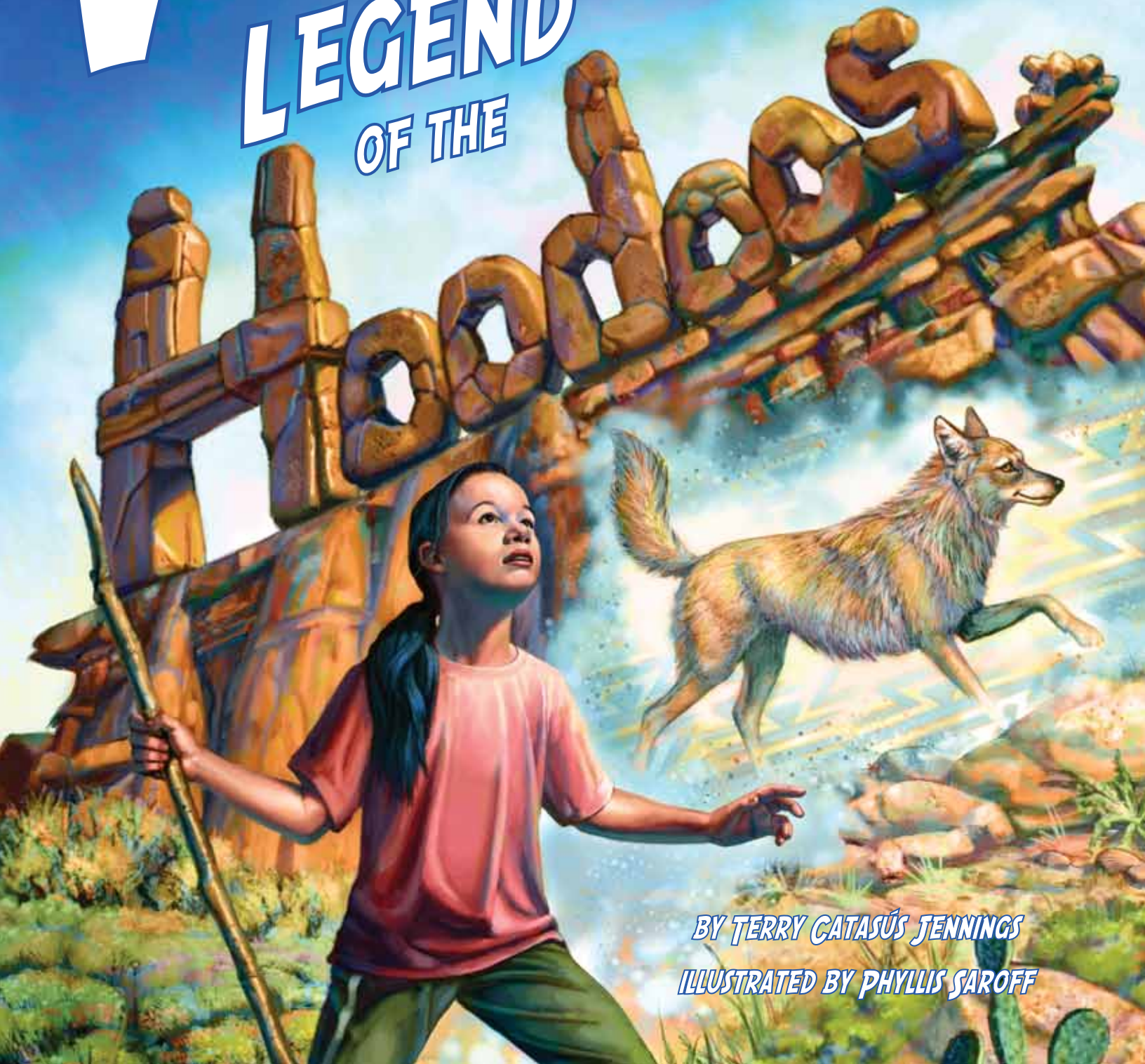


VIVIAN AND THE LEGEND OF THE



BY TERRY CATASÚS JENNINGS

ILLUSTRATED BY PHYLLIS SAROFF

VIVIAN AND THE LEGEND OF THE HOODOOS

Long ago, the Old Ones were bad. They drank all the water, ate all the pine nuts, and left nothing for the other creatures. Sinawav the trickster coyote punished them by turning them into rocky hoodoos. Now when children misbehave, their Paiute elders remind them that they too could be turned into stone columns! Vivian has heard the stories, but this year as she and her grandmother climb the mesa to pick pine nuts, Vivian has something more important on her mind: basketball tryouts. When Vivian is disrespectful to the trees and the land, her grandmother must remind Vivian of the legend of the hoodoos and how nature has made it possible for her people to live.



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Thanks to Dr. Larry E. Davis, Education Outreach/Geologist at Bryce Canyon National Park for verifying the accuracy of the geology information in this book, and to Glenn Rogers and Clarence John of the Shivwits Band of the Paiute Indian Tribe of Utah for verifying the accuracy of the information regarding Paiute culture and history.

The *For Creative Minds* includes

- Paiute Culture and History
- Water Shapes the Rock
- Hoodoos

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Terry Catasús Jennings has been heavily involved in the arts for the past 30 years. She is a contributor to the Smithsonian's Science Education Center. In addition to *Vivian and the Legend of the Hoodoos*, Terry has written *Gopher to the Rescue* (NSTA-CBC Outstanding Trade Book), *Sounds of the Savanna* (NSTA Recommended), and *Magnetic Magic* for Arbordale. She has also written *The Women's Liberation Movement: 1960-1990* and *Curiosa, Microbe Investigator*. Terry is a member of the Children's Book Guild of Washington, DC, and SCBWI. She and her husband live in northern Virginia and spend their winters in southern Utah. Visit her website at terrycjennings.com.

Since childhood, Phyllis Saroff has brought together her loves of science and art. In addition to *Vivian and the Legend of the Hoodoos*, *Tuktuk: Tundra Tale* and *Sounds of the Savanna* for Arbordale, Phyllis has illustrated nonfiction books about the natural world such as *Teeth* and *Mary Anning: Fossil Hunter*. She also illustrates for children's magazines, wayside signs and other educational material. Phyllis works digitally and with oil paint. Phyllis lives in Maryland with her husband, two sons, and two dogs. Visit her website at saroffillustration.com.



