

MODULE CODE: AHAN7043
TITLE: Skyscapes, Cosmology and Archaeology
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LEVEL: 7
CREDITS: 20

TEACHING METHODS: Distance Learning via Electronic Media (90% on-line course work, 10% video conferencing tutorials, seminars and lectures).

JACS CODE: L600

AIM(S)

- To introduce students to the theory and development of the discipline of archaeoastronomy as astronomical symbolism in the material record, including architecture.
- To become familiar with the use of astronomical measurement and data as a means of establishing evidence for the existence of celestial symbolism or alignment in ancient and pre-modern architecture.
- To investigate the nature of the evidence in recent academic literature for astronomical knowledge in a variety of cultures, including megalithic culture.
- To consider the wider context concerning theories for the development of ancient astronomy, including the regulation of agricultural, social, religious and political affairs.

LEARNING OUTCOMES

By the end of this module successful students should be able to:

- demonstrate a systematic understanding of methodological issues in the collection of astronomical data within archaeoastronomy;
- demonstrate a critical understanding of the use of ethnographic material to support astronomical evidence;
- display a sophisticated awareness of current academic debates on the social and political uses of ancient astronomy, and critically evaluate scholarly theories;
- demonstrate a critical understanding of the emergence of ancient astronomy, its nature and function, within a cultural context;
- critically evaluate the nature of astronomical evidence concerning ancient sites.

CONTENT

1. Introduction to the key principles and coordinates of observational astronomy.
 - 1.1 Measurement of azimuth and other coordinates.
 - 1.2 Precession of the equinoxes.
 - 1.3 Solar and Lunar Cycles.

2. The discipline of Archaeoastronomy.

- 2.1 Origins: Inigo Jones, John Aubrey, William Stukely, Norman Lockyer
- 2.2 Developments in the 1960s: Alexander Thom, Gerald Hawkins.
- 2.3 Debates between astronomers and archaeologists.
- 2.4 Methodological issues: assessing the significance or intentionality of apparent celestial alignments.
- 2.5 Ethnography: the development and relative significance of 'ethnoastronomy' as a evidence in archaeoastronomy.

3. Ancient and pre-modern astronomy

- 3.1 The Heavens as a system of communication between divinity and humanity.
- 3.2 The importance of calendar construction for social, political and religious purposes.
- 3.3 Notions of sympathy between heaven and earth.
- 3.4 Methodological issues in the historical interpretation of data.

4. Case studies

- 4.1 The history and development of research into megalithic culture.
- 4.2 Theories and evidence concerning Stonehenge, New Grange and related sites.
- 4.3 The evidence from the Americas.
- 4.4 Reference to research into Mediterranean, Near-Eastern and South Asian cultures.

ASSESSMENT

Written Assignments: 5000 words of written work

One 1500 word assignment (30% of total marks)

Critical Review of a Chapter in a Book

Example assignment: 'Write a critical review of Ruggles, Clive and Nicholas Saunders, "The Study of Cultural Astronomy' in Ruggles, Clive and Nicholas Saunders, *Astronomies and Cultures*, Niwot CA: University of Colorado Press 1993, pp. 1-31".'

One 3500 word assignment (70% of total marks)

A research project within the subject area.

BIBLIOGRAPHY

Essential

Aveni, Anthony, *Foundations of New World Cultural Astronomy: A Reader with Commentary*, (Denver: University Press of Colorado, 2008).

Esteban, César and Juan Antonio Belmonte (eds.), *Astronomy and Cultural Diversity, proceedings of the 1999 Oxford VI Conference on Archaeoastronomy and Astronomy in Culture* (Tenerife: Oranismo Autonomo de Museos del Cabildo de Tenerife 2000).

Krupp, E.C., *Echoes of the Ancient Skies: the Astronomy of Lost Civilisations* (New York: Harper and Row 1983).

Malville, J.McKim, *Guide to Prehistoric Astronomy in the Southwest* (Boulder: Johnson Books, 2008).

Ruggles, Clive, *Astronomy in Prehistoric Britain and Ireland* (New Haven and London: Yale University Press, 1999).

Recommended

Blomberg, Mary, Peter E. Blomberg and Göran Henriksson, *Calendars, Symbols, and Orientations: Legacies of Astronomy in Culture*, Proceedings of the 9th annual meeting of the European Society for Astronomy in Culture (SEAC), The Old Observatory, Stockholm, 27-30 August 2001 (Stockholm: Uppsala Astronomical Observatory Report no 59 2003).

Cunliffe, Barry and Colin Renfrew (ed.) *Science and Stonehenge* (Oxford: Oxford University Press, 1997).

Fountain, John W., and Rolf M. Sinclair (eds.), *Current Studies in Archaeoastronomy: Conversations Across Time and Space* (Durham NC; Carolina Academic Press, 2005).

Harper and Row 1983).

Hawkins, Gerald, *Stonehenge Decoded* (New York, Dorset Press, 1965).

Heggie, D.C. (ed.) *Archaeoastronomy in the Old World* (Cambridge: Cambridge University Press 1982).

Krupp, E.C., (ed.) *In Search of Ancient Astronomies* (Middlesex, Penguin 1984)

Krupp, E.C., *Echoes of the Ancient Skies: the Astronomy of Lost Civilisations* (New York:

Krupp, E.C., *Beyond the Blue Horizon: Myths and Legends of the Sun, Moon and Stars and Planets* (New York and Oxford: Oxford University Press 1991).

Krupp, E.C., *Skywatchers, Shamans and Kings: Astronomy and the Archaeology of Power* (New York, John Wiley & Sons Inc., 1997).

Lockyer, Norman, *Stonehenge and British Stone Monuments Astronomically Considered*, (London: MacMillan, 1906).

MacKie, Euan, *Science and Society in Prehistoric Britain*, London, Paul and Elek, 1977).

North, John, *Stonehenge: Neolithic Man and the Cosmos* (London: Harper Collins, 1996)

Rainbird, Paul, *Monuments in the Landscape* (Stroud: The History Press, 2008).

Ruggles, Clive, *Records in Stone: Papers in Memory of Alexander Thom* (Cambridge: Cambridge University Press, 1988).

Ruggles, Clive (ed.), *Archaeoastronomy in the 1990s* (Loughborough: Group D Publications, 1993).

Ruggles, Clive and Nicholas Saunders, *Astronomies and Cultures* (Niwot, Colorado: University Press of Colorado 1993).

Ruggles, Clive, with Frank Prendergast and Tom Ray, *Astronomy, Cosmology and Landscape*, Proceedings of the SEAC 98 Meeting, Dublin, Ireland, September 1998 (Bognor Regis: Ocarina Books, 2001).