift, and thrift underlies all civilisation as well as personal well-being. We seem at times, some of us, rather to despise a saving disposition, as if this necessarily implied meanness in its subject. Yet the greatest benefactors of our race have been nearly all great savers at some period of their lives. And there is little true generosity in the soul of the woman who spends all she gets, even if her means go largely to others, if, through failing to lay by something for a rainy day, during the winter of life she is thrown on the charity of her fellows for her support. As someone says, nothing should be left at loose ends. It is only the few who become rich through large undertakings, the majority of mankind prosper by means of carefulness and the practice of the details of thrift. "Thrift is the best means of thriving."

Let us end this little study by reminding ourselves of that thoughtful dictum of Ruskin's, "Economy, whether public or private, means the wise management of labour . . . first applying your labour rationally; secondly, preserving its produce carefully; lastly, distributing its produce seasonably."

(To be continued.)

## ABOUT PEGGY SAVILLE.

By JESSIE MANSERGH (Mrs. G. de Horne Vaizey), Author of "A Girl in Springtime," "Sisters Three," etc.



### CHAPTER II.

THE school-room was a long, bare apartment running along one side of the house, and boasting three tall windows, through which the sun poured in on a shabby

carpet and ink-stained tables. Everything looked well worn and, to a certain extent, dilapidated, yet there was an air of cheerful comfort about the whole which is not often found in rooms of the kind. Mrs. Asplin revelled in beautiful colours, and would tolerate no drab and saffron papers in her house;

so the walls were covered with a rich soft blue; the cushions on the wicker chairs rang the changes from rose to yellow. A brilliant Japanese screen stood in one corner, and a wire stand before the open grate held a number of flowering plants. A young fellow of seventeen or eighteen was seated at one end of the table employed in arranging a selection of foreign stamps. This was Maxwell, the Vicar's eldest surviving son, who was to go up to Oxford at the beginning of the year, and was at present reading under his father's supervision. His sister Mellicent, was perched on the table itself, watching his movements, and vouchsafing scraps of advice. Her suggestions were received with sniffs of scornful superiority, but Mellicent prattled on unperturbed, being a plump, placid person, with flaxen hair, blue eyes, and somewhat obtuse sensibilities. The elder girl was sitting reading by the window, leaning her head on her hand, and showing a long, thin

face, comically like her father's, with the same deep, straight lines running down her cheeks. She was neither so pretty nor so even-tempered as her sister, but she had twice the character, and was a young person who made her individuality felt in the house, while Maxwell was the beauty of the family, with his mother's crisp, dark locks, grey eyes, and rich brunette colouring.

These three young people were the Vicar's only surviving children, but there were two more occupants of the room, the two lads who were being coached to enter the University at the same time as his own son. Number one was a fair, dandified-looking youth, who sat astride a cane deck chair, with his trousers hitched up so as to display long, narrow feet, shod in scarlet silk socks and patent leather slippers. He had fair hair, curling over his forehead; large, bold, blue eyes, an aquiline nose, and an air of being very well satisfied with the world in general and himself in





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### CHAPTER II.

#### THE INDUSTRIOUS BEAVER.

THE part played by some of the different species in the animal world (*sic*), in the development of our earth and its resources, cannot be over-estimated. In some parts of America, for instance, the persistent industry of beavers in the construction of dams has rendered fertile whole tracts of prairie land that were once arid and barren.

In the *Castoridae*, together with the squirrels, the beaver family constitute the group termed *Sciuromorpha*, a group distinguished by its members having a special type of lower jaw structure, and also the same type of skull structure. The powerful incisor teeth of the beaver are admirably suited to the cutting through of small tree stems, of branches and twigs, whilst its flat and scaly tail serves as a rudder to a creature that always makes its home beside or in the midst of water.

The beaver is as much noted for its sagacity, and for what nowadays we call "faculty," as it is prized for its fur. One of the largest of the rodents, its body measures nearly three and a half feet in length, not taking the tail into consideration, which is eleven to twelve inches in length.

An attempt has been made to acclimatise the beaver in England again. That it once bred in our country is proved by the fact that some fossil remains of the animal have been obtained from the crag deposits in Norfolk and Suffolk. These were, however, declared by Professor Owen to have belonged to a much larger species of beaver than is now known. Sir Edmund Loder has a number of the common species established in a little valley stream in his estate, Leonard's Lea, near Horsham, carefully protected, which are said to be thriving, and Lord Bute had a still larger number established in Scotland; but it is not likely that they will ever be at home in our country again. Whilst badgers and others have had so much difficulty in holding their own, it is not likely that the beaver could breed and thrive unmolested. Whilst writing the present article, I have heard from Lord Bute that the last of his beavers died some time ago.

In other parts of Europe it is found now only in small numbers, on the banks of the Danube, the Rhone, and the Weser. In the northern districts of Canada it is very numerous. Its range in America is from the confluence of the Ohio and the Mississippi to the banks of the Mackenzie River. At one

time the demand for the fur—greatly in vogue in those days for men's hats—was so large that it was feared this clever little creature might become extinct, and the noted furriers of the Hudson Bay Company took measures, in concert with certain Indian tribes, for its protection, whilst still procuring large quantities of its fur.

The most interesting feature in the natural history of the beaver is their amazing skill in the construction of their dams and the dwellings they make for themselves—"lodges," these are called. They are often constructed in small rivers and creeks where the water is apt to be drained off, when the supplies are dried up by winter frost. I spent some time in Colorado near to a part of the Rockies where beavers abounded, and where they were a never-failing source of interest to the young folks in my friend's family. In Montana also they abound in vast numbers. One of its counties is named Beaver Head.

What we—in our ignorance of the inner life of those creatures who have always shared the rich heritage of this world with ourselves—term instinct, has taught the beavers to provide against drought, and to keep up a certain necessary depth of water, by making a dam right across these smaller rivers just at what they know to be a convenient distance from their houses. The manner in which they construct this depends on the locality where they live. If the current is not strong—if there is only a slight motion of the water—the dam is made almost straight; but in proportion as the stream is a rapid one, the dam must be more curved, presenting its convex side towards the current. Where beavers have been allowed to build for a long period undisturbed, their dams become in time, through the persistent industry with which they repair them, a bank so solid that it resists quite a strong on-rush of water or even of ice. Vegetation plants itself on this—willows, birches, and poplar-trees take root. Sometimes so large a thicket is formed that birds build there, and the whole makes a charming colony of happy and busy life. The dams are built in some rivers of trees which are often five or six inches in diameter. These the beaver cuts down with his wonderful sharp incisor teeth.

In lakes and ponds also the beavers have their habitat. They like much the narrow creeks which so often connect the lakes of North America. The currents help them to convey the wood and other materials to their dwellings. A certain depth of water is, of course, necessary for their purpose. Drift-

wood is utilised by them in building, as well as the green boughs of willows, birches, and poplars. But mud and stones are used also, welded all firmly together, and the different parts of the dam must, of course, be of equal strength. In the same manner, that is, of the same materials, they construct their dwellings, but they are not built with equal care; their construction is rougher than that of the dams. The only thing essential in the work is that they should be made watertight, so that they may have dry sleeping-quarters. Sometimes a house is just big enough for one family, but larger dwellings are also made, such as will house a great number of animals. When this is the case, each family has its own apartment, with a separate door communicating only with the water, never with the home of any other family. The wood is laid crosswise, nearly horizontal, leaving a cavity in the centre. The smaller branches, that project uselessly, are cut off with the teeth, and they are thrown in with the rest to form a good safeguard against any falling in of the mud through the roof.