Terry C. Jennings



Phyllis Saroff

VIVIAN AND THE LEGEND OF THE HOODOOS



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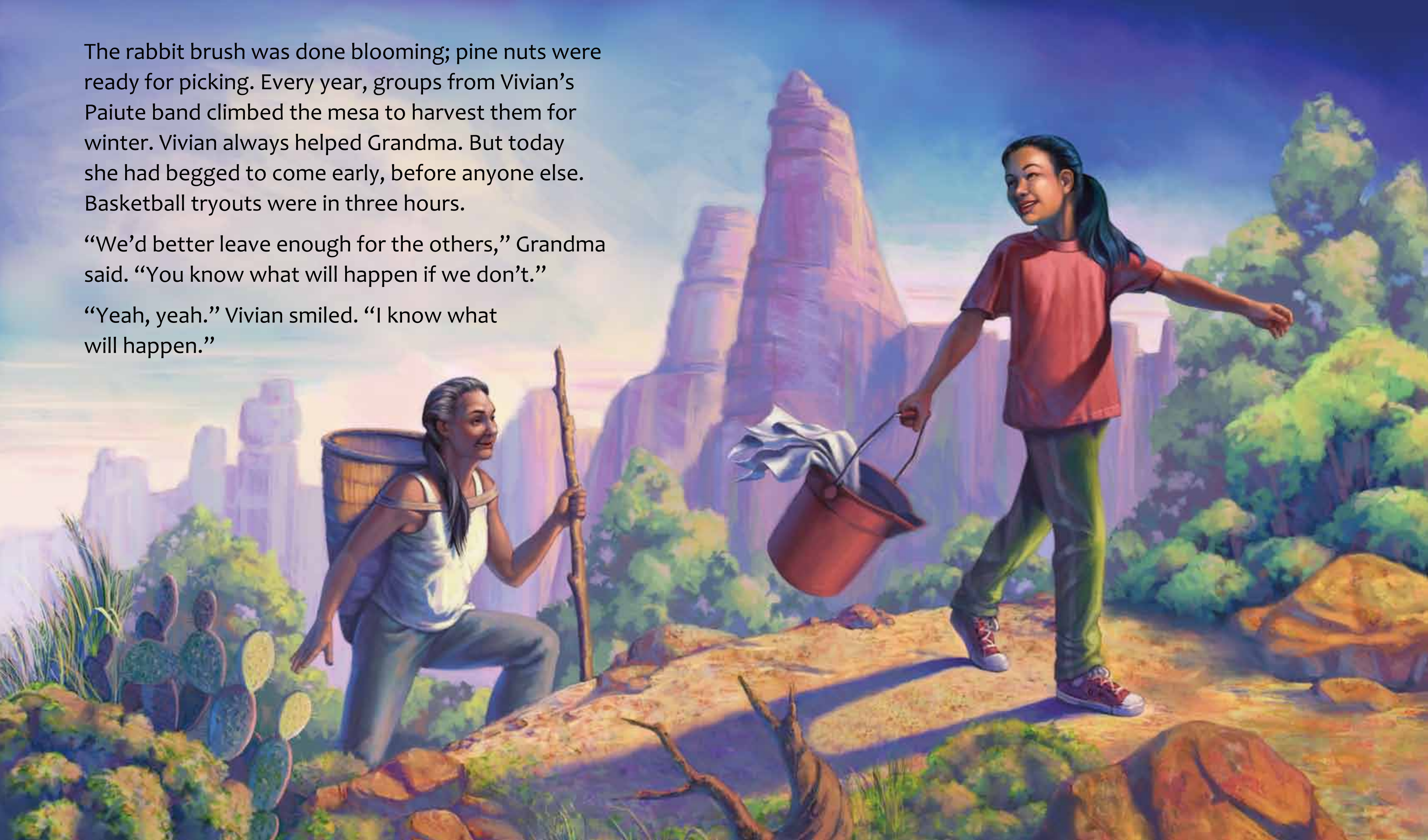
WITH GLENN ROGERS AND CLARENCE JOHN OF THE SHIVWITS BAND OF THE PAIUTE INDIAN TRIBE OF UTAH

ILLUSTRATED BY PHYLLIS SAROFF

The rabbit brush was done blooming; pine nuts were ready for picking. Every year, groups from Vivian's Paiute band climbed the mesa to harvest them for winter. Vivian always helped Grandma. But today she had begged to come early, before anyone else. Basketball tryouts were in three hours.

"We'd better leave enough for the others," Grandma said. "You know what will happen if we don't."

"Yeah, yeah." Vivian smiled. "I know what will happen."





Vivian had memorized the legend. Long, long ago, the Old Ones, the *To-when-an-ung-wa*, had been bad. Most of the time, Grandma didn't say what they had done. But sometimes she said they had been greedy. They drank all the water from the rivers and streams. They even drank the snow melt in the spring. Nothing was left for other creatures to drink. When the pine nuts ripened, the *To-when-an-ung-wa* took them too. It wasn't long before the other creatures asked the god Sinaway the coyote for help.





