The Hidden World Inside a Deep-Sea Rock



The week through a Torah lens

Behind the Headlines takes one story from the news each week and suggests a Torah way of seeing it. This week's story comes from the world of science.

♦ ♦ ♦

Three miles down, on the floor of the Pacific Ocean, the bottom is mostly soft mud. Scattered across it lie dark lumps of metal about the size of a fist. Scientists call them polymetallic nodules, and to most people they are worth one thing: the nickel, cobalt and copper inside them. Mining

companies want them badly, and a decision on the first American permit to scoop them up is expected next month.

Now a team of scientists from Germany and the Netherlands has looked at these rocks more closely than anyone before. They brought up 244 of them, took them into the lab and carefully broke them open. Inside, in tiny cracks and pores, they found 4,139 living animals — roundworms, tiny shrimp-like creatures called copepods, and others smaller than a millimeter, living in what anyone else would call a stone. On average each rock held 17. One rock held 245.

These weren't strays that wandered in from the mud. The animals inside the rocks are a different community from the ones in the surrounding seafloor, and the same kind of community turns up in rocks hundreds of miles apart. "The crevices in the polymetallic nodules function as small shelters," explained one of the researchers, Dr. Coral Diaz-Recio Lorenzo, "and provide home to animals that we do not encounter in the soft sediment of the seafloor."

Whether or not the mining goes ahead is a debate for others. What caught my eye is simpler. A lump of ore turned out to be an apartment building.

A Mask and a Snorkel

The story took me back to a summer long ago. I was just out of high school, spending a month in Israel with friends, and one day we went to the Red Sea.

From the surface, the water looked like water. Clear, pleasant, nothing special. Then I put on a mask and snorkel and put my face in, and a whole world opened up beneath me. The bottom dropped away twenty, thirty feet. There were coral formations in colors I didn't know existed and fish like nothing I had ever seen, an entire living world that had been there the whole time. I just hadn't been looking from the right place.

(For the record, a huge shadow then slid across the bottom below me, with the exact outline of a great white shark. I was sure my life was over. I looked up. It was a man paddling by in a kayak.)

But it was the coral I couldn't stop thinking about. Even then I remember thinking it was a parable for so many things in life. You look at something from the surface and decide that's all there is. Put on the right mask, look from the right angle, and there's a depth you never imagined, and all you can do is stare in awe.

Small Creatures With Great Ones

Every Rosh Chodesh we say *Barchi Nafshi*, the chapter of Tehillim where Dovid HaMelech walks through creation — the heavens, the springs, the trees, the birds, the animals. When he reaches the sea, he can't contain himself. "*Mah rabu ma'asecha Hashem, kulam b'chochmah asisa* — How many

are Your works, Hashem; You made them all with wisdom" (*Tehillim* 104:24). And then: "*Zeh hayam gadol u'rechav yadayim, sham remes v'ein mispar, chayos ketanos im gedolos* — This sea, great and wide, where there are creeping things without number, small creatures together with great ones" (*Tehillim* 104:25).

Dovid HaMelech had no diving robot and no microscope. Scientists now have both, and they are still counting. Every year they report more than a thousand new kinds of sea creatures, and the deep ocean floor remains mostly unexplored. "Without number" is still the best description anyone has come up with.

Learning to Look

Rav Avigdor Miller spent his life teaching people to put on that mask — to look at an apple, an eye or a bird's feather until they saw the wisdom built into it, and the One who built it. For him, this was not a hobby for scientists. It was one of the main ways a Jew comes to know Hashem.

That is what I've tried to do in my *Awaken Your Emunah* books (Judaica Press), which follow Rav Miller's path, one creature at a time. Volume 2 has a whole section on the deep sea, "Into the Abyss: Extraordinary Creatures of the Deep." Volume 1 tells how a single whale that sinks to the ocean floor can feed a whole community of deep-sea creatures for decades.

Hashem put living creatures inside lumps of metal three miles under the sea, in total darkness, where no human eye would see them until this year. He didn't need an audience. But now that we've been shown them, the least we can do is look — and say, with Dovid HaMelech, *Mah rabu ma'asecha Hashem*.

Do you see something else behind this week's headlines? Share your thoughts in the comments below.

Related reading: A Whale of a Tale; The Masterpiece Under Your Feet

ENJOYED THIS? THERE ARE MORE.

New articles go up at yaakovastor.com.
To get them by email: yaakovastor.com/subscribe
The WhatsApp channel posts each new article as it goes up:
https://whatsapp.com/channel/0029VbDbFkpF1YlX8bB1P41j