

ELEMENTARY SCIENCE SECTION

THIS EARTH OF OURS



THE MAKING OF MOUNTAINS

A long time ago when people believed in gods and goddesses there lived a hero named Hercules. Hercules in the course of his adventure performed many difficult tasks as getting the golden apples of Hesperides, cleaning the Aegean stables. Now when we want to describe a work to be accomplished as difficult to achieve we say it is a Herculean task. This leads us to describe the making of mountains as Herculean, if we may not say actually impossible.

Possibly you have never thought that mountains were ever made. We call the earth's covering its crust. Now the gradual thickening and shrinking of the earth's crust as it cools have made the wrinkles we call mountain systems all over the world. Through millions of years the globe has been giving off heat to the cold sky spaces through which it swings in its orbits around the sun. The cooling caused the contraction of the outer layer to fit the shrinking of the mass.

The weakest places in the earth's crust were the first places to crumple. Perhaps the first wrinkles were not very high and deep. The gradual cooling must have exerted continued pressure, and the wrinkles become larger.

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OUR INSECT FRIENDS AND FOES

THE CICADA



*"The shy cicada whose noon voice rings
So piercing shrill that it almost stings
The sense of hearing."*

Have you ever tried to catch a cicada just to find out how it produces all the noise it makes? The cicada is especially built for noise making. It is a living sounding board. The cicada accomplishes these results by means of drums. It has two drums under its abdomen, made of dry, crisp ribbed membranes. These drums are cupped out and look something like shells from the sea shore. To the inside of them are attached strong muscles. With these muscles it vibrates the stiff membrane in and out.

The male insect makes the noise while sitting on a limb with his wife. He keeps it up from sunrise to sunset, but fortunately, is silent by night.

The cicada belongs to that group of insects which lives by drinking the sap of trees and shrubs. They have augers which they sink into the bark and through which they drink sap. All insects which are sap suckers are enemies of man. If they were not restrained they would drink so much of the sap from plants that many of the latter would die and their kind would cease to exist. But the cicada is the least injurious of the sap suckers.

The queerest of the cicadas is the periodical cicada. On a July day its egg hatches on the limb of a tree. The tiny creature that emerges

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JOE AND THE

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"Are you now ready to go with us to the home of our master?" asked the speaker.

"Please don't take me there," begged Pepe. "I promise to be good. I shall never disobey my mother again. I'll make her happy and . . ."

Pepe could not go on. Fear of the man beside the tree and pity for his mother whom he thought he would never see again made him cry like a baby.

"Of course, our master is merciful sometimes," said the captor. "If you promise to be a good boy always, he will let you go. If you break your promise, he will never pardon you again."

"I shall always be good," Pepe promised.

Thereupon the two captors untied his hands and let him go. Pepe ran towards his home as fast as his legs could carry him. As soon as he was out of sight, the two captors took off their masks.

"Splendid work, Joe!" exclaimed one.

"And very effective, Rod," added the other.

"What shall we do with our master, the King?" laughed Rod as he pointed to the tall lifeless figure beside the tree.

Joe looked at the figure. At daytime, it would not frighten anyone but in the shadow under the tree that night, it was frightful enough to nine-year old Pepe who, at first, was taken by surprise by his two masked captors.

Then without saying anything, Joe pulled the black cloth that covered the figure. After the cloth was removed, what remained of the King of the Eli

OUR MINOR FOREST

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Anglers claim that due to its strength and resiliency fishing rods made of palma brava are superior to any now in the market. Other articles that can be made from the leaves of this palm are fans, and thatching materials. The wood is used for such articles as arrow shafts, spear handles polo clubs, and walking sticks. It has great possibilities for fancy interior finishing. The seedlings of this palm are valued as ornamental plants.

Other forest products simi-

River was a big banana stem with a coconut at its upper end as head and two pieces of wood at the sides as arms.

After they had destroyed the framework, the two boys went home. They were happy because their plan came out a success.

One night, a week later, Joe and his mother again went to the house of Pepe. They found the latter busy with his crayola. He was coloring a picture in *The Young Citizen* when they came.

"Pepe, suppose we go out and play," Joe suggested.

"No," was Pepe's quick reply. "I have found out that there is more fun at home than in any other place outside."

"You're right, Pepe," Joe agreed.

"Pepe has been very good this week," said the mother as Joe and his mother were leaving. "He has not disobeyed me. Neither has he gone out to play at night as he used to do."

"Very effective," Joe muttered as he lay down to sleep that night.

OUR INSECT FRIENDS . . .

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is queer and fish-like in appearance. It leaps to the ground and begins looking for a crack into which it may crawl. When it finds one, it plunges in. And for the next seventeen years it remains in this solitary cell. Underground the baby cicada lives on the sap of roots. Finally a day arrives which is some three months less than seventeen years. The baby cicada together with other grubs start digging a tunnel nearly an inch across and a foot long.

Once out, they are in a great hurry. They begin crawling as rapidly as possible. Finding the best place available, they dig in their claws, attach themselves quite securely, and become very still. They hunch their backs, and split their skins down the middle. A strange and different form begins to wriggle inside, and gradually there emerges the glorious, winged cicada in its final form.

Taking it all in all, we may say the cicada is probably the most remarkable individual in all the insect world.

lar to palms which are important sources of materials for household industries are pandan and bamban. Among the articles that can be made of these may be mentioned book bags, grocery bags, novelties, lunch baskets, wall pockets, slippers, telescope cases, hats, mats and bamban fish traps.

In our imagination the forests may seem far, far from us, but in actual living we can say they are in the midst of us. Why?