

# The Astronomy of Many Cultures

At the beginning of *400 Years of the Telescope*, Neil Tyson discusses that cultures around the world have always incorporated the sky into their philosophy and religion. Today, as we in the modern world absorb the many things about the universe telescopes are teaching us into our self-view, we can also look back to see how other cultures have been shaped by their perception of the realms beyond Earth.

This brief list is only an introduction to the study of astronomy of various civilizations around the world. *Archaeoastronomy* is one name we give to the study of the astronomical ideas and monuments of ancient cultures. Some of the books listed may go in and out of print, but you can often find them at larger libraries or through used book web sites.

## A. General Books and Articles

- Aveni, A. "Archaeoastronomy: Past, Present and Future" in *Sky & Telescope*, Nov. 1986, p. 456.
- Aveni, Anthony *Conversing with the Planets*. 1992, Times Books. Celebrates the myths of many cultures; emphasizes the importance of seeing them in their own context.
- Aveni, Anthony *Empires of Time*. 1989, Basic Books. A discussion of calendars, clocks, and cultures; chapters on the Maya, Aztecs, Incas, Ancient Chinese, and other early civilizations.
- Aveni, Anthony *Stairways to the Stars: Skywatching in Three Great Ancient Cultures*. 1997, John Wiley. Focuses on the monuments and astronomy of the people who built Stonehenge, plus the Maya and the Inca.
- Glaiser, Marcelo *The Dancing Universe: From Creation Myths to the Big Bang*. 1997, Dutton/Penguin. An exploration by a physicist of ideas from many cultures of how the universe came to be, including ancient legends and modern science.
- Hadingham, Evan *Early Man and the Cosmos*. 1984, Walker & Co. A clear primer on the subject of ancient sites and the astronomical thinking of ancient cultures around the world.
- Krupp, Edwin *Beyond the Blue Horizon: Myths and Legends of the Sun, Moon, Stars, and Planets*. 1991, HarperCollins. Astronomical tales from many cultures; best book to start with.
- Krupp, Edwin *Skywatchers, Shamans, & Kings: Astronomy and the Archaeology of Power*. 1997, J. Wiley. Fine guide to sites around the world, written for beginners with humor and verve.
- Krupp, Edwin *Echoes of the Ancient Skies: The Astronomy of Lost Civilizations*. 1983, Harper & Row. An excellent introduction on the thoughts and monuments of earlier cultures.
- Ruggles, Clive *Ancient Astronomy: An Encyclopedia of Cosmologies and Myth*. 2005, ABC-CLIO. Mammoth A-Z compilation of the ancient knowledge of a wide range of cultures.
- Walker, Christopher, ed. *Astronomy Before the Telescope*. 1996, St. Martin's Press. 17 essays on how people observed and interpreted the sky before modern instruments.
- Zeitlin, Steve *The Four Corners of the Sky: Creation Stories and Cosmologies from Around the World*. 2000, Henry Holt. Short book introducing and retelling the stories.

## B. Resources about Specific Cultures

### 1. Astronomy and People of Color in the U.S.

Ferris, Jeri *What Are You Figuring Now: A Story about Benjamin Banneker*. 1988, Carolrhoda Books. Children's book about 18<sup>th</sup> century black astronomer, mathematician, surveyor.  
Rall, Gloria "The Stars of Freedom" in *Sky & Telescope*, Feb. 1995, p. 36. On how slaves used songs with the Big Dipper to show them escape routes from the South.  
"Have Minorities Broken Astronomy's Glass Ceiling" -- a roundtable in *Astronomy* magazine, May 2003, pp. 55-58.

## **2. Astronomy of Native North American Cultures**

Canby, T. "The Anasazi: Riddles in the Ruins" in *National Geographic*, Nov. 1982, p. 554.  
Carlson, J. "America's Ancient Skywatchers" in *National Geographic*, vol 177, #3, Mar 1990, p. 76.  
MacDonald, John *The Arctic Sky: Inuit Astronomy, Star Lore and Legend*. 1998, Royal Ontario Museum. Astronomical stories and explanations from Northern Canada and Alaska, including a discussion of interpretations of the aurora.  
Maryboy, Nancy & David Begay *Sharing the Skies: Navajo and Western Cosmos*. 2006, Indigenous Education Institute & World Hope Foundation (available from amazon.com). An authoritative compilation by Navajo and Western astronomers of illustrations, stories, and observations of Navajo constellations coupled with stories from corresponding Greek constellations and Hubble Space Telescope images of objects found in that part of the sky. This is a kit that includes an audio CD, a small poster of the Dine Universe, and learning activities.  
McLeary, Timothy *The Stars We Know: Crow Indian Astronomy and Lifeways*. 1997, Waveland.  
Miller, Dorcas *Stars of the First People: Native American Star Myths and Constellations*. 1997, Pruett.  
Monroe, Jean & Williamson, Ray *They Dance the Sky: Native American Star Myths*. 1987, Houghton Mifflin. Skylore from a number of tribes retold.  
Williamson, Ray *Living the Sky: The Cosmos of the American Indian*. 1984, Houghton Mifflin/University of Oklahoma Press. The sky world of the Native Americans, through their tales and their observing sites.