Once it was believed that the woodwork was first finished, and that then it was plastered, the tail being used as a trowel for this purpose. But this was a popular error. The tail is used as a rudder, and like that of a dog, is a vehicle for emotion. It is flapped even when a beaver has been tamed and domesticated, especially when the creature is startled. They have a very pretty way of carrying mud and stones in their little fore-paws, holding them close up under the throat. The wood naturally is dragged along, held in the teeth. All their work is done in the night-time, a charming sight for a lover of animals, if he can quietly remain concealed near enough for observation on a clear calm night.

A wonderful instinct, so-called, again prompts the beavers to cover their houses each autumn with fresh mud—as late in the season as they can manage it—so that it may freeze hard and keep them secure against their foe, the wolverine, a creature about the size of our common badger, which is much about during the winter. Wolverines are said to do more damage to the fur trade in smaller animals than all the other creatures of prey put together.

Their lodges are kept clean, their inhabitants always plunging into the water instead of polluting their sleeping quarters.

Sir John Richardson states that their main food consists of a large root, something like a cabbage stalk, which grows at the bottom of lakes and rivers, a yellow water-lily in fact—



*Nuphar luteum*. But they eat also the bark of trees—that of the poplar, birch and willow. The latter, however, they cannot procure in winter, when the ice prevents their getting to land, so that roots are then their staple food. In summer the diet is varied by the different kinds of herbage and the berries growing near their haunts. In the part of Colorado I have already referred to, above what is called Hardscrabble Creek, in Fremont County, wild fruits, gooseberries, currants, raspberries, and other berries are in profusion. When the ice breaks up in the spring, the beavers always leave their homes to roam about until the approaching fall of the leaf makes them return; and after laying in their winter stock of wood, they then set to work to repair their homes.

The Indians consider beaver flesh a delicacy, and they prefer to bake it with the skin on, as our gipsies roast the hedgehog. It is a heavy meat, much like pork, hard to digest.

The author already mentioned tamed several of them, and he got them to answer to their names and to follow him about like dogs. They were, he said, very fond of being petted and fondled, creeping into the laps of the Indian women and standing on their hind legs to be caressed. They lived indoors with the women and children during the winter, and if these were absent for any length of time, the beavers quite fretted after them. So domesticated did they become that they particularly enjoyed rice and plum pudding, and, indeed, shared generally the food of the women. The cry of a beaver cub is very like that of an infant.

The American poet, Whittier, says—

"The musk-rat plied its mason's trade,  
And tier by tier its mud walls laid."

The musk-rat is a small kind of beaver, and great numbers of the skins are imported into England. It constructs huts like its larger relative but of a simpler style, the openings to them being under the water. There is also an animal nearly as large as a common beaver which was included in the same family, and called a coypu, inhabiting the rivers and streams of South America. Furs of coypu are sold as otter skins.

"Ask now the beasts and they shall teach thee," and from the beaver and its works we can indeed learn what persistent, cheerful industry can accomplish. Our poet, Coleridge, said, "If the idle are described as *killing* time, the methodical man may be justly said to call it into life and moral being, while he makes it the distinct object not only of the consciousness, but of the conscience." Perhaps the

latter part of this sentence may seem obscure to some of you, my readers. To kill time means evidently to lose all count of it, to be "unmindful of the fleeting hours." But if the conscience is roused, and we are imbued with a sense of our responsibility with regard to every day, every hour we live, each hour becomes instinct with possibilities, with the opportunity and power of developing the gifts that we have, the talents entrusted to us, not only with a view to self-improvement and personal enrichment, but with an eye on the Master and His work. "Fellow-workers with Christ" in the redemption of this world,—how great a calling!

The beaver's little paws seem so small; yet by pawful after pawful of earth brought by these small animals, who are working in friendly co-operation with their fellows, great dams that can stem an advancing flood are constructed.

I once heard a story of a poor and not over-wise—as the world counts wisdom—Highlander. I think he was a shepherd, he lived where there were only a few huts widely scattered over the bleak hillsides, and no church was within the reach of the inhabitants of these. God's Spirit moved strongly in the lonely heart, and he determined that a place of worship should be built. Every time he came home to his cot, he brought as many stones as he could collect whilst out, and he placed them in a heap not far from his own door. Those who knew him and who passed that way jeered and laughed at what the simple, loving fellow called his church building.

The heap grew, though very slowly; for many years the shepherd's work went on, that work which was called by the neighbours his "folly." But one day a rich stranger travelling by that lonely and unused way noticed the heap and asked what it meant. On hearing its history, his heart was warmed by the flame of love in that of the poor cotter, and he caused a good building—where divine service was soon held weekly—to be placed on the spot, using up in it, let us hope, those stones which were truly its foundation.

I know, myself, a lovely church, not far from Ehrenbreitstein on the Rhine, which was built only from stones brought by loving hands to ground chosen by the village pastor. The building took very many years, but it stands there now complete, a monument of the free-will offerings and labour of poor working folks.

We do not all need to think of building churches, but the stories are typical. We are all either building, or—awful thought—pulling

down the good work of others. As the Book says, "Every wise woman buildeth her house, but the foolish plucketh it down with her hands."

Our power to work increases by use. Many of the world's greatest books have been written by busy men. How often, too, one hears it said that if you want anything special done you must ask a busy man or woman to do it. That barren fig-tree to which our Lord directed the attention of His followers is a by-word and a proverb for all ages. Persistent industry it is that meets with the reward. An abiding sense of duty we need.

Yet all of us have our times of depression, of weakness, and days when aspiration and hope seem dead within us. Then let us try to cast ourselves on Him whose joy, "the joy of the Lord," may become our strength. One of our poets says—

"We cannot kindle when we will  
The fire that in the heart resides;  
The spirit moveth, and is still,  
In mystery the soul abides;  
Yet tasks in hours of insight willed  
May be in hours of gloom fulfilled."

It is these two last lines I would beg you to take to heart.

Huber, the distinguished naturalist of Geneva, who wrote so much and so finely on bees, was blind from the age of seventeen; yet he had a passion for the study of animal and especially of insect life, a study one would suppose quite out of the reach of the blind. He had a good and devoted wife, who never wearied in promoting his well-being and their joint happiness. Through her eyes he studied and succeeded in mastering a department in natural history which needs the clearest and keenest eyesight. And not only did he write a great work, which is still referred to as a masterpiece of its kind, and is still constantly quoted, but what the wife's eyes saw and transferred to his brain became his very own, to dwell upon, to draw deductions from, to gather to himself a fund of personal happiness, to give forth again to the world enriched by his thoughts—his life made a happiness and a blessing to himself and others—all through the unwearying industry and persevering efforts of a loving woman who effaced herself, apparently, for the sake of her husband and his life's work. "Who would lose his life shall find it."

A last word. The sovereign remedy for doubt and perplexity is, "Doe the next thyng."

(To be continued.)

## THE GIRL'S OWN QUESTIONS AND ANSWERS COMPETITION.

We give here the fifth instalment of questions in this Competition, full particulars of which appeared on p. 14.

### QUESTIONS 49-60.

49. What epidemic in Italy in the sixteenth century was cured by means of music?

50. What is the mother-tongue of Queen Victoria?

51. What is the best time at which to water indoor and outdoor plants?

52. Is abundant hair an indication of bodily and mental strength?

53. How many ways can be named of profitably using broken bread?

54. Was public money ever raised in England by encouraging the spirit of gambling?

55. Who was the religious poet so beloved by the parish of which he was rector that many of his parishioners would stop their ploughs when his bell rang for prayers that they might offer their devotions to God with him?

