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ARTICLE

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Solar Eclipses Baffle, Captivate Humans Throughout History

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Solar eclipses baffle, captivate humans throughout history

By Brooks Hays

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On Monday, a wide swath of the United States will witness a total solar eclipse and the rest of the country will see at least a partial eclipse.

While modern humans understand the moon has passed between the sun and Earth, temporarily blocking out the sun, that has not always been the case and the momentary darkness has garnered a wide range of reactions throughout history.

In ancient China, people would gather in the streets to bang on drums and pots and pans during an eclipse -- an effort to scare away the dragon they believed was eating the sun.

If an eclipse arrived unannounced, or if a predicted eclipse failed to materialize, ancient Chinese court astronomers risked execution.

The demise of a pair of Far East astronomers even inspired an ancient poem: "Here lie the bodies of Ho and Hi, Whose fate though sad was visible, Being hanged because they could not spy Th'eclipse which was invisible."

The heavens have never been simply a backdrop for physical phenomena. Since humans first had the ability to consider a world outside themselves and their place on the planet, the sky and its many celestial bodies has been a source of wonderment and power.

"What I find most amazing, having studied eclipses throughout history, is that no matter the time period or the scientific knowledge [or lack thereof], human responses to an eclipse are consistently, universally, expressions of awe and wonder, and even fear and terror," Steve Ruskin, a historian of astronomy, told CNet.

Humans have long looked to the sun, moon, planets and stars for explanations of their past and clues to the future. Thousands of years after Chinese emperors sought eclipse predictions to justify state power, Wall Street traders and robber barons paid astrologists to read the business cycle in the night sky.

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If heavenly bodies have predictive power, what is the future foretold by a disappearing sun?

For the earliest human witnesses to an eclipse, it must have been a frightening experience. Their interpretations died with them, but the members of many early civilizations did put stylus to paper -- or stone -- after viewing the phenomena.

Researchers believe the earliest documented solar eclipse -- charted in hieroglyphics by the Egyptians -- occurred 4,500 years ago. The documentation, however, is scant. Ancient Egyptians worshipped the sun, and some historians believe an eclipse may have been too traumatic to write about.

Like the Chinese, Babylonian rulers saw eclipses as a political omen. Commoners were asked to man the throne during an eclipse, just in case the sun's disappearance brought about political collapse.

Upheaval was the interpretation of many early eclipse watchers.

Ancient Assyrian tablets suggest residents of Ashur at least partially blamed a 763 BC eclipse for insurrection in the civilization's capital city.

"If you do a worldwide survey of eclipse lore, the theme that constantly appears, with few exceptions, is it's always a disruption of the established order," E.C. Krupp, director of the Griffith Observatory in Los Angeles, told National Geographic in 2013.

Also like the Chinese, many cultures blamed the brief absence of the sun on animals. For the Chinese, the culprit was a mythical dragon. Vikings believed a pair of sky wolves chased the sun from the sky. Koreans blamed fire dogs.

"In Vietnam, a frog or a toad [eats] the moon or the sun," Krupp said. The ancient Greeks believed an eclipse foretold dark times. For them, the disappearance of the sun was a sign of the gods' anger.

Death and destruction did follow an eclipse in England. In 1133, an eclipse coincided with the death of King Henry I. His passing was followed by a dispute over who should rightfully inherit the throne. Between 1135 and 1153, England was marred by anarchy and civil war.

Turkish historians claim warring armies put down their weapons and accepted a peace treaty in 585 B.C., after witnessing an eclipse and accepting the occurrence as a sign from the gods.

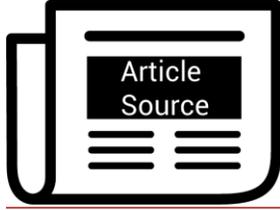
Despite its relative rarity, even early astronomers in China, the Middle East and the Mediterranean were able to accurately predict eclipses. Records suggest the Mayans were also capable of predicting the moon's blockage of the sun.

And though mythologies persisted for centuries, many early astronomers understood the scientific realities of the phenomenon. As early as 20 BC, Chinese astronomers understood the moon to be passing between the sun and Earth.

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One thing, however, has remained constant through history -- the reverence for the event. Modern astronomers are still surprised by the emotional impact of the alignment of celestial bodies.



Discussion Questions

Vocabulary Define: swath, garner, upheaval, materialize, demise, phenomena, interpretation, documented, insurrection, traumatic, omen, anarchy

- 1. What causes eclipses?**
- 2. Based on your understanding of astronomy, how do you think we know this?**
- 3. Who were the first people to suggest that this was happening?**
- 4. What have people who lacked this knowledge nevertheless known about eclipses?**
- 5. Why would accurate predictions of the eclipse help Chinese emperors justify state power?**
- 6. More generally, why are we more likely to trust people with power if we believe they have knowledge?**
- 7. Do you think the residents of Ashur were right to blame an eclipse for insurrection? Explain.**