## **3. Astronomy of Central American (Maya and Aztec) Cultures**

Kurtz, P. "An Astronomer Reads Archeology's Message" in *Astronomy*, Oct. 2002, p. 48. Profile of Anthony Aveni, with a focus on his work on Mayan structures.  
Milbrath, Susan *Star Gods of the Maya: Astronomy in Art, Folklore, and Calendars*. 2000, University of Texas Press. Scholarly monograph.  
See the books by Anthony Aveni in section A above.

## **4. Astronomy of South American Cultures (Inca, Nasca, etc.)**

Aveni, Anthony *Between the Lines: The Mystery of the Giant Ground Drawings of Ancient Nasca, Peru*. 2000, U. of Texas Press.  
See many of the books in section A above

## **5. Astronomy of Ancient European Cultures**

- Burl, Aubrey *The Stone Circles of Britain, Ireland, and Brittany*. 2000, Yale University Press. Detailed guide to Stonehenge and other ancient stone monuments.
- Gingerich, Owen "The Basic Astronomy of Stonehenge" in *The Great Copernicus Chase*. 1992, Cambridge U. Press. Uses a wonderful Coca-Cola can model to explain how the builders thought of the sky.
- Krupp, E.C. "Inner Glow" in *Sky & Telescope*, Dec. 2004, p. 50. About the underground shrine at Newgrange, Ireland.
- Maranto, G. "Stonehenge: Can It Be Saved?" in *Discover*, Dec. 1985, p. 60. On what tourism is doing to the ancient monument.
- Zimmermann, L. "Heads and Tales of Celestial Coins" in *Sky & Telescope*, Mar. 1995, p. 28. On astronomical events depicted on Roman coins.

## 6. Astronomy of Islamic Cultures

- Ahmad, I. & Khalid Shaukat, S. "Muslim Moon Sightings" in *Mercury (the magazine of the Astronomical Society of the Pacific)*, May/June 1995, p. 38. The Muslim calendar and sighting the first crescent moon.
- Gingerich, Owen "Islamic Astronomy" in *Scientific American*, April 1986, vol. 254, p74.

## 7. Astronomy of Hawaiian, Polynesian, and Native Australian Cultures

- Bryan, E.H. & Crowe, Richard *Stars Over Hawaii*, 2nd ed. 2002, Petroglyph Press (available from BasicallyBooks.com). An introduction to the stars as seen from Hawaii and their use as navigation aids in traditional Hawaiian voyaging.
- Finney, Ben *Hokule'a: The Way to Tahiti*. 1976, Dodd Mead. An anthropologist describes recreating the voyages of the ancient Polynesians using the stars to navigate. Updated in his *Sailing in the Wake of the Ancestors: Reviving Polynesian Voyaging*. 2004, Bishop Museum Press.
- Haynes, R. "Dreaming the Sky" in *Sky & Telescope*, Sep. 1997, p. 72. On the astronomical ideas in Australian aborigines culture.
- Makemson, Maud *The Morning Star Rises: An Account of Polynesian Astronomy*. 1941, Yale University Press.

## 8. Astronomy of Asian Cultures

- Nakayama, Shigeru *A History of Japanese Astronomy*. 1969, Harvard University Press. From ancient times through the 19<sup>th</sup> century, with a look at Chinese influences.
- Pankenier, David "The Mandate of Heaven" in *Archaeology*, Mar./Apr. 1998, p. 26. On early Chinese astronomy, as recorded on art and artifacts.
- Spitz, Anna "Visiting the Moon Lady" in *Mercury*, Jul/Aug. 2006, p. 24. On Chinese moon legends and how they continue to be used in cultural celebrations.

For additional resources, see: <http://www.astrosociety.org/education/resources/multi.html>

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