56. How did the leek come to be the emblem of Wales?

57. What famous outlaw has a conspicuous place in ballad literature?

58. Where can a married couple, after a twelvemonth of matrimony, lay claim to a

flitch of bacon after proving that, during the whole time, they have never had a quarrel and never regretted the marriage?

59. Has anyone ever tried to count the stars?

60. What English earl once got a box on the ear from a great queen?

The answers to the above questions, Nos. 49-60, together with the answers to questions 61-72, which are yet to appear, must be sent in on or before February 24, 1899.

Address to THE EDITOR, THE GIRL'S OWN PAPER Office, 56, Paternoster Row, London, E.C., and at the left-hand top corner of the envelope or wrapper write the words "QUESTIONS COMPETITION."



## A CAROL OF FOOTPRINTS.

BY NORA HOPPER.

'TWIXT snow and snow in their poor apparel  
The singers come with their lightsome carol,  
On Christmas Day, on Christmas Day.  
The singers come in a huddled crowd  
Singing "Gloria" low and "Gloria" loud,  
On Christmas Day in the morning.

Under the tread of so many feet  
Snow turns mud in the lamplit street,  
On Christmas Day, on Christmas Day.  
Yet you may see while the dawn endure  
Shining footsteps from door to door,  
On Christmas Day in the morning.

Shining prints of a little child,  
Feet in the mud set, undefiled,  
On Christmas Day, on Christmas Day.  
A little while do the footprints stay  
Till the clear dawn deepens to rosy day,  
To Christmas Day in the morning.

And those who have looked on the footprints bright,  
They know, in the dusk 'twixt day and night,  
(On Christmas Day, on Christmas Day,)   
That Christ has passed with the passing feet  
Of folk that praised Him in carols sweet  
On Christmas Day in the morning.

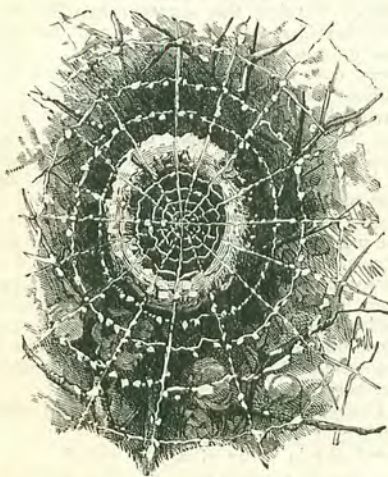


## LESSONS FROM NATURE.

By JEAN A. OWEN, Author of "Forest, Field and Fell," etc.

## PART III.

## THE PERSEVERING SPIDER.



CAN any pleasant moral lesson be learned from the spider? I fancy some of our readers asking—the spider, whom many regard as the most treacherous, cruel, and unrelenting of those creatures who lie in wait for prey? By the song "Will you walk into my parlour?" said the spider to the fly," in the nursery, several generations of children have been early prejudiced against this useful and most intelligent insect.

When they are a little older, it is true, the spider is held up to them as a wonderful example of perseverance in that story of King Robert the Bruce, who, when he was banished from his country, lying in concealment in a miserable hovel, and considering whether it would not be well to give up the struggle to secure his own, and with it restore freedom to his country, was attracted

by the sight of a spider hanging at the end of a thread and trying to swing from one part of the cabin roof to another in order there to fix its line. Six times whilst the King watched it attempted to do this and failed. The Bruce remembered then that he also had made just six attempts—that is, fought six battles with his enemies, and without success. "Now," thought he, "if that spider tries a seventh time and succeeds, I will take it as a good omen for myself, and will also try my fortune a seventh time." The spider reached the beam, and Bruce went forth to victory after victory.

The disgust aroused by the spider is by no means a just one, and the fear some people have of these insects is most unreasonable and absurd. In tropical countries the bites of some are dangerous, but not nearly so much so as is supposed. Our own spiders are harmless enough. I never destroy the webs they make in my garden, the circular nets which they stretch from one branch to another, which are considered by experts to show a perfection of weaving, whilst those webs which are woven in odd corners of our dwellings reveal an intelligence in their arrangement which is perfectly marvellous. I heard a clever man say lately that spiders were the greatest engineers in the world.

In some corner of your room you may study the horizontal net, covered with dust, perhaps, which is the base of the structure. Irregularly-crossed threads above this cause the prey to become entangled, and its end is inevitable. Most ingenious is the den in which the hunter is hidden in waiting. It consists of a circular tunnel with a double outlet. One of these, being horizontal, opens on to the web. The other is vertical, with a passage below, which serves as a trapdoor, whilst from the former the spider darts out on his prey. As soon as a fly has been destroyed—its blood sucked—it is seized by its captor and dragged to the tunnel to be thrown out at the trapdoor. This is no

doubt lest the *débris* should alarm other flies. The hunter can also escape itself, when necessary, by this exit. This does not often happen, perhaps, and the main use of the trapdoor, says M. Pouchet, an interesting French naturalist, is to get rid of the remains of the spider's repasts.

"The poison apparatus of spiders," says the same author, "is precisely analogous to that of serpents, only it is of microscopic size. It possesses mobile teeth, hollow fangs which distil the poison into the wound, and this is secreted by a peculiar gland situated in the interior of the palpi attached to the under jaws which effect the bite. In the large tropical species this lethal fluid is so active that it kills in an instant animals of a far superior size, and is often employed against the birds which the spiders seize on the trees." The so-called Bird-eating Spider attacks the lovely humming-birds. It is called the Great Spider in South America, and its cocoon is three inches long and one broad.

Thinking of the creatures of prey and their quarry is always a painful subject. Yet we know surely that the all-wise Creator would not order the balance of nature to be kept up in this way if it involved cruelty. There is cruelty in some of the methods of vivisection—in the horrible way, for instance, in which one French scientist at least has studied and tested by torture how far a poor loving mother dog will bear being maimed, before it can be induced to leave its offspring. And there is a brutality, as demoralising to the men who have to carry out their master's orders in felling oxen for the market, as it is torturing to the poor beasts. Nature's methods of killing are, as a rule, mercifully rapid. It seems to be a part of the Creator's plan that some of His creatures should live on the rest, and "some," says a thoughtful writer on God's providence, "have suggested that such a state of things implies a reflection upon the Divine goodness, . . . but by the means



now specified some classes of animals are held in check which would otherwise so multiply as to become an intolerable nuisance."

And so we consider with complacency the fact that the cat kills the mouse, the owl catches up the field vole and the beetle; the swallow rids the air of insect pests which would render life intolerable, the ladybird lives on the aphides that devour our plants—those fat green insects which destroy our roses and honeysuckle.

The spider does his own appointed work in a way which shows astute intelligence. Death is the common lot, and most of the creatures preyed on pass swiftly away in the full height of enjoyment without lingering sickness or decay. I have known a spider's web put to a very odd purpose by a lady I knew well in New Zealand, a very successful poultry rearer. When her chickens had "the pip," she declared that she cured them by a buttered pill consisting of spiders' webs. And I have known also Chinamen give dying men, as a last remedy, a tiny chicken pounded up in a mortar, bones, feathers, and all, and welded into a huge pill. They declared that it often cured when all else had failed. But this is a digression.

