

Learning with Living Books

The Story Book of Science



by
Jean Henri Fabre

Published by Grabam Family Ministries

The Story Book of Science

by Jean Henri Fabre

About This Text

This text by Jean-Henri Fabre, was originally published in 1918 and was translated from the nineteenth French edition by Florence Contable Bicknell, New York: The Century.

Note from the Publisher:

This delightful book was originally published in 1918 and is currently in the public domain. One of our desires is to put excellent, living books into the hands of families to read together and enjoy. Our ***Learning With Living Books Series*** is a result of our effort to do just that. We will be adding more titles to this series as time allows. There is a wealth of excellent living books just waiting to make their way into your home!

I have formatted this ebook so that it can be easily printed either single-sided or double-sided, 3-hole punched, then placed in a report folder or binder. I personally like to print these ebooks double-sided, and then I place them in a report folder. They don't take up so much room that way, and they feel more like a real book when we are reading it.

Watch for more titles in this series coming soon!

Happy reading!

In Christ,
Sheri Graham
Graham Family Ministries
www.school4jesus.com

TRANSLATOR'S PREFACE

Of the increasing success and widening popularity of the elementary science series written chiefly in the seclusion of Sérignan by the gifted French naturalist who was destined to give that obscure hamlet a distinction hardly inferior to the renown enjoyed by Maillane since the days of Mistral, it is unnecessary at this late date to say more than a word in passing. The extraordinary vividness and animation of his style amply justified his early belief in the possibility of making the truths of science more fascinating to young readers, and to all readers, than the fabrications of fiction. As Dr. Legros has said in his biography of Fabre, "He was indeed convinced that even in early childhood it was possible for both boys and girls to learn and to love many subjects which had hitherto never been proposed; and in particular that Natural History which to him was a book in which all the world might read, but that university methods had reduced to a tedious and useless study in which the letter 'killed the life.' "

The young in heart and the pure in heart of whatever age will find themselves drawn to this incomparable story-teller, this reverent revealer of the awe-inspiring secrets of nature, this "Homer of the insects." The identity of the "Uncle Paul," who in this book and others of the series plays the story-teller's part, is not hard to guess; and the young people who gather about him to listen to his true stories from wood and field, from brook and hilltop, from distant ocean and adjacent millpond, are, without doubt, the author's own children, in whose companionship he delighted and whose education he conducted with wise solicitude.

In his unselfish eagerness to see the truths of natural science brought within the comprehension and the enjoyment of all, Fabre would have been the first to wish for a wide circulation for his own books in many countries and many languages; and thus, though it is now too late to obtain his authorization of these translations, one cannot regard it as a wrong to his memory to do what may lie in one's power to spread the knowledge he has so wisely and wittily, with such

insight and ingenuity, imparted to those of his own country and tongue.

It remains to add that in the following pages the somewhat stiff dialogue form of the original has given place to the more attractive and flexible narrative style, with as little violence as possible to the author's text.

TABLE OF CONTENTS

The Six	11
The Fairy Tale and the True Story	14
The Building of the City	17
The Cows	20
The Sheepfold	23
The Wily Dervish	27
A Numerous Family	31
The Old Pear-Tree	36
The Age of Trees	39
The Length of Animal Life	43
The Kettle	46
Metals	48
Metal Plating	50
Gold and Iron	53
The Fleece	56
Flax and Hemp	59
Cotton	62
Paper	66
The Book	68
Printing	71
Butterflies	74
The Big Eaters	78
Silk	82
The Metamorphosis	85
Spiders	88
The Epeira's Bridge	91
The Spider's Web	94
The Chase	97
Venomous Insects	101
Venom	105
The Viper and the Scorpion	108
The Nettle	111
Processionary Caterpillars	114

The Storm	118
Electricity	121
The Experiment with the Cat	124
The Experiment with Paper	126
Franklin and De Romas	127
Thunder and the Lightning-Rod	132
Effects of the Thunderbolt	137
Clouds	139
The Velocity of Sound	143
The Experiment with the Bottle of Cold Water	147
Rain	151
Volcanoes	154
Catania	157
The Story of Pliny	161
The Boiling Pot	165
The Locomotive	169
Emile's Observation	173
A Journey to the End of the World	176
The Earth	180
The Atmosphere	185
The Sun	189
Day and Night	194
The Year and Its Seasons	199
Belladonna Berries	204
Poisonous Plants	207
The Blossom	214
Fruit	219
Pollen	223
The Bumble-Bee	228
Mushrooms	232
In the Woods	236
The Orange-Agaric	239
Earthquakes	243
Shall We Kill Them Both?	248
The Thermometer	251

