

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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A MOTHER'S REWARD

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and escorted her to a vacant seat. The program had already begun. Aling Nena scanned the faces of the hundreds and hundreds of faces around her, but she could not see any of her children. Soon her attention was attracted by the toastmaster's announcement of the next number. Her heart beat fast upon hearing her Jose's name called as the next participant. With great excitement she watched her son looking so prim, so neat, and so handsome that she longed to hug him. The boy's look wandered around and when it met that of her mother's, a light broke over his face and shone in his eyes. Then he began his declamation. It was a pathetic piece telling about the self-sacrificing love of a mother and the ingratitude of her children. The delivery was so perfect that almost all eyes were dimmed with tears before the performance was over. A deafening applause followed and the mother's heart was full of gratitude and pride for her boy.

Then Aling Nena heard one of the teachers mention her son's name. She strained her ears to hear every word.

"Really, I admire Jose very much. He is very active and very polite, said Miss Roxas.

"You should know the sister, Elvira, who is in grade four. She is a very good example of an ideal school child. She is always neat and clean, very polite, and very bright," added Mrs. Mojica, the teacher who sat beside Miss Roxas.

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We can imagine those first mountain rising as folds under the sea. Gradually their bases were narrowed, and their crests lifted out of the water. They rose as long, narrow islands and grew in size as time went on.

These mountains of upheaval, made by the bending of the earth's crust, and the formation of alternating ridges and depressed valley are many. The earth is old and much wrinkled. Other mountains have been formed by forces quite different. Volcanic mountains have been far more numerous in ages gone than they are now.

Vesuvius in Italy is at present showing us how volcanic mountains are made. Each eruption builds larger the cone that is, the chimney thru which the

Two other teachers joined the conversation, the subject of which was centered on praises of Jose and Elvira, her own son and daughter.

There was a lump in Aling Nena's throat and tears of happiness welled in her eyes, as she listened to the talk. She felt that all her ceaseless sacrifices were more than repaid. She wiped away the tears from her eyes in order to see better the heavy-printed motto which was being shown to the audience. The motto was, "The most precious gift a child can give to his mother is conduct that will make her proud of him."

There was so much truth in that motto that Aling Nena unconsciously and mechanically murmured, "AMEN."

THE GIRLS' RESOLUTION

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"We can help them at home by doing our duties well. We can run errands for them and do so many things to make their work lighter," Nora said proudly.

"What do you suggest for orphans whose parents have now taken their eternal rest?" questioned Lita.

"Let me answer it for you," volunteered Milagrang. "Orphans like me must live with relatives or other guardians. Since we have to live with other people, our task is to see that our stay with them is not a burden. We have to be very good so that our parents may not be blamed for our bad conduct."

"Milagrang, your words have made me all the more thoughtful of my parents. Never again shall I grumble when I'm sent on errands," pensively said Luz.

"And I shall not be as disobedient again," resolved Nora.

"Then we shall all be loving children to our hard-working parents," chorused the other girls.

molten rocks, the ashes, and the steam are ejected. Side craters may open, the main cone be broken and its form changed but the mass of lava and stones and ashes grows with each eruption. The mountain grows by the addition it receives.

How do you think the mountain systems in the Philippines were formed?