To return to our spiders. Besides the geometric spiders (*sic*) we have the gossamer spiders, little creatures that make floating webs in the air and on the ground in the autumn. These avail themselves cleverly of the currents of air in attaching their lines, raising their arms to test the direction of the light winds. Her webs are often destroyed by rain or wind, or broken by some large creature like a bee or a wasp getting entangled in one; but the patient worker is not so discouraged as to give up. She patiently fasts, until the damage is repaired. And spiders seem to be weather prophets, for it has been stated that when it threatens to become wet and stormy, the outdoor spider will make the threads which support its net short, but if they expect finer, settled weather, these will be long. As is the case with ants, some species are more provident than others, and one has been described which suspended its prey in the meshes above and below the centre of the net, having quite a well-stocked larder. In the Fen countries a raft of a ball of weeds, held together by slight silken threads or cords, is often observed, on which the spider floats down a stream in quest of drowning insects.

The "Mason Spider's" home consists of a hole several inches deep in the ground, and perfectly cylindrical. It is lined with hangings. The one nearest the rough sides is thick, and carelessly woven. Over this, like a skilful decorator, he places a hanging of fine silk, carefully wrought. The door or lid of this dwelling is furnished with a cushion of silk inside, whilst above it is made of the same material as the soil, so that when the master is at home there is nothing to reveal that fact, his door being closed. Layers of earth and silk compose the lid.

Kate Dalrymple, as the old Scottish ballad tells us, was "Aye eident and thrify." Eident is a rare word, expressive of great perseverance and application. "To be called eident and thrify" was the greatest commendation to the good graces of the desired mother-in-law. I am not sure, however, apart from this, that it is always a very desirable thing to be coveted as a wished-for daughter-in-law. A very shrewd friend of mine, a witty Scotchwoman, when young was told that the mother of one of her suitors was very anxious that she should marry him. "Deed," said the girl, "I'd sooner marry a man whose mother was not so anxious to get him married." And she was quite right.

But to be persevering as well as brave, and to be gifted with physical energy and endurance,

is a rare endowment for any woman. Mrs. Scott Gatty, in one of her stories, tells of a preacher who used to say, "Girls, be brave; boys, be pure." I used to hear this story many years before, as a child. It was told then of an old superintendent of a Sunday-school. He would say, "Boys, they bid you be brave and girls be pure; but I say, Girls be brave and boys be pure." Then the world would be far on in a better way than it is now.

"The spider taketh hold with her hands, and is in kings' palaces," says the wise man in Proverbs xxx. 28. What a picture in a few simple words of the industry, courage and perseverance with which this little creature is gifted! and of the reward which would seem to be implied. Shall we seem to be straining the image if we allow our thoughts to be carried by this picture to the home of our heavenly King, where, as we are promised, our eyes shall see Him "in His beauty"? "To patient faith," says the hymn, "the prize is sure."

The spider, we might say, is essentially of an aspiring nature. She weaves her net high up in corners where the duster and broom of the busy housemaid will not easily reach her. She fasts long and is not drawn away from the spot where she expects to get the reward of her patience. Many of us can work hard and well by fits and starts, but we weary of sustained effort, and we are "found sleeping." Or like the pilgrims to the Celestial City we are tempted to stray and delight ourselves in flowery "By-path meadows." Play, healthy recreation, we must have, but it must be such as helps us in the race of life and not such as weakens our purpose and hinders us from reaching the desired goal. I look back sometimes on the companions of my girlhood, and I must often acknowledge that certain boys and girls whom we were wont to reproach as being dull plodders, have beaten many of their fellows in the battle of life.

There is a species of spider which carries, attached to her body, a round, white, silky bag of eggs, just about as big as a pea. It is heavy, but nothing would induce the affectionate mother to part with it. The French naturalist, Bonnet, in order to test this love for her offspring, once threw such a mother spider into the hole of an ant-lion, in the sand where the great insect lay in hiding for its prey. The poor spider tried to run away but the ant-lion caught at the bag of eggs and tried to drag it under the sand. At last he succeeded in breaking the gluten by which her bag was attached to her. Instantly the spider seized this in her jaws and she struggled hard to bear it away. It was in vain however; her precious burden was dragged under. Then the poor mother might have escaped with her own life, but she preferred death to the loss of her offspring, and if the naturalist had not taken her out of the pit she would have been buried with them. She would not leave the spot however, although Bonnet tried to make her do so, by moving her with a little twig, over and over again. In reading this one cannot help wishing that she had not been so tortured. Some of our scientists, as I said before, have pushed their studies of moral qualities in the so-called brute world to a most unjustifiable extent, it would seem.

When the young of this affectionate mother are hatched, and they have got out of the bag where they were kept so safely, they attach themselves to her body. She carries them everywhere she goes and feeds them until they are able to fend for themselves.

Referring to persevering industry, we recall the pretty story of William Cobbett's courtship and marriage, as told by Dr. Smiles, from his "Life." Cobbett was a practical man, full of blunt common sense. When he first saw the girl who afterwards became his wife,

she was only thirteen years of age, he being twenty-one, and at the time sergeant-major in a foot regiment stationed at St. John's in New Brunswick. Passing her father's door, on a cold winter's day, he saw the girl out in the snow, scrubbing a washing-tub. "That's the girl for me!" he cried, mentally, and he set about making her acquaintance. As soon as he could get discharged from the army, he determined that he would persuade her to become his wife. The girl returned to Woolwich with her father, who was also a sergeant-major, but in the artillery. The night before they left St. John's, her lover sent her a hundred and fifty guineas which he had saved, begging her to accept it, so that she might not be obliged to do any hard work until he also could return to England and marry her. She took the money, and it was five years before Cobbett obtained his discharge and was able to go to see the girl he loved. "I found," he said, "my little girl a servant of all work—and hard work it was—at five pounds a year, in the house of a Captain Brisac; and, without hardly saying a word about the matter, she put into my hands the whole of my hundred and fifty guineas unbroken." Soon afterwards they were married, and he delighted later in attributing to her "the comfort and much of the success of his after life." In his "Advice to young men" he drew from his wife his picture of a true and womanly help-mate, with "a vividness and brightness and, at the same time, a force of good sense that have never been surpassed by any English writer."

What Sarah Martin, who was left an orphan very young, and who as a woman went out dressmaking first at one shilling a day, was able to achieve in visiting and helping to reclaim poor prison women, and not only them but dissolute men and boys, loving, praying, and watching by them, you ought all to read fully. I think the story of her life was published by the Religious Tract Society. She gave six and seven hours to this work every day. For twenty years she did this without help or reward—her grandmother having left her ten or twelve pounds a year; the rest of her income coming from her hard work during part of each day as a dressmaker. At last the gaol committee told her that she must become their paid servant at twelve pounds a year or "be excluded from the prison." Although she shrank from this payment of her labours of love, she had to accept it, or give up her charge, and for two years she had that poor stipend until her health failed. She was in point of fact schoolmistress and chaplain and seamstress to the scum of Yarmouth. But what a reward was hers!

In my last paper I quoted Matthew Arnold's lines—

"Tasks in hours of insight willed  
May be through hours of gloom fulfilled."

"*Les beaux esprits se rencontrent*," and it will perhaps interest some of you, as it has done myself, to hear that Professor Tyndall used to say of Professor Faraday that "in his warm moments he formed a resolution and in his cool ones he made that resolution good." We cannot all be active scientists or philanthropists, but let us end this little study by resolving that we will be less discouraged and hindered by difficulties in our own special work, or by the consideration of what we are apt to deem our unfitness for the appointed task, our own inadequacy, than we have hitherto been.

"With one hand work and with the other  
pray,  
And God shall bless them both from day  
to day."

(To be continued.)



## THE SHADOW OF THE CROSS.

By ERIC BROAD.

We wander through the smiling fields,  
 We gather fragrant flowers,  
 Our childish eyes the sunshine watch  
 From shady, sheltered bowers;  
 We have our dreams of joy to be,  
 Nor give a thought to loss;  
 For youth is all too blind to see  
 The Shadow of the Cross.

