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BOOK REVIEW

A Review of *Archaeoastronomy and the Maya*

Archaeoastronomy and the Maya, by Gerardo Aldana y Villalobos and Edwin L. Barnhart, Editors, Oxbow Books, Oxford and Philadelphia, 165 pages, 2014, ISBN: 9781782976431

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The configurations of ancient Maya cities were influenced by a range of factors; principally, a mix of social, economic, environmental, engineering, historical, and ideational determinants (Ashmore and Sabloff 2002: 202). Of ongoing concern in Maya studies, therefore, is establishing the weight that each factor has had on the ordering of buildings and associated architectural features. The book "Archaeoastronomy and the Maya" demonstrates, via a collection of papers, the influence that astronomical surveillance had on the ordering of ancient Maya architecture and, more broadly, its use to posit the world experienced by the ancient Maya within a broader cosmological framework.

The introduction, by Gerardo Aldana y Villalobos, provides a nice summary of the history and growth of Archaeoastronomy in the field of Mesoamerican studies, detailing, in brief, the development of the field by lead protagonists from its inception in the late 19th Century through to its formulation as an important mainstream pursuit in Maya research.

In Chapter 1, Harold Green applies direct observation to explore the possible origins of Maya calendrics at Chocolá in Guatemala during the Preclassic period; specifically, the source of the Tzolk'in 260 Day Count, 365 Day Haab' and its associated 5 day Wayeb'. Interestingly, Green argues for the importance of Chocolá in the formulation of the Maya calendrical system and its association with tracking the movement of the sun along the eastern horizon at a specific latitude. Like neighbouring Izapa, Green proposes that the intent in the placement of the site of Chocolá was to observe the intersection of the sun and the horizon and associated topographic features; effectively functioning as a precursor to building complexes such as Group E at Uaxactun, where the structures were configured to observe the position of the rising sun during the equinox and the summer and winter solstices.

In Chapter 2, Ivan Sprajc also challenges the genesis of the Mesoamerican calendrics and the course of cultural influence based on the results of an archaeological survey of 11 Maya sites in south-eastern Campeche; a number of which were occupied from the Preclassic period. Sprajc identifies a regional pattern in the alignment of public architecture with 'sunrise phenomena' that divides the year into intervals of 260 days and 105 days, which Sprajc proposes may have had significance for the timing of agricultural cycles among the Maya. The early nature of these building alignments in Campeche, in effect supports Sprajc proposal that the "17°-family of orientations" (Aveni 2001: 234), as they appear in the Maya region, predate that of Central Mexico where they are generally believed to have originated, "allowing the use of a complex observational calendar" (Sprajc p52).

Celestial observation resulted in the construction of buildings, and building groups, that were designed to mark the position of the rising sun during specific times of the year. While it is generally acknowledged that celestial and solar observation influenced the distribution and orientation of Maya architecture, in Chapter 3 Mendez *et al* seeks to demonstrate, by example, the intent of the ancient Maya builder; specifically, to reveal the Cross Group at Palenque as an apparatus to observe the various cycles of solar, lunar and planetary phenomena. With special focus on the Temple of the Sun, Mendez and others argue that the interaction of light with architectural features of the group, as well as the break in symmetry inside of the Temple of the Sun, supports the proposition that these structures were precisely configured to receive sunlight, within the temple interior, during events such as the summer solstice, the equinox, and the zenith and nadir passage of the sun. These direct observations, by the authors themselves, effectively support the view that astronomical observation was an important objective in the design and ordering of architectural features of the Cross Group during the reign of K'inch Kan B'ahlam (AD 684–702).

In Chapter 4, the Dresden Codex Venus Table is the focus of investigation. In this article, Gerardo Aldana y Villalobos seeks to understand the mind of the Maya astronomer and explore the function of the codex as something beyond a series of computations on cycles of Venus; but rather, as a instrument for the production of omens as suggested in the reminder of the document. For Villalobos, understanding the Venus Table as an

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'oracular' device has the promise of providing a deeper understanding of the relationship between astronomy and other arenas of knowledge and power as arbitrated by Maya rulers themselves.

In conjunction with a study of associated iconography, Alonso Mendez and Carol Karasik (Chapter 5), use planetarium software to interpret the texts of the Cross Group and Temple of Inscriptions at Palenque, placing them within a broader cosmological context; investigating the importance of such things as the zeith and nadir passages of the sun during the reign of K'inich Kan B'ahlam II. By utilising computers and planetarium software, Maya dates (as found on stone monuments, polychrome vessels, and in codices) can be converted to their Julian and/or Gregorian equivalent, and any corresponding celestial occurrences, mentioned in the inscriptions, can be demonstrated.

Similarly, in Chapter 7, Michael Grofe utilises planetarium software; in this instance, to argue that the G and F Glyphs of the Supplementary Series have a lunar function (Grofe p153). Forming a constant 9-day sequence, Grofe identifies an eclipse pattern in the succession of glyphs G1 through to G9. Linked with the 'Nine Lords of the Night" (see Thompson 1929), G glyphs are usually found in associations with F glyphs, which when combined read something to the effect of "being in office" of the relevant "G-God" (Gronemeyer 2006: 1; Schele and Miller 1983: 90). The cycle of G1 to G9 is argued to have special importance in the Mesoamerican Tzolk'in calendar of 260-days and nights, which comprises essentially 9 lunations of 29 days (Grofe p138). Grofe's inquiry has the capacity to provide insights into the influence that astronomical phenomena had on elite behaviour, among the Maya, during the Classic Period.

In Chapter 6, Milbrath explores various Venus representations in Mesoamerican and Central Mexican iconography, proposing that the Venus Almanac is a "pan-Mesomerican phenomenon" (p111). In essence, Milbrath's study asserts that the synodic period of Venus was symbolised by the Mexican Year Sign and quincunx pattern (p112–113). These alternative representations incite Milbrath to reassess the meaning embedded within the Dresden Codex and Codex Borgia and suggest that 260-Day Count, in its associations with periodic cycle of Venus, had agricultural significance (p117); an argument that has broader implications for similar Venus depictions at other Mesoamerican sites dating from Classic to Postclassic Period.

Contributors to the book "Archaeoastronomy and the Maya" successfully demonstrate that solar and celestial observation was integral to the ancient Maya's perception of the world and their place in it; as evidenced in calendrical correlations with the cycle of the sun, planets and stars (from the perspective of the observer), in epigraphic notation and iconography, and in the ordering of buildings and architectural features. The book effectively supports the view that for the Maya, as with other ancient and contemporary cultures, "star naming, maps, myth and tale, the orientation of buildings... all facilitate the construction and maintenance of spatial patterns of the world in which the individual must live and act" (Hallowell 1977: 133).

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