

MR973496 (90h:01002) 01A10**Bialas, Volker****Astronomie und Glaubensvorstellungen in der Megalithkultur. Zur Kritik der Archäoastronomie. (German. English, French summaries) [Astronomy and belief systems in megalithic culture. On the critique of archaeoastronomy]***Bayer. Akad. Wiss. Math.-Natur. Kl. Abh. (N.F.) No. 166* (1988), 95 pp.

In this work, the author presents a critical evaluation of the discipline of archaeoastronomy at two levels.

One “positivist” level investigates the great public success of the discipline: the theories and hypotheses concerning the astronomy of the Western European megalithic culture (4500 B.C. to 1500 B.C.) set forth by Hawkins, Hoyle, A. Thom and others. For this purpose, the astronomical background is first presented, followed by a concise exposition of the assertion that the alignments of the monuments disclose familiarity with and secular observation of the movements of the lunar orbit (etc.). Attention is called to the recurrent failure to test the statistical significance of the alignments, and to the use of inadequate tests when testing is performed at all. Finally, the author presents his own and others, in situ investigations of the megalithic monuments in Morbihan (Bretagne), the Cork-Kerry region (Ireland), and Stonehenge, pointing out that measurements cannot be made precisely enough to support the asserted prehistorical observations of lunar orbital changes and other astronomical details, while overall orientations toward the setting sun are well supported, occasionally even orientation toward solstitial sunsets.

(The author does not consider the similarly widespread claims that the megalithic monuments demonstrate a high level of arithmetical and geometrical knowledge; for a related investigation of this problem, cf. a paper by W. Knorr [*British J. Hist. Sci.* **18** (1985), no. 2, 197–212; [MR0865346 \(87k:01003\)](#)].)

The other level is metatheoretical. The author calls attention to the interdisciplinary essence of the discipline and to the lack of real interdisciplinarity in its actual working. The Popperian-“Positivist” methodology allowing the suggestion of any idea as a hypothesis—in case the preconceived idea that the builders of megalithic monuments shared the interests and world-view of modern astronomers—is shown to lead to neglect of the connection of the monuments to a comprehensive culture, and thus to a very one-sided understanding of their function. (The absence of adequate testing of hypotheses is not discussed anew on this level, but the failure to meet even purely Popperian standards is of course not to be forgotten.) The characteristics of the monuments, together with surrounding cultural vestiges, are then related to what can be known or reasonably assumed (from later local sagas and myths, ethnographic comparative studies, and comparative studies of religion) on the function and meaning of the monuments inside a cult of the dead and of fertility; this leads up to a proposal for a genuinely interdisciplinary approach to archaeoastronomy, starting from a view of the monuments as an expression and part of a complete culture, making use also of methods of (socio)-archaeology, prehistorical scholarship and comparative culture history,

and being less rash in interpretation.

Reviewed by *Jens Høyrup*

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