This simple-sounding idea tells us something important about the world and how it works. Things change. What was once a seafloor is now a mountaintop. What was once a tropical swamp is now a frozen desert. We live on a world that is always changing.

“Geologists ask, ‘What is this rock trying to say to me?’” Julie says with a smile. Yet she wasn’t always so enthusiastic about reading rocks.

“Science was my second-worst subject in school. I didn’t do anything involving science,” Julie admits. “I never thought I’d do anything involving science was my second-worst subject in school.” Julie says, “But I really liked being outdoors.”

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Julie isn’t just talking about her necklace. She’s also describing her favorite subject, **geology**. Julie works at the U.S. Polar Rock Repository at Ohio State University in Columbus, Ohio. It is like a library of rocks from the Arctic and Antarctica. Scientists from all over the world have sent rocks there to be carefully studied and stored.

In college, Julie began by studying natural resources. Then she took a geology class that studied the history of Lake Erie. As Julie learned the history of the lake, she became excited. “I was amazed,” she says, “that the professor could learn all this information just from rocks.”

Here’s the mystery. There are no trees on Antarctica today. There are no swamps. There are no forests. The presence of coal on this frozen continent tells us something. It says that Antarctica was not always like it is today. Antarctica has changed.

**Glossary**

- **CONTINENT** – one of seven large areas of land on Earth
- **ENTHUSIASTIC** – excited
- **FOSSIL FUEL** – fuel formed from the remains of once-living organisms
- **GEOLOGY** – the study of rocks and minerals
- **LAKE ERIE** – one of the five Great Lakes found in the Midwest region of the United States
- **MALACHITE** – a green-colored mineral
But this means more questions. What changed? Why did it change? Is Antarctica still changing today? How?

Julie knows that the rocks can give us the answers. “Rocks have a story to tell,” Julie says, “they have a language. You just need to learn to read that language to understand the story they’re telling.

“The rocks from Antarctica,” Julie goes on, “are not all that different from rocks that come from other places in the world.”
Julie is the assistant curator of the repository. This means that she is in charge of describing, photographing, and storing the rocks and minerals, but what she really loves is sharing the mystery of rocks with others.

For example, take a black, crumbly rock from the cold continent of Antarctica. Julie shares a secret. This rock is the fossil fuel we call coal. It formed many millions of years ago from trees that grew in an ancient swamp. Generation after generation of trees grew, died, and fell, squashing one another under their enormous weight. Over millions of years, the trees decayed and became coal.

The wonderful thing about science is that the mystery is open to everyone. “If there’s something you want to do,” Julie says, “but you’re not necessarily good at it, anyway, you might just surprise yourself.”

Now, Julie is becoming a reader of the rocks herself. “Professors make it look easy,” she says, “but it’s not that easy. Science is still hard for me. But in a way, that makes it more satisfying. The fact that I can study something, work hard at it, and really understand it is very fulfilling to me.”