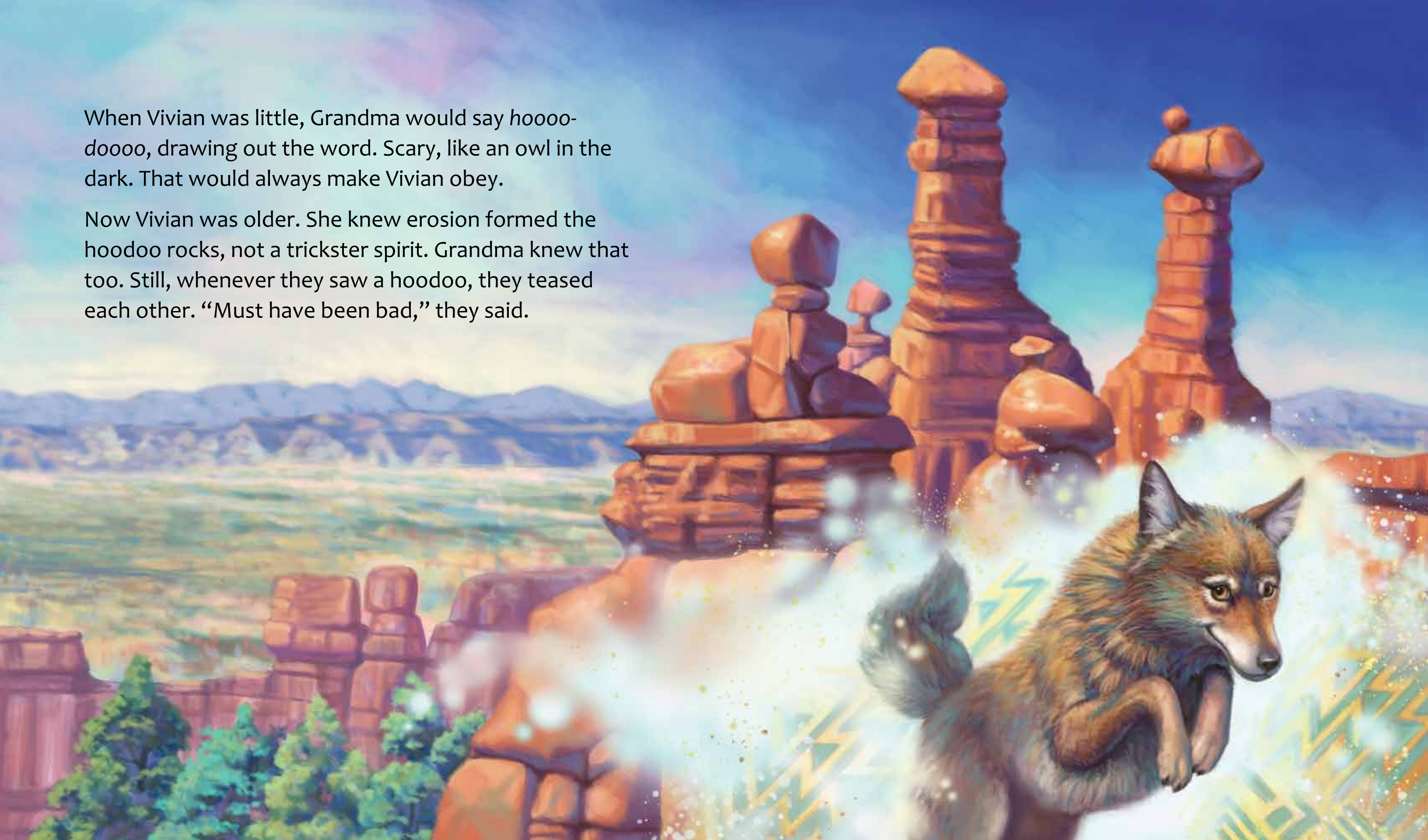
Sinaway, who was a trickster, invited the old ones to a huge banquet. He promised them all the food they could eat and all the water they could drink. The *To-when-an-ung-wa* were excited. When the day finally came, they arrived at the feast dressed in their best. But they never left.



When they were all together, the coyote punished them by turning them to rocky hoodoos. Now on moonlit nights, their spirits could be seen—shimmery shadows at the feet of the columns made from rock.

When Vivian was little, Grandma would say *hoooo-doooo*, drawing out the word. Scary, like an owl in the dark. That would always make Vivian obey.