Years come and go; tears flow and fall,  
 Grief touches us awhile;  
 And then we sleep, while round us glows  
 The sunset of a smile;  
 Joy lingers just a day with us,  
 Life's pathway seems as moss:  
 But, faintly purple, looms ahead  
 The Shadow of the Cross.

Time's drifted snows have gathered thick,  
 Yet still the chase is long,  
 Truth's snow-white bird soars out of sight,  
 But faint we hear its song;  
 And we have lost Hope's Light awhile,  
 Count Love at best but dross;  
 We struggle through a purple gloom—  
 The Shadow of the Cross.

At last! At last! a music rare  
 Enchants our aching ears;  
 And once again, not far ahead,  
 The radiant sun appears:  
 Our souls on buoyant wings are borne,  
 And we retrieve our loss,—  
 A rich content is ours, beyond  
 The Shadow of the Cross.

## LESSONS FROM NATURE.

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## PART IV.

## THE LOCUSTS THAT GO BY BANDS.

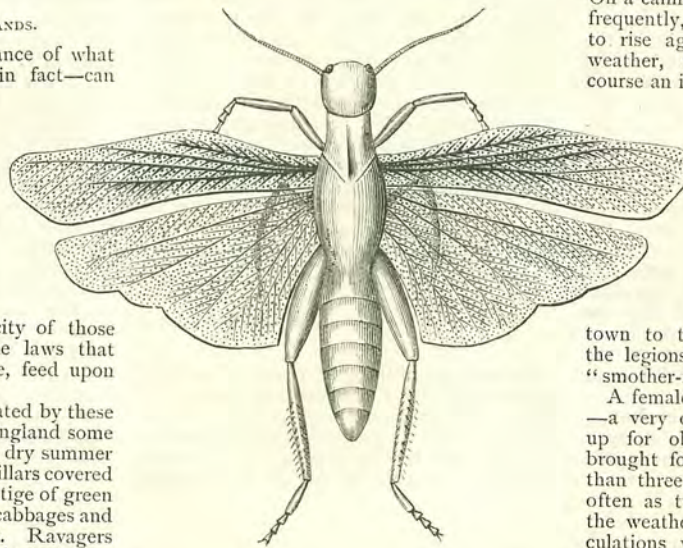
THE locusts we take as an instance of what unity in action—co-operation, in fact—can effect. "They have," says the wise man, "no king, yet they go forth all of them by bands." Creatures these are so frail, so unsubstantial, that they can be crushed to naught almost; yet they are able to thwart man's watchful care, and to undo the work of the industry of months, when they settle in hosts, brought by some mysterious instinct, sometimes by the scarcity of those other creatures which, under the laws that keep even the balance of nature, feed upon them, so reducing their numbers.

Whole tracts of land are devastated by these winged armies. In the south of England some of you have seen, during the last dry summer that we had, what legions of caterpillars covered vast tracts of land, eating every vestige of green and leaving bare stalks where fine cabbages and other crops had been looked for. Ravagers of forests, also, some of these insignificant insects have been called, and with good reason.

The term locust we take as a symbol, and we will include here the various groups of tiny beings which, by reason of their vast numbers and the way in which they come and go "in bands," become such formidable enemies of our race.

The caterpillars of the large white cabbage butterfly, and also those of the small white species, attack several valuable crops besides cabbages. They consume in the larvæ stage an enormous amount when their size is considered. Mr. Wood tells us that it has been calculated that one caterpillar alone, a month after birth, has increased to ten thousand times its original weight on leaving the egg, and has devoured in the meantime no less than forty thousand times that weight in food; and although during the winter months it may be frozen into a brittle condition, it survives this frost uninjured and becomes itself the parent of two broods during the ensuing summer.

These particular caterpillars feed also on



the leaves of turnip plants and on the pods that are left for seeding; they eat radishes, horse-radish and water-cress.

Some years they show in myriads. Describing a flight of butterflies that arrived on a certain day years ago, the *Zoologist* says that it was one of the largest flights ever seen in this country. It crossed the Channel from France on a Sunday in July.

"Such was the density and extent of the cloud formed by the living mass that it completely obscured the sun from the people on board our Continental steamers. The decks were strewn with the insects in all directions. The flight reached England about twelve at noon, and dispersed themselves inland and alongshore, darkening the air as they went. During the sea-passage of the butterflies the weather was calm and sunny, with scarcely a puff of wind stirring; but an hour or so after they reached *terra firma* it came on to blow great gusts from the southwest, the direction whence the insects came."

On a calm sea the butterflies are able to settle frequently, as though the water were land, and to rise again; otherwise, that is, in windy weather, these long flights would be of course an impossibility.

Louis Figuier, a French entomologist, has told how a swarm of plant lice once appeared between Bruges and Ghent, "hovering about in troops" in such numbers as to darken the light of day. The walls of the houses were so covered that they could no longer be distinguished, and the whole road from the one town to the other was rendered black by the legions of this insect. These were called "smother-fly."

A female Blight, as one creature is termed—a very destructive aphid—which was shut up for observation by another naturalist, brought forth ninety-five little ones in less than three weeks, and she can repeat this as often as twenty times during one summer if the weather be favourable to her. The calculations which have been made by such scientists as Professor Huxley prove that, were it not for our allies and friends, our unpaid and often ill-appreciated bird labourers, "there would be room in the world for nothing else" but those tiny creatures the aphides!

Mole crickets in the south of France and in Germany do great harm to the pea and bean crops. They have been known to destroy one-sixth, and even one-fourth, of a crop of young corn by eating off the roots. Barley and potatoes also they do a vast amount of harm to. The mole devours this insect, as it does many underground enemies of the agriculturist, and yet mole-catchers still receive so much an acre, year by year, from landholders for destroying the mole, whose heaps help to fertilise the soil, even if they do make it uneven, and if not levelled they injure the mowing machines; but their services are worth the extra labour in levelling.

Winged beetles swarm in the end of May, and they attack beans, broad and other beans. Horses fed on Sicilian beans are often injured in their health by the numbers of these



creatures that have been contained in their food. One farmer in England wrote that he calculated he had as many of these small hurtful beetles as he had beans. Another farmer complained that he lost two whole sowings of turnips owing to the ravages of earwigs, and a writer in the *Field* states that he had one September to cover his windows with muslin and to shut all his doors at sunset because of the army of earwigs that invaded his precincts. "They dropped," he says, "on the supper-table, they swarmed in the pantry, getting into fruit pies after cooking, and running out when the pies were cut. They pushed their way into the bread, so that we frequently cut slices of these wretches in cutting bread and butter. They found their way into the beds, linings of hats, coats, etc. When the doors were opened in the morning they dropped in such numbers that the mats were literally covered with them," etc., etc.

To stop the ravages of caterpillars in some forests trenches have had to be dug. Into these they fall as they pour forth "in serried columns," after having devoured one section of a wood, when on their way to attack a sound part. In the trenches they are stifled by numbers of men heaping earth on them. Sometimes great trees in the forest have to be set on fire as the only way of stopping their ravages. Then there are concealed foes who hollow out galleries in trees before their presence is suspected. One little insect has been dubbed by a naturalist with the formidable name of "the great pine-gnawer." It ravages forests of fir-trees in such wise that not a single tree escapes its attacks.

Stag-beetles haunt our oak-trees, bruise the bark, and then lick up the sap, and in its larval stage this beetle feeds in the solid wood of the finest trees, keeping near the bark. We read also of the antler moth flying "in countless myriads."