The Subterranean Furnace	253
Shells	258
The Spiral Snail	263
Mother-of-Pearl and Pearls	266
The Sea	270
Waves Salt Seaweeds	273
Running Waters	278
The Swarm	281
Wax	285
The Cells	288
Honey	292
The Queen-Bee	296

CHAPTER I

THE SIX

ONE evening, at twilight, they were assembled in a group, all six of them. Uncle Paul was reading in a large book. He always reads to rest himself from his labors, finding that after work nothing refreshes so much as communion with a book that teaches us the best that others have done, said, and thought. He has in his room, well arranged on pine shelves, books of all kinds. There are large and small ones, with and without pictures, bound and unbound, and even gilt-edged ones. When he shuts himself up in his room it takes something very serious to divert him from his reading. And so they say that Uncle Paul knows any number of stories. He investigates, he observes for himself. When he walks in his garden he is seen now and then to stop before the hive, around which the bees are humming, or under the elder bush, from which the little flowers fall softly, like flakes of snow; sometimes he stoops to the ground for a better view of a little crawling insect, or a blade of grass just pushing into view. What does he see? What does he observe? Who knows? They say, however, that there comes to his beaming face a holy joy, as if he had just found himself face to face with some secret of the wonders of God. It makes us feel better when we hear stories that he tells at these moments; we feel better, and furthermore we learn a number of things that some day may be very useful to us.

Uncle Paul is an excellent, God-fearing man, obliging to every one, and, as "good as bread." The village has the greatest esteem for him, so much so that they call him Maître Paul, on account of his learning, which is at the service of all.

To help him in his field work—for I must tell you that Uncle Paul knows how to handle a plow as well as a book, and cultivates his little estate with success—he has Jacques, the old husband of old Ambrosine. Mother Ambrosine has the care of the house, Jacques looks after the animals and fields. They are better than two servants; they are two friends in whom Uncle Paul has every confidence. They saw Paul born and have been in the house a long, long time. How often has Jacques made whistles from the bark of a willow to console little Paul when he was unhappy! How many times Ambrosine, to encourage him to go to school without crying, has put a hard-boiled

new-laid egg in his lunch basket! So Paul has a great veneration for his father's two old servants. His house is their house. You should see, too, how Jacques and Mother Ambroisine love their master! For him, if it were necessary, they would let themselves be quartered.

Uncle Paul has no family, he is alone; yet he is never happier than when with children, children who chatter, who ask this, that, and the other, with the adorable ingenuousness of an awakening mind. He has prevailed upon his brother to let his children spend a part of the year with their uncle. There are three: Emile, Jules, and Claire.

Claire is the oldest. When the first cherries come she will be twelve years old. Little Claire is industrious, obedient, gentle, a little timid, but not in the least vain. She knits stockings, hems handkerchiefs, studies her lessons, without thinking of what dress she shall wear on Sunday. When her uncle, or Mother Ambroisine, who is almost a mother to her, tells her to do a certain thing, she does it at once, even with pleasure, happy in being able to render some little service. It is a very good quality.

Jules is two years younger. He is a rather thin little body, lively, all fire and flame. When he is preoccupied about something, he does not sleep. He has an insatiable appetite for knowledge. Everything interests and takes possession of him. An ant drawing a straw, a sparrow chirping on the roof, are sufficient to engross his attention. He then turns to his uncle with his interminable questions: Why is this? Why is that? His uncle has great faith in this curiosity, which, properly guided, may lead to good results. But there is one thing about Jules that his uncle does not like. As we must be honest, we will own that Jules has a little fault which would become a grave one if not guarded against: he has a temper. If he is opposed he cries, gets angry, makes big eyes, and spitefully throws away his cap. But it is like the boiling over of milk soup: a trifle will calm him. Uncle Paul hopes to be able to bring him round by gentle reprimands, for Jules has a good heart.

Emile, the youngest of the three, is a complete madcap; his age permits it. If any one gets a face smeared with berries, a bump on the forehead, or a thorn in the finger, it is sure to be him. As much as Jules and Claire enjoy a new book, he enjoys a visit to his box of

playthings. And what has he not in the way of playthings? Now it is a spinning-top that makes a loud hum, then blue and red lead soldiers, a Noah's Ark with all sorts of animals, a trumpet which his uncle has forbidden him to blow because it makes too much noise, then—But he is the only one that knows what there is in that famous box. Let us say at once, before we forget it, Emile is already asking questions of his uncle. His attention is awakening. He begins to understand that in this world a good top is not everything. If one of these days he should forget his box of playthings for a story, no one would be surprised.