Now Vivian was older. She knew erosion formed the hoodoo rocks, not a trickster spirit. Grandma knew that too. Still, whenever they saw a hoodoo, they teased each other. “Must have been bad,” they said.



For Creative Minds

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Paiute Culture and History



The Paiute have lived in southwestern North America for a long time. Paiute legends say they have always been there. This area is now part of Utah, Arizona, Nevada and California.

Archeologists are scientists who study how people lived long ago. They have found arrow points in Paiute lands that are 10,000 years old. These likely came from the Paiute's ancestors. There are pithouses and pottery pieces from 2,000 years ago.

The Paiute lived in the high desert. They stayed on mesas, plateaus, and mountains. They also lived in the river valleys between these plateaus.

Altitude: height above sea-level

High desert: an area at high altitude with little rain

Mesa: a small plateau with steep sides

Plateau: a large area with a flat top and steep drop on at least one side

The Paiute traveled throughout the year to farm and hunt. But they didn't have far to go to follow their food sources. Instead of traveling long distances, they moved up and down. In the summers, they lived in wikiups high in the mountains where it was cool. In the winters, they lived in warm caves near the canyon floor. The Paiute take their name from this seasonal journey. Paiute means, "traveling back and forth" in their own language.



In this desert environment, the summers were hot, more than 100° F (38° C). The winters were well below freezing.

The Paiute relied on the plants and animals in the high desert. All year long, the Paiute hunted rabbits and quail with traps and on drives. At high altitudes, they hunted deer, desert big horn sheep, elk, and pronghorn antelope. They dried the meat for winter and used the skins for clothing and blankets. They ate beans of mesquite trees, wild rice, berries, prickly pear cactus, sage, skunk bush, and watercress. The Paiute grew corn and developed irrigation for their crops. They made shampoo from yucca root and used the sharp needles of the yucca leaves to sew. They made rope, moccasins, and bowstrings from the yucca fiber.



The Paiute picked pine nuts in the fall. They shelled, roasted, and ground them into flour. This flour was easy to carry and store through the winter. They used the flour to make cakes or paste. They could eat the pine-nut paste like oatmeal or make it into a drink like a protein shake.



The elders told stories. These stories could go on for hours or even days! Through the stories, the elders taught the importance of taking care of the land. They passed down their history and culture through the generations. And they taught morals (character lessons). Some legends focused on summer customs and that's when they were told. Others were told in winter.

The legend of the hoodoos tells how the trickster god, Sinawav the coyote, turned the Old Ones into rocks. This story teaches that those who do wrong will be punished. It also explains the hoodoos, tall rocks created by erosion. Vivian's grandmother uses the word *hoodoo* to remind Vivian of the story and to get her to behave.



Is there a word or a story that elders in your family use to get you to behave?

Vivian's people depended on their environment. The high desert only had enough food for a few people in an area. So the Paiute lived in small bands. Paiute bands always helped each other because they knew that someday they might need help too. They were a very welcoming and peaceful people. Families and individuals often visited other bands. They sometimes stayed for long periods before returning to their homes.

In the 1800s, American settlers came to the Paiute lands. The Paiutes welcomed the visitors as they did other Paiute bands. But the settlers never left. And they never gave back or helped the Paiute. Instead, they took over Paiute land and left the Paiute without resources.

Today there are five bands of the Paiute Indian Tribe of Utah (PITU): Cedar Band of Paiutes, Indian Peaks Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, and Shivwits Band of Paiutes. Most of the Paiute live on PITU Tribal Reservations in Utah. Their government is the Tribal Council. Each band has its own Band Council and sends a representative to the Tribal Council.

To learn more about the Paiute, visit the Shivwits Band of Paiutes at www.shivwits.org or www.utahpaiutes.org/bands/shivwits.

Water Shapes The Rock

Weathering and erosion change rocks and mountains. They change our earth.