In Galway in 1868 cockchafers arrived in hosts, forming a dense cloud which darkened the sky for a distance of three miles. "The whole country at midsummer assumed the appearance of winter. The noise of their innumerable jaws sounded like the sawing of wood, and the buzzing of their countless wings filled the air with a sound like the distant rolling of drums." And to add to the misery of this appalling picture, the famine-stricken Irish were then "driven to eat them in order to support life!"

Whole fields of turnips are often cleared, that is, the leaves of the plants are stripped off, by myriads of the turnip fly or beetle that come flying unexpectedly, one knows not

whence. It was estimated that the loss through this to one county in a single season was once £100,000, and Miss Ormerod states that in 1881, when there was an invasion of the turnip fly, spreading nearly all over our country, the loss amounted to considerably more than half a million.

A prince in Bohemia once employed two hundred men for four days and a half in collecting caterpillars during a plague of these, and they gathered twenty-three bushels of them, which they reckoned amounted to 4,500,000 of these creatures. In the year 1574 cockchafers gathered in such numbers on the banks of the Severn that the water-mills were stopped working.

Miss Edith Carrington, who has written many useful little books on out-door life, has lately brought out one called *The Farmer and the Birds*, in which she has collected many valuable facts and statistics which would be of interest to you.

Think of the size and the weight of one of these cockchafers, and then ponder again on what can be effected by persistent co-operation. And if for evil, yet also for good. That is our lesson just now.

One of my earliest lessons in French, when I was at school at Neuwied on the Rhine, where we had to learn many fables and moral poems by heart, both in French and German, was the story of a father who knowing that he had not long to live, called his children together and bade each of them go and cut a hazel rod and bring it to him. The rods he bade them tie in one bundle, and then he told them to try and break the sheaf of sticks. They could not do this. Next he ordered each to take his rod and break it, which of course was an easy matter. "Now," said he, "the lesson I want to teach you is combination and united effort. So long as you keep together, you will do something; if you separate, you fail utterly."

To co-operate means, of course, to work together. "Two are better far than one, for counsel or for fight," says an old and well-known hymn, and a poet has written that even

"Heaven's gate is shut to him that comes alone,  
Save thou a soul, and it shall save thine own."

Perhaps one of the chief causes of spiritual deterioration in Christians has been that fallacy that one can worship God as well alone as in the congregations of the faithful. "Forget not the assembling of yourselves together" we read in the Book of books.

Again the gracious presence of our Lord is especially promised "where two or three are gathered together."

One of the saddest stories that I ever read is that of two maiden sisters who lived in one large room in Edinburgh. They quarrelled about something, and so bitter was the animosity engendered that they never spoke to each other again, although they continued to live in the same room for many years. Perhaps they were too poor to live in separate apartments; or they may have had that proverbial Scotch decency and reserve that prevented them from publishing their quarrel to their little world, as an open separation would have done.

They drew a chalk line across their joint domain, which ran from the middle of the fireplace to the centre of the doorway, and they cooked and ate their separate miserable meals and went in and out in solitary fashion, and probably grimly observed each other kneel down in prayer (*sic*) to her Maker. Perhaps in the silence of the night hours one would lie wakeful, with bated breath, listening to the unconscious breathing of her sleeping sister. Could anything be more dreadful? Whether they died thus, the one left alone in a room with lips that were finally sealed in death, the story does not reveal; it is left half told.

"See that ye fall not out by the way," was Joseph's wise counsel to his brethren. "Two are better than one . . . For if they fall the one will lift up his fellow; but woe to him that is alone when he falleth; for he hath not another to help him up . . . and a threefold cord is not quickly broken." So said the preacher in Ecclesiastes iv. The old words are very forcible in their quaint simplicity.

I knew five sisters once very intimately. They had a bad father whom they never saw—though he was living—after the eldest of the five was about twelve, and their mother was very poor. But they clung together and shared the daily labour—pleasure they knew little of—and when two families of richer relatives had become poor, and the members separated, disunion having partly ruined them, the sisters still held a brave and respectable front to the world, being able to do this because they kept together, serving their mother's God and having a common faith and practice. "Did none of them marry?" I fancy some of you asking mentally. Yes, two have now good husbands and pleasant homes; and God comforts and strengthens the other three in His own way which is always for the best.

(To be continued.)

## VARIETIES.

### THE EDUCATION OF WOMEN.

Few in the present generation know how very modern the real education of women is. Dr. More, in the middle of last century, was frightened at his daughter Hannah's cleverness, and made her leave off the study of Latin and mathematics.

Mrs. Somerville, who was born in 1780, says that when she was getting on with mathematics her father, Admiral Fairfax, said to her mother, "We must put a stop to this or we shall have Mary in a strait-jacket one of these days."

When Hannah More and her friend, Miss Harrison, began teaching poor girls in barns and brick kitchens, they were told they would ruin agriculture, that if servants learned to read they would read their mistresses' letters, and if they learned to write they would forge their mistresses' names.

### IN A YOUNG LADY'S ALBUM.

The American author, James Russell Lowell, had as happy a knack as has ever been known of writing album verses. When he was in this country, Professor Max Müller's daughter, Beatrice, asked him to give her a few lines, and this is what he wrote—

"O'er the wet sands an insect crept,  
Ages ere man on earth was known,  
And patient Time, while Nature slept,  
The slender tracing turned to stone.  
'Twas the first autograph; and ours?  
Prithee, how much of prose or song,  
In league with the creative powers,  
Shall 'scape Oblivion's broom so long?"

RICHES.—Virtue is the best riches; knowledge the next, and what are usually called riches the worst.

### THE RIGHT RENDERING.

The following incident is recorded by the Bishop of Durham: Archbishop Whately, in his last illness, begged a friend to read to him St. Paul's description of the Christian's hope as he looks "for the Saviour, the Lord Jesus Christ, who shall change" (so the friend read from the Authorised Version) "our vile body that it may be fashioned like unto His glorious body."

"No, no," interrupted the Archbishop, "give his own words! He never called God's works vile!"

And so we now read in the Revised Version, "Who shall fashion anew the body of our humiliation that it may be conformed to the body of His glory?"

TO-MORROW.—To-morrow is the fool's seed-time.





VOL. XX.—No. 1017.]

JUNE 24, 1899.

[PRICE ONE PENNY.]

### EARLY MORNING NATURE-STUDY.

To a true lover of nature hardly anything can be more thoroughly enjoyable than a quiet hour spent in some shady spot early on a summer's morning, whilst the dew is still upon the flowers, and before any sounds can be heard except those made by happy birds and insects.

In my garden there is a little dell embowered by trees, where I often spend an hour or

two before breakfast for the special purpose of enjoying the company of my pet wild creatures.

On one side are five arches, formed possibly some hundreds of years ago, since the great stones are grey with age and picturesquely moss-grown and ivy-clad. Young trees, too, are growing here and there out of the crevices into which the wind has wafted their seeds.

In an open space before me are groups of stately foxgloves of every tint, ranging from purple through rose-colour to pure white. Some of them have stems fully seven feet in height, each bearing not fewer than a hundred and forty or fifty flowers.

Not only amongst these foxgloves, but in the lime branches overhead innumerable bees keep up a continuous murmuring sound as



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MRS. BRIGHTWEN IN HER GARDEN.



they busily gather their morning store of honey.

Various tall grasses are sending up their feathery plumes, and in a special bed where only wild flowers are allowed to grow, teasel, hypericum, valerian, and bog-myrtle are delighting my eyes by the free, graceful way in which they make themselves at home as if in their native habitat.

