Discovering the ancient sky: the archaeology of astronomy (**4-week course**, Sarah Wisseman, February 2022). suwissem@gmail.com

Why study ancient stargazers? Because people discovered thousands of years ago that being able to predict celestial events such as eclipses of the sun or the flooding of major rivers gave them control over human resources and human behavior. How much of early astrology and astronomy is based on observation vs. mathematics? We owe considerable debt to ancient Babylonia and Egypt for their accurate observations and time keeping and to Greek philosophers for their views of the cosmos. However, what people were able to observe depends on several things: time of year and season (controlled by the earth's movement around the sun and the earth's tilt), and latitude. How ancient sites were oriented depended on what various cultures considered important (e.g. direction of Nile flow and rising of the sun in Egypt *vs*. Cahokia's lunar and Milky Way alignments).

This is a big subject, so I will be selective in what we cover. A few archaeological sites and artifacts will be treated in depth, others will be visited briefly to illustrate particular concepts. A bibliography and web links will be provided for further exploration.

- **Week 1**: **Introduction**. Class organization, basic terms and key orbits of earth and moon, a brief history of astronomy, solar alignments, especially in Egypt.

- **Week 2**. **Solar (cont.) and lunar alignments** in South and North Americas. Key artifacts and early calendars.

- **Week 3**: **Planetary gods and sacred stars.** The worship of Venus and its odd orbit. Zodiacs around the world. Key constellations: Milky Way and Great Bear/Big Dipper/Great Emu, Orion/Hand-eye, Pleiades.

- **Week 4**: **Cosmic places.** Special sites with multiple alignments (e.g. Stonehenge, Cahokia, Angkor Wat). Town and house planning that reflect the sky. Wrap-up and additional resources.

Selected Bibliography

*Taylor, Ken. *Celestial Geometry: Understanding the Meanings of Ancient Sites* (2012).
*Hadingham, Evan. *Early Man and the Cosmos* (1984).
*Cornell, James. *The First Stargazers: An Introduction to the Origins of* Astronomy (1981).
*Aveni, Anthony. *People and the Sky: Our Ancestors and the Cosmos* (2008).
Aveni, Anthony. *Stairways to the Stars: Skywatching in Three Great Ancient Cultures* (1997).
Moche, Dinah L. *Astronomy: A Self-teaching Guide,* 8th Edition (2015).
Marshak, Stephen and Robert Rauber. *Earth Science: The Earth, the Atmosphere, and Space*, especially Part 5: "Our Solar System and Beyond" (2020 edition).

Notes: Most of these books are still available. Aveni and Cornell are astronomers, Hadingham is an archaeologist, Taylor is a landscape architect/archaeologist, and Marshak is a geologist. Aveni has written serval other books, and he and Hadingham collaborated on work in Central America.

For more references and useful websites, check my blog throughout the class: ***sarahwisseman.blogspot.com*