

The *poot-see* on the mountain

According to Native American Pahute legend, the sky is full of *poot-see*, or stars. The Pahutes think of the *poot-see* as animals that, like themselves, are wanderers. The *poot-see* travel around the sky following different paths, perhaps traveling to a warmer place during winter, or following a herd for better hunting during the summer. Some of them are seen only at certain times during the year, while others appear every night. And, from careful observation, one can even learn their paths. There is one star, however, *Qui-am-i Wintook*, the North Star, that does not travel at all.

Why so still?

Some time ago, before there was *Qui-am-i Wintook*, there was a goat named Na-gah, who was the son of Shinob. Na-gah was probably the greatest climbing goat in the entire world. There was no hill or mountain too steep for him to climb. He could climb the hill faster and better than any other goat. One day Na-gah came across a great mountain so high that it seemed to reach all the way up to the sky. To Na-gah, this was just another challenge—something he greatly enjoyed. So Na-gah proceeded to climb this mountain.

Na-gah studied the mountain carefully, noting that the only way up seemed to be by jumping from one small ledge to another. So he climbed and jumped, and climbed and jumped. As he made his way higher up this steep mountain, he had to rely on the strength of his legs. Each time Na-gah jumped off a ledge, his powerful back legs would knock it away. Na-gah noticed this, but his mind was made up—he would climb to the top of the mountain.

Finally, after a long and tiring climb, Na-gah reached the very small peak of the mountain. He was in the

sky! “But what a small peak to the top of such a tall mountain,” he thought. A long way below him, Na-gah could see the Earth and all the animals. He could even see other goats circling around the foot of the mountain, looking for a way to follow him up to the top. “What a great sight,” Na-gah thought, “but now I must find a way down.” Na-gah looked for a way down, but could not find one. Na-gah had kicked away all of the footholds on his way up.

After a while, Shinob began looking for his son. He finally saw Na-gah at the top of the mountain. Shinob knew there was no way for Na-gah to climb back down, so he had Na-gah turned into a *poot-see*. Na-gah remains in that same place in the heavens for all sky and Earth creatures to see.

So it came to pass that Na-gah became *Qui-am-i Wintook poot-see*, the North star, or the star that never moves. It is fixed in one place in the sky so that travelers can set their own course or find their way. The other goats are still circling around the mountain looking for a way up. Their stars can be seen in the constellations of the Big and Little Bears.

Cultures in Common

Polaris' position and apparent lack of motion has led to a series of similar beliefs about the relationship between the skies and the Earth, with special emphasis on Polaris' position above the north celestial pole. The name *polaris*, meaning “of the pole,” probably was derived from the Greek word *polos*, meaning “pivot” or “to turn.” To the various peoples living in the far north, this point in the sky is known as the “Nail of the Sky” or the “Nail of the North”—representing the point where the sky is supported and held in place so that it

will not wander.

Polaris' apparent lack of motion was also significant in that it served as a dependable indicator of north. Tenth-century sailors called it the “Ship Star.” Others referred to it as the “Lodestar,” meaning “star that shows the way.”

To many cultures, the sky is balanced at the north celestial pole, and what we refer to as the axis of the Earth is often described as a pole that supports the sky. The African Dogons liken the pole to a house post in their supreme god Amma's house, while the Eskimos liken it to the center pole in a hut.

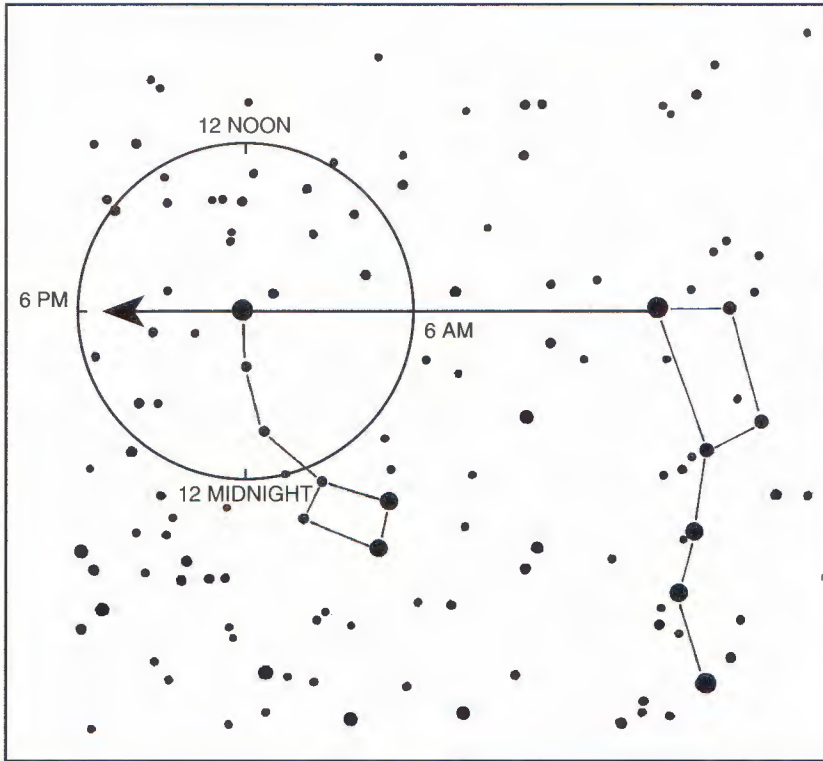
As the Earth rotates about its axis, the sky appears to be in motion. Over the northern horizon, stars appear to follow a path, with Polaris, the North Star, at the center of the rotation. This apparent motion of the sky over the northern horizon is known as circumpolar motion. All objects considered to be circumpolar are those that never set—in effect, staying in view throughout the year over the horizon as they follow an apparent rotation around Polaris.

The circumpolar constellations appear to follow a very regular, counterclockwise, circular motion around Polaris as the Earth rotates. As a result of this apparent motion, one can determine the local clock time with a fair degree of accuracy. One need only observe the positions of certain circumpolar stars and work through some basic arithmetic operations to approximate the time (see activity sheet that follows).

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Bibliography

Palmer, W.R. (1978). *Why the North Star Stands Still, and Other Indian Legends*. Springfield, UT: Zion Natural History Museum.



Telling time by the stars

On a clear evening, face north and locate the Big Dipper over the northern horizon. Look for the two pointer stars (see above) in the cup of the Big Dipper. An imaginary line extended through these two stars, as shown in the illustration, will point to the North Star, Polaris. This star represents the center of a 24-hour clock, while the imaginary line between the pointer stars, extended through Polaris, represents the clock's hour hand (which will move in a counterclockwise direction). The position of this imaginary line can be used to determine time as follows:

1. What hour is indicated by the pointer stars? _____
2. What is the current month number? (Jan = 1, Feb = 2, ...)
3. Multiply this number by 2. _____
4. If the current day number is greater than 15, then add 1 to your total. _____
5. Add 6 to your total. _____
6. Subtract 12 if your total is greater than 12. If less than 12, go to step 8. _____
7. If your total is still greater than 12, subtract 12 again. _____
8. Subtract this number from the hour indicated by the pointer stars in step 1. _____
9. If Daylight Savings Time is in effect, subtract 1. _____
10. This number represents the current time. _____

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