Under one of the arches the birds always find an abundance of food, which I strew for them several times in the day.

There I see young blackbirds, chaffinches, hedge-sparrows, wrens, and titmice feasting and flitting about, quite regardless of my presence. One advantage of this retreat is that no house-sparrows come here to annoy the more timid birds.

The quietness and peace of this secluded spot is in marked contrast to the scenes I witness near the house. There sparrows reign supreme. They come down in flocks to gorge themselves and their offspring upon the sopped bread, rudely driving away many other kinds of birds that I would fain encourage.

It may be observed that I have not spoken of robins feeding under the archway, because only one haunts this spot, and he is my special pet, and elects to sit on a bough close to me warbling his sweet low song, and occasionally accepting some choice morsel from my hand.

When he was a brown-coated youngster I began to feed and attract him, and in one week he gained so much confidence as to alight on my hand.

He is now my devoted adherent, flying to meet me in different parts of the garden as soon as he hears my voice.

I am much interested, and I think he is also,

in the development of the little scarlet waistcoat which marks his arrival at maturity. I saw the first red feather appear, just a mere tinge of colour amongst the rest, and now daily I see the hue is deepening. If bathing and pluming will tend to make him a handsome robin, he bids fair to outshine his compeers, for he is always busy about his toilet, first fluttering in a large clam-shell, which contains water, and then becoming absorbed in his preening operations, which nothing will interrupt but the appearance of another robin, who, of course, must be flown at and driven away.

Birds, however, are not my only visitors. Some tame voles or field-mice creep stealthily in and out of the rockwork and find their way to the birds' feeding-ground, where they also enjoy the seeds and coarse oatmeal, and amuse me much with their graceful play and occasional scimmages. Field-mice are easily tamed and made happy in captivity.

Last year I coaxed a pair of these voles into a large glass globe, and kept them long enough to observe sundry family events, such as nest-building, the arrival of some baby-voles, and their development from small pink infants into full-grown mice, and then I set the whole family at liberty under the archway, where they now disport themselves with all the confidence of privileged rodents.

By remaining absolutely still for an hour or two, quietly reading or thinking, one has delightful opportunities of seeing rare birds quite at their ease.

A green woodpecker, all unconscious of my presence, is clinging to an old tree stem near by, and I can not only hear his tapping noise, but I am able to observe how he is supported by the stiff feathers in his tail, which press

against the tree, and how his long tongue darts into crevices in the bark and draws out the insects upon which he feeds.

I follow his upward progress around the stem until he flies away with the loud laughing cry which has earned for him the local name of Yaffle.

Hawfinches are by no means common in this neighbourhood, but one morning I was much interested to be able to watch three or four of these birds, which had alighted on the top of a spruce fir in this dell. Their golden-red plumage glistened brightly as they busily flitted from branch to branch, snapping off small fir-sprays with their powerful beaks, and chattering to each other all the while like diminutive parrots.

Now the early morning sun is sending shafts of brilliant light through the thick foliage, and bringing out special objects in high relief.

Just beside me is a large mass of grey stone, moss-grown and fern-shaded. The sun has lighted up one side of this; the rest is in shadow, so that it forms a picture in itself, and my robin has alighted on it as though on purpose to give the touch of colour that was needed.

All my readers may not have so sweet a spot in which to study nature, but I do strongly commend to them the delight of a quiet time spent alone out-of-doors in the early morning.

The air is then so pure and fresh that it seems to invigorate one's mind no less than one's body, and in the country the sights and sounds are such as tend to helpful thoughts of the love and goodness of the Creator Who has blessed us with so much to make us happy, if only we will open our eyes and hearts to see and understand the works of His hands.

ELIZA BRIGHTWEN.

## LETTERS FROM A LAWYER.

### PART VIII.

#### The Temple.

MY DEAR DOROTHY,—Nothing seems to puzzle the ordinary public so much as the law of omnibus travelling, and in one of two cases which I saw reported the other day, the worthy County Court judge seems, if he were correctly reported, to have made a slip and nonsuited a plaintiff with a good cause of action. I am inclined to think, however, that it was the reporter who made the slip and not the judge, by omitting an important point in the case which had escaped his notice, and I think I can pretty well guess what that point was.

As both the actions arose out of incidents of everyday occurrence, which might happen to anyone, I will here relate them for your benefit.

The first case was one in which a lady claimed damages from an omnibus company—I think it was the London General, but that is a detail—on account of injuries received through the misconduct of the conductor. It appears that there had been a previous altercation between the parties, and that when the lady rose to go out, he pushed her off the step and started the bus, so that the lady fell down and injured her leg.

The judge very properly nonsuited the plaintiff, because it is not part of an omnibus conductor's duties to violently push people off his omnibus; such behaviour on his part was something outside of his ordinary duties as a servant of the Company. The lady therefore had no cause of action against the Company; her remedy was against the conductor for the assault.

This may seem to you, my dear Dorothy, to be a very unsatisfactory state of affairs, but so

it is, and it seems to me to be good sense and good law, although I admit that an action against a wealthy omnibus company and one against a poor conductor are not quite the same thing.

In the other case a lady brought an action against an omnibus company to recover the value of a dress, which she stated had been damaged owing to her falling into the mud through the negligence or carelessness of the conductor in starting the omnibus before she had taken her seat.

According to the report, as I read it, she was going upstairs, but before she got to the top, the conductor, without giving her any warning, rang his bell, and the omnibus started with a jerk, which threw her off into the mud and spoiled her dress.

Now if these had been the only facts in the case, I should have said that this lady was entitled to recover the value of her damaged costume from the omnibus company, because it is undoubtedly part of the conductor's duties to ring his bell and stop to take up and set down passengers, and if a passenger is going outside he ought not to start the omnibus until the passenger has secured his seat, or without giving him warning or taking other reasonable means to see that he gets his seat in safety.

But in this also the plaintiff was nonsuited, and, although it did not appear so in the report, the learned judge must have thought that there was some negligence on the part of the lady. Possibly she had got on to the omnibus whilst it was in motion, as so many ladies do nowadays. This would at once put her out of court. If there had not been contributory negligence of some kind, this lady would have won her case.

If you meet with an accident through getting on or off an omnibus whilst it is in motion, you contribute to the accident in not ordering the conductor to stop, and you have only yourself to blame; if, however, you had ordered the conductor to stop and he had neglected or refused to do so, you would probably succeed in an action against the company.

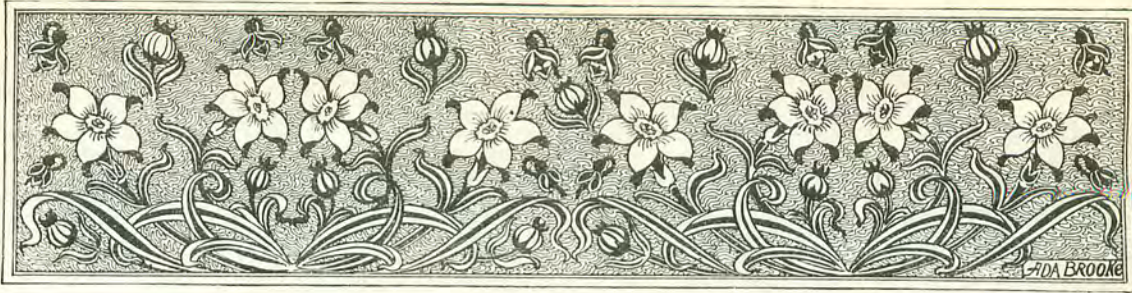
Nowadays, when nearly all the omnibus companies issue tickets, you are not bound to show your tickets whenever they are demanded by a conductor or inspector, but it is wiser to do so because the absence of a ticket will generally be regarded by the magistrate as evidence of your not having paid your fare, and unless you have any friends travelling with you who are ready to come forward and swear that they saw you purchase a ticket, you will very likely be fined and have to pay costs as well. If you are travelling in a train or a tram, you are bound to produce and deliver up your ticket whenever it is demanded by a servant of the company, the railway and the tramway companies having special powers to make by-laws to this effect.