Weathering breaks down rocks and minerals. There are two types of weathering: mechanical and chemical. Mechanical weathering is caused by water, ice, wind, and changes in temperature. These forces break off pieces of larger rocks. Chemical weathering is caused by water, carbon dioxide, and oxygen. They change the minerals in the rock into different, softer forms.

Erosion happens when water, wind and gravity move the weathered pieces away from the mother rock.

Weathering and erosion make many kinds of changes to the land. Rushing water carves ruts, ditches, washes, and canyons. It smooths out hollow places. Rushing water can come from floods, heavy rains, and melting snow. Dripping water seeps through a crack on a rock and carries away grains of sand. Dripping water can make caves, windows, or pockets. It can even make an arch.

Water fills cracks in the rock. When the temperature drops below freezing, water turns to ice. The ice expands in the crack. The crack becomes wider and deeper. When a crack is wide enough and deep enough, it causes a piece to separate from the mother rock. This process is called **ice wedging**.

Weathering and erosion shape the landscape.

Ice Wedging Experiment

For this experiment, you will need:

- flour
- water
- a mixing bowl and fork
- a balloon
- two disposable cups

Take the balloon and fill it with some water. It should be able to fit inside your cup, so don't overfill it. Tie the balloon off and set it aside.

In your bowl, mix three cups of flour with two cups of warm water. Stir with the fork until there are no lumps left.

Pour some of your flour mix into the bottom of one cup. Once the bottom is covered, place your balloon in the cup. Then add more mix to cover the balloon.

In your second cup, pour in your flour mix until it is level with the mix in the first cup.

Allow the flour mix to dry and harden completely.

After the mix is dry, place both cups in the freezer and leave them overnight.

What do you see when you take the cups out of the freezer the next morning? Has anything changed?

Hoodoos

A hoodoo is a tall, skinny column of rock. Hoodoos can be as small as a person or as tall as a building. Some hoodoos are taller than a ten story building (150 feet, 45 meters). Hoodoos and similar rock structures have many names—goblins, chimneys, columns, and spires. They are all formed in a similar way, by millions of years of weathering and erosion.

There are four stages in the making of a hoodoo. Put the following stages in order to unscramble the name of the modern Paiute tribe. The answer is below.

I When canyons run in roughly the same direction, they form **fins**—freestanding rock walls between the canyons. Water can collect in cracks (joints) across the fins. When water freezes and ice forms in the joints, the cracks expand.



T After many cycles of freezing and thawing (ice wedging), cracks in the fin become deeper and wider. Water can seep down the rock and create **windows**.



P A **plateau** is a high, flat landform. Rushing water weathers and erodes the plateau. This creates ruts and washes on the earth's surface. Over millions of years, the washes can deepen to canyons.



U Over time, the window collapses or the fin separates into individual spires. This leaves a freestanding column: a **hoodoo**. Hoodoos will continue to weather and erode. Eventually, the once-tall hoodoo will be a mound of soil.



The Colorado Plateau is a large landform that covers parts of Utah, Colorado, Arizona, and New Mexico.

Bryce Canyon is in a part of the Colorado Plateau that used to be Paiute territory. Soft limestone layers and more than 200 days of freeze-thaw cycles each year make this a perfect place for ice wedging and erosion. At Bryce Canyon, many hoodoos formed in a bowl-shaped basin. It looks like a sunken city of hoodoos. This is likely where the legend of the hoodoos originated.



To Callen Wade Jennings who loves the hoodoos.—TCJ

To my student and model, Georgia.—PS

Thanks to Dr. Larry E. Davis, Education Outreach/Geologist at Bryce Canyon National Park for verifying the accuracy of the geology information in this book, and to Glenn Rogers and Clarence John of the Shivwits Band of the Paiute Indian Tribe of Utah for verifying the accuracy of the information regarding Paiute culture and history.

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Translated into Spanish: **Viviana y la leyenda de los Hoodoos**

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key phrases: character, chimneys (rock), column (rock), community, desert, erosion, fables/folktales, geography, geology, history, hoodoos, landforms, physical change, Paiute, spire, trickster, Utah, Native American

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