

LEVELED BOOK • Y

ARROWS



MULTI
level
R•U•Y

Written by Dina Anastasio
Illustrated by David Cockcroft

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THE FIRST ARROW

Poloma was flinging her new ball high into the air when she made her unexpected discovery of the first arrow in the forest. That particular Mississippi morning, she was aiming for the Sun, launching the ball higher and higher, when it came down and bounced away. The fast-moving ball careened off a tree trunk and ricocheted off a log, eventually coming to rest near a large, moss-covered boulder.

While disentangling the ball from the matted tendrils of undergrowth, Poloma noticed the mysterious arrow carved into the lower part of the massive rock.





The arrow looked like a simple carving, but almost immediately Poloma realized she'd made a significant discovery. She scooped up her ball and scampered home to where her grandfather rested on the porch. His eyes appeared closed, and for a moment she wondered if she should disturb him with the news.

"You've discovered something special," he said softly, stretching awake, while his granddaughter took a seat on the swing next to him. "You're absolutely fidgeting with excitement."

"I've found an arrow, Papa!" Poloma enthusiastically kicked her feet, sending the swing swaying back and forth like a pendulum, making a gentle rhythmic sound.

"And where is this amazing arrow that excites you so much?"

Poloma told her grandfather about the bouncing ball, the boulder, and the arrow that was carved near the base of the rock.

"Do you think the arrow is a **glyph** like the ones in my code books?" Poloma asked. "Maybe it's a Mayan hieroglyphic; the Mayans used tiny pictures instead of words and letters. Maybe the Mayans carved the arrow," Poloma guessed.



Papa pulled himself out of the swing and smiled down at his granddaughter. "That's an extremely good question," he said, "but I doubt that the Mayans carved rocks around here because the Mayans lived hundreds of miles south of here in Mexico and Central America. However, your arrow might indeed represent some strange code, but before we jump to any **irrational** conclusions, let's conduct a little research to find out."

Poloma's grandfather knew about codes; in fact, he was a **veteran** who had been **decorated** for his work with **cryptography** during World War II. Papa and other Native American **Code Talkers** had helped the United States and its allies win the war by sending secret messages.

"Will you tell me again, Papa?" Poloma pleaded. She loved to hear the Code Talker story, even though she'd heard it many times before. She especially enjoyed hearing about the Mississippi **Choctaw** Code Talkers like her grandfather.

"Come," her grandfather said, as he took her hand, "I think we should visit your puzzling arrow, and I'll tell you about the Code Talkers as we walk through the woods."



This group of Oklahoma Choctaw soldiers from World War I paved the way for other native languages to be used as codes in World War II.

As they made their way toward the boulder, Papa **recounted** the story of the Code Talkers and how they had sent messages that no one else could **interpret**.

QUESTIONS

"We spoke into walkie-talkie radios," he explained, "and we only used Choctaw words that would be **unintelligible** to outsiders. The Code Talker on the other end received my message and **translated** it into English for Allied soldiers. If enemies were listening, they wouldn't be able to **comprehend** any words whatsoever."



Poloma and her grandfather were at the boulder now. They knelt down, and Poloma pointed to the roughly carved arrow. Wind and rain had eroded the arrow's edges so that it was nearly invisible to anyone who was not carefully examining the stone.

"What do you think it means?" she asked.

Papa traced his finger back and forth over the carving. "I can't say for certain," he said. "It's a very old carving, but it's hard to estimate how old. It's a difficult and complicated process to determine how old a carving is."

"How do people know?" Poloma asked.

"Well, there are many ways. Remember the cave paintings we saw last summer, and the ancient fossils and bones we saw at the natural history museum? Scientists use a method called **carbon dating** to figure out how old those things are."

"Can we use it to find out how old our arrow is?" Poloma asked.

"Possibly—someone could date the plants in the cracks nearest to the carving," Papa told her. "But let's try an alternative method. Let's study the arrow and its environment for more clues."

Poloma peered at the arrow for a long time. Suddenly, she had an idea.

"I know!" she shouted. "Maybe we should explore where the arrow is pointing?"

The arrow was pointing toward another boulder nearby. Poloma and Papa followed it and found the second arrow almost immediately. The second arrow was pointing in the same direction as the first so they followed that one, too. It led to another boulder, and another arrow, which led to yet another, and then another arrow.

There were six arrows in all.





"What do you think it means, Papa?" Poloma asked as she ran her finger over the sixth arrow.

"I think it means we should look for the next arrow," Papa laughed. "The arrows are sending us somewhere for some inexplicable reason, and I'm champing at the bit to see where and why."

They continued on in the direction the arrows had been leading them but saw no more boulders. The arrows led them abruptly toward a stream.