The muzzling orders still remain in force for the Metropolis, although in the country the dogs are freed of their muzzles.

A man who was summoned the other day for allowing his dog to run about unmuzzled, tried to make a point by pleading that he did not permit the dog to run about unmuzzled. Whenever he took the dog out he always put his muzzle on, but on this occasion the dog had gone out without his permission. However, the magistrate fined him all the same, just as he did

Your affectionate cousin,  
BOB BRIEFLESS.





## LESSONS FROM NATURE.

By JEAN A. OWEN, Author of "Forest, Field and Fell," etc.

### PART V.

#### ADAPTABILITY TO CIRCUMSTANCES.

MANY persons look upon plants as still life, forgetting, or ignorant of, the fact that their existence depends on the movement of the juices which are embodied in them. This is not even quiet in winter, when all about the plant would seem dead indeed. There is still motion being carried on, although it is necessarily of a very feeble or languid nature. There is perhaps only a very slight enlargement of the buds, but there it is nevertheless; the almost imperceptible development preparing for spring's coming.

If a small part of the cuticle of the *Vallisneria*, an aquatic plant, is placed under the microscope, there is visible in every one of its tiny cells a number of little globules coursing in order, round and round, faster or slower, in a varying degree of motion, until the portion under observation has exhausted its vitality. And by a wonderful instinct—as we say—the flowers of this species, male and female, which grow on different plants, are able to detach themselves at the right season. That is, the male flowers can leave the plant stems, and floating about on the stream, they join the female flowers, and so the reproduction is effected in them by a spontaneous action on their part which is brought about in many other cases by an outside agency, the action of bees, for instance.

When the waters of a stream rise, another aquatic plant, the *Kuppia Maritima* is able to coil and uncoil its flower stalks, which are curled in a spiral fashion; and, as the depth of the water in which it grows changes, its blossoms are always kept on a level with the surface.

In plant as in animal life, there is this wonderful power of accommodation to circumstances which might otherwise prove entirely adverse to the continuation of that life. Instinct is the term applied to vegetable as well as animal life. We use it for want of a better, although it certainly does not cover all that is implied in innumerable instances.

A thoughtful writer says that instinct, which belongs to the physiological expression of life, has no other end or function than the maintenance of these forms, whence it never operates without manifesting effects in the organic mechanism. Reason, on the other hand, has no relation to the body, except as the soul's body or instrument; it belongs to the soul purely, and may be exercised without giving the slightest external token.

"The life whose phenomena are the instincts impels us only to eat, to drink, to propagate, to preserve our fabric safe and sound; the spiritual life, the phenomena of which are forms of reason, gives power, not to do corporeal things, but to think and to rise emotionally towards the source of life. It is

by reason of this supra-instinctive life that man stands as the universal master."

The great naturalist Buffon also says, "Man thinks, hence he is master over creatures which do not think." And an ancient author writes finely, "While other animals bend their looks downwards to earth, He gave to man a lofty countenance, commanded him to lift his face to heaven, and behold with upturned eyes the stars."

This has been a digression into which the use of the term instinct led me. Instinct leads the carnivorous animal to feed on flesh; but if this is scarce—even if fruit is plentiful, and offers itself in profusion—the puma will devour wild gooseberries and raspberries; so will the coyote wolves in the Rocky Mountains. I stayed for some time in a mountain region in Colorado—the district in which I made my notes for "Candelaria," a story some of you have perhaps read in the pages of this magazine—and there in the autumn the big bears would come in their heavy rolling gait down the mountain-sides to devour the wild fruits, "choke cherries" and the like.

The power of accommodation to the exigencies of circumstance is so great that, as scientists will tell you, species will often develop through these, in time, an extra member. And again, faculties and powers, by their non-use, will desert us in time. Our power of adaptability is in point of fact beyond calculation. "All things are possible to him that believeth" is a truth too little tested by most of us.

Could yon slender reed, which is swayed by the slightest breeze, stand the fierce onslaught of a tempest? No, but it bends gracefully before it and escapes unhurt where stouter stems have been snapped asunder.

And, to take a simile from the bird world, all the herons, the different species of the *Ardeida*, which have ordinarily a slow and heavily flapping flight, when alarmed or pursued by their natural enemies, have a habit of easing themselves. They will disgorge the food which they have just swallowed in order to lighten themselves for more rapid flight.

This reminds me of a little incident in my own life. Some years ago I was in a collision at sea; the bow of a large steamer ran into the stern of the vessel in which I was, when both were going at top speed, and both vessels went down beneath the waters almost as soon as we passengers, most of us in our night clothing, had got free in the small boats. Over fifty lives, unfortunately, were lost that night, but only one woman out of very many others perished. That need not have been, but she was timid, and she would not risk the leap that other women had had to make down into the boat which waited for her ten feet below. As soon as the boat in which I was, arrived, a few hours later, alongside of a rescuing steamer, the women were most of them taken up into this by means of a rope and

band fastened round the waist, but I climbed up a rope ladder which was overhung on the side of the ship. In order to grasp this firmly with both hands I had to lose my hold of a bag I had contrived to save, in which were some valuables very dear to me. I put it down on the boat seat, and of course I never saw it again. My precious things were lost, but my life was saved. A poor lady who was in the same wreck suffered a still greater loss, and she was one of those conservative sensitive natures who find it so hard to adapt themselves to changeful circumstances. She has never recovered her mental balance since that terrible night.

To preserve a trustful, cheerful frame of mind under adverse circumstances, to be able to adjust one's resources, one's capabilities to the exigencies of a life so liable to changes, is a gift for which the possessor cannot be too grateful to the Giver of all good gifts.

Science has been defined by someone as "the discovery of the changeless in the ever-changing." I was sitting in a weak, fatigued state of mind once in a train at a great terminus. We were waiting for the moment of departure, and not being drawn up to the end of the platforms, trains moved constantly on either side of us. To my tired head—I had lately come off the sea, which had been a rough one—I did not seem able to make out whether it was our train or the other that was in motion when this occurred. Presently my eyes found a refuge in the contemplation of a massive column within sight. So long as they rested there, all was simple. I saw it was the others that were in motion, and we were quiet.

God is the changeless amid the ever-changing. If the eye of our soul is fixed on Him, all else adjusts itself. We have "an anchor sure and steadfast."

The conies, says the wise man in the book of Proverbs, "are but a feeble folk, yet make they their houses in the rocks." The conies belong to the same family as do our rabbits, but they have not paws suitable for burrowing, and their homes are in the clefts of the immovable rocks. Thither they flee to hide themselves when the enemy is in pursuit, or when the elements are adverse. They find tiny fastnesses, where, protected from all stress of weather, they can sleep in safety, and into which the great birds of prey cannot penetrate.

For some situations our powers of adaptability are all inadequate. The combat is too great for our forces, and the best course, the wisest, nay, often the only possible course lies in flight and in seeking a haven of refuge, until, as the Psalmist says, "the tyranny is overpast." "I will flee to the Rock to hide me." And as "that feeble folk, the conies" make their houses in the rocks, so we, like the wise man in the parable, build our house on the Rock, not on the shifting foundations of sand.

(To be continued.)