CHAPTER II

THE FAIRY TALE AND THE TRUE STORY

THE six of them were gathered together. Uncle Paul was reading in a big book, Jacques braiding a wicker basket, Mother Ambroisine plying her distaff, Claire marking linen with red thread, Emile and Jules playing with the Noah's Ark. And when they had lined up the horse after the camel, the dog after the horse, then the sheep, donkey, ox, lion, elephant, bear, gazelle, and a great many others,—when they had them all arranged in a long procession leading to the ark, Emile and Jules, tired of playing, said to Mother Ambroisine: "Tell us a story, Mother Ambroisine—one that will amuse us."

And with the simplicity of old age Mother Ambroisine spoke as follows, at the same time twirling her spindle:

"Once upon a time a grasshopper went to the fair with an ant. The river was all frozen. Then the grasshopper gave a jump and landed on the other side of the ice, but the ant could not do this; and it said to the grasshopper: 'Take me on your shoulders; I weigh so little.' But the grasshopper said: 'Do as I do; give a spring, and jump.' The ant gave a spring, but slipped and broke its leg.

"Ice, ice, the strong should be kind; but you are wicked, to have broken the ant's leg—poor little leg.

"Then the ice said: 'The sun is stronger than I, and it melts me.'

"Sun, sun, the strong should be kind; but you are wicked, to melt the ice; and you, ice, to have broken the ant's leg—poor little leg.

"Then the sun said: 'The clouds are stronger than I; they hide me.'

"Clouds, clouds, the strong should be kind; but you are wicked, to hide the sun; you, sun, to melt the ice; and you, ice, to have broken the ant's leg—poor little leg.

"Then the clouds said: 'The wind is stronger than we; it drives us away.'

"Wind, wind, the strong should be kind; but you are wicked, to drive away the clouds; you, clouds, to hide the sun; you, sun, to melt the ice; and you, ice, to have broken the ant's leg—poor little leg.

"Then the wind said: 'The walls are stronger than I; they stop me.'

"Walls, walls, the strong should be kind; but you are wicked, to stop the wind; you, wind, to drive away the clouds; you, clouds, to hide the sun; you, sun, to melt the ice; and you, ice, to have broken the ant's leg—poor little leg.

"Then the walls said: 'The rat is stronger than we; it bores holes through us.'

"Rat, rat, the strong—"

"But it is all the same thing, over and over again, Mother Ambroisine," exclaimed Jules impatiently.

"Not quite, my child. After the rat comes the cat that eats the rat, then the broom that strikes the cat, then the fire that burns the broom, then the water that puts out the fire, then the ox that quenches his thirst with the water, then the fly that stings the ox, then the swallow that snaps up the fly, then the snare that catches the swallow, then—"

"And does it go on very long like that?" asked Emile.

"As long as you please," replied Mother Ambroisine, "for however strong one may be, there are always others stronger still."

"Really, Mother Ambroisine," said Emile, "that story tires me."

"Then listen to this one: Once upon a time there lived a woodchopper and his wife, and they were very poor. They had seven children, the youngest so very, very small that a wooden shoe answered for its bed."

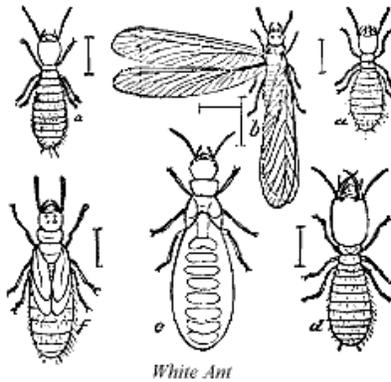
"I know that story," again interposed Emile. "The seven children are going to get lost in the woods. Little Hop-o'-my-Thumb marks the way at first with white pebbles, then with bread crumbs. Birds eat the crumbs. The children get lost. Hop-o'-my-Thumb, from

the top of a tree, sees a light in the distance. They run to it: rat-tat-tat! It is the dwelling of an ogre!"

"There is no truth in that," declared Jules, "nor in Puss-in-Boots, nor Cinderella, nor Bluebeard. They are fairy tales, not true stories. For my part, I want stories that are really and truly so."

At the words, true stories, Uncle Paul raised his head and closed his big book. A fine opportunity offered for turning the conversation to more useful and interesting subjects than Mother Ambrosine's old tales.

"I approve of your wanting true stories," said he. "You will find in them at the same time the marvelous, which pleases so much at your age, and also the useful, with which even at your age you must concern yourselves, in preparation for after life. Believe me, a true story is much more interesting than a tale in which ogres smell fresh blood and fairies change pumpkins into carriages and lizards into lackeys. And could it be otherwise? Compared with truth, fiction is but a pitiful trifle; for the former is the work of God, the latter the dream of man. Mother Ambrosine could not interest you with the ant that broke its leg in trying to cross the ice. Shall I be more fortunate? Who wants to hear a true story of real ants?"



"I! I!" cried Emile, Jules, and Claire all together.