"What should we do?" Poloma asked.

"I suppose we should cross the stream. It looks very shallow, so if we tiptoe from stone to stone, perhaps we'll find another arrow on the other side. Hold my hand tight; we'll cross together."



ANSWERS

They crossed the stream, holding hands, stepping carefully. When they reached the other side, they nearly toppled over the next boulder. It was almost entirely obscured by a grove of old pine trees at the top of an **embankment**.

"Do you think there's anything carved on it?" Poloma asked.

"Let's take a look," Papa said.

They knelt down together, side by side, and examined the boulder. At first they couldn't find an arrow or any other carving, and they were about to give up when Poloma screeched.

“I found something! I found something!” she shouted as she leaned closer to the boulder and scraped off some dried and shriveled moss with her fingers. “Look, Papa! It’s not an arrow at all—there’s a bunch of letters carved into the bottom of the boulder! I wonder if we can make them out.”

“I’m afraid you’ll have to read them to me.” Papa stood up slowly, rubbing his knees. “Glaucoma and rheumatism aren’t the best assets for would-be explorers. I’ll never be able to read those tiny marks with my poor eyesight, and my joints are aching from all this crawling around in the brush.”

Poloma crawled closer to the boulder and **pored** over the letters. It took her a long time, but she was finally able to read them all.

“They don’t make sense as words from any language I’ve ever seen,” she said. “I’ll say them to you, but it looks like **gibberish** to me.”

Poloma read each letter out loud, very slowly.

g p m m p x u i f e s j o l j o h h p v s e

When she was finished, she said, “Maybe they’re a code. Do you think they could be a code, Papa?”



"Read them again," Papa said. "Maybe I can make some sense of them if you read them again."

Poloma said the series of letters again. As she recited them, she could hear her grandfather's footsteps. He was anxiously walking with a measured gait through the dead leaves and pine needles. Papa always paced when he had something important to mull over.

"Do they mean anything to you?" she asked when she was done.

"I'm not exactly sure," Papa told her. "But I think it's a cipher, and I think I recognize it."

Poloma knew what a cipher was. It was a code that substituted letters or numbers for the real letters in a message.

"Ciphers like that one have been used in many wars to conceal **strategic** information from the enemy," Papa explained.

"Reading a message created with a cipher is easy if you know the key to the code."



CRACKING THE CODE

“Did you use a cipher in the war?”
Poloma asked.

“We used a kind of cipher, substituting Choctaw names of things found in nature for military equipment like tanks and machine guns. I also heard about some very complicated **cryptograms** used in World War II. The Germans had a very sophisticated device called the Enigma Machine that was a kind of mechanical computer that substituted letters for other letters. But the first substitution cipher was invented by the Roman emperor Julius Caesar more than 2,000 years ago.”

“I wonder if these letters were used in a war, too,” Poloma pondered.

Papa **contemplated** that. He paced for a very long time, and then he halted beside his granddaughter and cleared his throat.

“I think I remember something,” he said.
“As you may recall, a great war took place right around here.”

“The Civil War—right, Papa?” Poloma asked.



"Yes. About 150 years ago, the Civil War was fought to free the slaves in the South. I think I recall reading that the soldiers and spies in the North used a special cipher."

"Do you remember what it was, Papa?"

"It was similar to the Caesar Cipher. Read me the letters again."

Poloma read the letters slowly.

g p m m p x u i f e s j o l j o h h p v s e

Papa shook his head and placed a gentle hand on his granddaughter's shoulder.

"You forgot the spaces," he said. "Read the letters again, and don't forget the spaces between the words."

Poloma read the letters again. This time she was careful to pause whenever she saw a space.

g p m m p x u i f e s j o l j o h h p v s e

As she was repeating the letters, she remembered something that she had noticed in codes she had **deciphered** before. Most sentences contained at least one short common word, and this one was no exception.

"I think I see some interesting patterns of letters," she said. "Let's say the letters combine to form words. One of the words has three letters. Let's assume that it's a common word . . ."

". . . like *and*?"

"Or *the*," Poloma suggested. "There has to be one common word in a sentence."

Poloma and Papa were quiet for several minutes as they considered the three letters.

"I don't think it's *and*," Papa said. "The letters don't make sense."

"But it could be *the*," Poloma said. "Maybe the letters *uif* stand for *the* in some way."

Papa was smiling now. "You are a brilliant girl," he said. "What letter precedes *u* in the alphabet?"

"*T*," Poloma said. "And the letter *h* comes before *i*, and the letter *e* comes before *f*. This is a substitute-letter cipher, Papa!"

"Yes! I remember now! During the Civil War, some Northern spies and soldiers used a code called the advance cipher. They advanced each letter one letter of the alphabet."



