

Tore Lomsdalen, *Sky and Purpose in Prehistoric Malta: Sun, Moon and Stars at the Temples of Mnajdra*

UK: Sophia Centre Press, University of Wales Trinity Saint David, 2014.
Softback 236pp, incl. line drawings and colour plates. ISBN 978-1-907767-41-8. £15.

David Barrowclough

University of Cambridge
dab32@cam.ac.uk

The megaliths of Malta are a remarkable feat of engineering, predating their better-known counterparts of Stonehenge in the west and the Egyptian pyramids to the east. Although far from ignored they have yet to benefit from the detailed treatment afforded to sites such as those in the Boyne Valley (Ireland), Orkney (Scotland) or, of course, Stonehenge. Lomsdalen's study may be seen as an attempt to address this imbalance by re-aligning studies of Malta's Neolithic. There have already been detailed surveys of megalithic monuments, notably by John Evans (1971), together with a contextual landscape study by Reuben Grima (2005), who applied contemporary landscape theory and GIS analysis to the monuments' topography. What Lomsdalen contributes is different; his focus is on a single monument complex, Mnajdra, albeit discussed in the light of what is known about the other "temples". The benefit of this approach is that of depth over breadth. It is only by devoting an entire study to a single monument that space can be devoted to the intricacies of each specific "room" within the structure.

Lomsdalen's first significant contribution is made by his detailed measurement and recording of Mnajdra's various solar, lunar and stellar alignments from which the title of the volume is derived. The notion that megalithic monuments were deliberately constructed to align with these phenomena is well established across Europe. The case of Neolithic Malta has not escaped consideration in this regard, however, and Lomsdalen's study is marked by the identification of specific alignments. Where others have identified general associations, Lomsdalen is able through his observations and research to refine our understanding, associating particular astrological events with specific spaces, and even individual architectural elements.

At Mnajdra South, for example, he observes the equinoctial orientation and stone cross-jamb illumination of the building at the solstices. He further identifies quarter and eighth days, illuminated by the rays of the rising Sun, suggesting that the architectural elements of the building were designed with solar alignments in mind. In contrast, Mnajdra East is oriented toward the small offshore islet of Fifla, which is, according to Lomsdalen's theory, similar in shape to one of the stone "altar-like" features found within Mnajdra. Mnajdra East is also noteworthy for the presence of "tally-stones", limestone blocks into which a number of holes have been drilled. These stones are interpreted as calendrical devices, based on one having 179 holes, which Lomsdalen notes is "close to half the number of days in a year", from winter to summer solstice.

This close measurement of the connection between architectural features and solar events advances our knowledge considerably, and opens up the potential for further refinement of our interpretation of these fascinating structures. Beyond the Maltese archipelago the study highlights the advantages of Lomsdalen's careful analytical approach for identifying specific alignments, providing a more nuanced understanding of the sophistication of Neolithic megalithic construction and use.

It is through such detailed analysis that Lomsdalen is able to put forward a proposed 1500-year sequence of construction for Mnajdra. This is the study's main contribution, and alone makes this volume essential reading for those studying Neolithic Malta. Based on a close analysis of the archaeological finds and his archaeoastronomical observations he proposes that the eastern buildings of Mnajdra were the first to be constructed, in the early Ggantija phase (c. 3600–3000 BC), and that the northern buildings were built in two stages in the later Tarxien phase (c. 3000–2500 BC). Furthermore, he argues through his observations of astronomical alignments that construction most likely began with the space named Room 8, with the addition of Room 7 at a later date, both shown on a detailed plan to aid the reader.

Reconstruction of the history of the complex of buildings known as Mnajdra South is somewhat more challenging, with four different stages proposed by Lomsdalen. First, in the early Ggantija phase, came Room 3, followed by Rooms 2 and 4 in the middle Ggantija phase. Room 1 followed, completed either late in the Ggantija phase or possibly in the early Tarxien phase. Finally, during a fourth stage in the Tarxien phase, Room 5 was constructed, which supports the extension of Room 7, Mnajdra North.

Together this reconstructed chronology leads Lomsdalen to conclude that the construction of the megalithic complex of Mnajdra was motivated by astronomical considerations. He argues persuasively that the monuments' intentional alignments to celestial bodies established in the very first part of the complex, and continued in subsequent extensions, deliberately create a contrast between light and dark. He further develops his theory showing not only that these alignments were present throughout the various stages of its construction, but also that they increased in complexity and sophistication through time.

The pocket-sized presentation of the volume, reminiscent of a guidebook or novel, might imply that this is a light read, but do not be misled by this. The structure within is that of a dissertation, with an abstract and introduction, followed by chapters devoted

to literature reviews of Maltese prehistory, cosmology and astronomy, methodology, results, discussion and conclusion. Although this structure might be a little off-putting to the non-academic reader, it provides clear signposts making navigation through the volume straightforward. Lomsdalen's writing style is easy, smooth and pleasantly accessible, even for the non-astronomer.

In an otherwise detailed consideration of the Maltese literature the omission of *Mortuary Customs in Prehistoric Malta: Excavations at the Brochtorff Circle at Xaghra, Gozo (1987–94)* (Malone *et al.* 2009) stands out. Although its primary focus is on the "hypogea" on Gozo, this publication contains the most recent summary of radiocarbon dates for the Maltese Neolithic and so should have been included in Lomsdalen's discussion of the archipelago's chronology. Its omission is somewhat ironic, given the famous omission by Malone *et al.* of the circle sites' discoverer, Joseph Attard Tabone. That aside, there is little to criticise in Lomsdalen's summary of the corpus, nor in his scientific approach to the subject.

Lomsdalen's presentation is aided by plentiful illustrations, both black-and-white line drawings and colour photographs. The line drawings are clear and vividly represent the various alignments identified, linking to his narrative description, which benefits greatly from their presence. His colour photographs are also, for the most part, very well produced given that this is a modestly priced softback publication. The photographs are at their most useful when deployed in support of his discussion of the Sun's illumination of particular architectural features on key calendrical dates. Given the impracticability of our own attendance they stand witness to these phenomena. Interesting additions to the volume are the transcripts of two interviews that Lomsdalen undertook with Frank Ventura (Appendix 1) and Reuben Grima (Appendix 2). In addition to their intended purpose, that of evidence of the personal communication to which he refers in his text, they will also serve as a substantial resource for future historians of research into Maltese prehistory.

Overall this is a substantial piece of work that adds considerably to our understanding of not only the Maltese Neolithic megalithic buildings of Mnajdra and the Maltese archipelago but also of the advantages of homing in on the relationship between astronomical alignments and architectural features in megalithic structures throughout the European Neolithic and beyond. This is an essential read.

References

- Evans, J. D., 1971. *The Prehistoric Antiquities of the Maltese Islands: A Survey*. London: Athlone Press.
- Grima, R., 2005. *Monuments in Search of a Landscape: The Landscape Context of Monumentality in Late Neolithic Malta*. PhD Diss., University College London.
- Malone, C., S. Stoddart, A. Bonanno and D. Trump, 2009. *Mortuary Customs in Prehistoric Malta: Excavations at the Brochtorff Circle at Xaghra (1987–94)*. Cambridge: McDonald Institute for Archaeological Research.