THE DRINKING GOURD

Once they had cracked the code, it was easy to read the message.

"I know what it says, Papa. It says, 'Follow the Drinking Gourd.' But I don't know what the message means. Do you know what it means?"

Papa was pacing again now, and Poloma could tell that he was meditating on the **significance** of what they had found.

"Before the end of the war," he said, "many slaves longed to escape to freedom in the North. They followed what was called the Underground Railroad, which wasn't literally a railroad, but instead was a series of routes and directions and safe houses that led the slaves northward. Some slaves who had escaped returned to help other slaves."

"But who carved the arrows, Papa?"

"I'm not sure if we'll ever know that," Papa said. "It might have been a Northern spy trying to help. It might have been a returning slave who had learned the cipher in the North. Or maybe it had nothing to do with the war. Who knows? Maybe some children were playing a game."

"Did escaping slaves ever carve directions in trees or rocks?" Poloma asked.

"I've never heard of such an occurrence, but every day people uncover new information about the Underground Railroad. Just recently, someone discovered a hidden tunnel and a secret room in a house in Iowa where slaves hid out on their journey north to Canada. Many escaping slaves traveled all the way north to Canada after the Fugitive Slave Act of 1850 made it more difficult for them to find freedom in the northern United States."

"What does 'Follow the Drinking Gourd' mean?" Poloma asked.

"The Drinking Gourd is the constellation of seven stars now called the Big Dipper, which can always be found in the northern sky of the United States. Slaves followed the Drinking Gourd from safe house to safe house, until they finally reached freedom."

The Sun was beginning to set, and tiny slivers of light were flickering through the branches. Poloma took her flashlight from her backpack, turned it on, and took her grandfather's hand.

By the time they were back on the other side of the stream, the Sun had disappeared. Poloma stopped and scanned the sky.

"Are you looking for the Drinking Gourd?" her grandfather asked.

"There it is!"
Poloma was pointing to the bright cluster of stars in the sky.
"Shall we follow it?"

"It's your decision. Are we heading north?"



Poloma thought about that for a moment. The Drinking Gourd would lead them back across the stream, past the boulder with the cipher, and on to places north.

"We need to go south, Papa."

Poloma and Papa turned. They moved slowly, like creeping night creatures. The light from Poloma's flashlight led them away from the North Star, past the arrows pointing the other way, out of the woods, and home.

GLOSSARY

carbon dating (<i>n.</i>)	a test to determine age that analyzes the content of carbon, an element in organic material (p. 9)
Code Talkers (<i>n.</i>)	Native Americans who used their native languages as codes during World Wars I and II (p. 7)
comprehend (<i>v.</i>)	understand fully (p. 8)
contemplated (<i>v.</i>)	thought over deeply (p. 16)
cryptograms (<i>n.</i>)	coded messages (p. 16)
cryptography (<i>n.</i>)	secret writing using a cipher or code (p. 7)
deciphered (<i>v.</i>)	worked out the meaning of a secret message or writing (p. 18)
decorated (<i>v.</i>)	awarded medals for performing well in the military (p. 7)
embankment (<i>n.</i>)	a raised section of earth, often bordering a body of water or a road (p. 12)
gibberish (<i>n.</i>)	a language that has no meaning or makes no sense (p. 13)
glyph (<i>n.</i>)	a picture or other character with special meaning that is often carved into something (p. 6)

interpret (<i>v.</i>)	tell or explain the meaning or significance of something (p. 8)
irrational (<i>adj.</i>)	not making logical sense (p. 6)
Choctaw (<i>n.</i>)	a member of a group of Native Americans in the Southeast (p. 7)
pored (<i>v.</i>)	read with great attention (p. 13)
recounted (<i>v.</i>)	told again; repeated (p. 8)
significance (<i>n.</i>)	the importance or special meaning of something (p. 20)
strategic (<i>adj.</i>)	relating to a plan for winning something or solving a problem (p. 15)
translated (<i>v.</i>)	took something written or spoken in one language and changed it to another language (p. 8)
unintelligible (<i>adj.</i>)	not capable of being understood (p. 8)
veteran (<i>n.</i>)	a person who has served in the military (p. 7)

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Page 7: © Rodger Mallison/MCT/Landov

The photograph on page 7 shows the Choctaw Telephone Squad at Camp Merritt, New Jersey, on June 7, 1919.

From right to left : Captain E.H. Horner (Commanding)

Private James Davenport, Choctaw, age 27

Corporal James Edwards, Choctaw, age 20

Corporal Calvin Wilson, Choctaw, age 24

Private Mitchell Bobbs, Choctaw, age 25

Corporal Taylor Lewis, Choctaw, age 22

Arrows

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