
ARCHAEOLOGIA BALTICA 10

ASTRONOMY
AND COSMOLOGY IN
FOLK TRADITIONS
AND CULTURAL
HERITAGE

Edited by Jonas Vaiškūnas



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THRACIAN DOLMENS AND THEIR ORIENTATIONS

**ANTONIO CÉSAR GONZÁLEZ GARCÍA, VESSELINA KOLEVA,
DIMITAR KOLEV, JUAN ANTONIO BELMONTE**

Abstract

Spread over south-eastern Bulgaria, northern Greece and the European part of Turkey are a large number of megalithic tombs. These dolmens were built from around the twelfth century BC to about the sixth century BC. The monuments were built with well cut slabs, defining a rectangular space with a roof. A small hole marks the entrance. A dromos is also present in some dolmens and all of these structures used to be covered by a tumulus. We present the first results from a series of campaigns devoted to measuring the orientation of these structures. The first campaign was carried out in the Strandja Mountains where 31 dolmens (among other monuments) were measured. The dolmens are not orientated at random, and a particular pattern of orientation has been found for the entrance of these monuments. Several tentative explanations are attempted and supported with information provided by contemporary Greek sources.

Key words: megaliths, orientations, landscape archaeology, Thracian culture.

Introduction

A large number of dolmens built by the Thracians are found in the regions of south-eastern Bulgaria, northern Greece and the European part of Turkey. The end of the third millennium BC witnessed migrations of peoples from the north-west. These peoples could have culturally mixed with the local population and we refer to them as proto-Thracian people by the second millennium BC. These Thracians could be those mentioned by Homer as allies of the Trojans in the Iliad (Venedikov 1982; Velkov et al. 1985).

The period for dolmen construction coincides with the end of the Bronze Age and the early Iron Age, from c. 1200 BC to c. 500 BC, when we can properly talk of Thracian tribes. We do not have written Thracian sources, and must rely on the written accounts by Greek historians (notably Herodotus), who by the end of this period describes the Persian Campaigns and the peoples they encountered in their conquest (the Thracians among them).

After the foundation of Greek colonies on the coasts of the Black Sea and the retreat of the Persian forces, the Odrisian Kingdom appears as a true Thracian kingdom closely interacting with the Greek world, with mutual beneficial influences. By the middle of the first century BC the Thracian kingdom was incorporated into the Roman Empire (Velkov et al. 1985; Fol and Fol 2005).

The Thracian economy was mainly based on agriculture in the river valleys and cattle breeding in the mountains. Mining of copper, iron, gold and silver was also highly important to Thracian society, especially in the mountains. In addition, there was a body of arti-

sans who manufactured goods that have now become famous masterpieces. Many of these objects are part of the treasures found in the tumuli spread across Bulgaria.

The known funerary customs and related artefacts suggest social stratification, with a tribal aristocracy owning both land and the herds in the mountains. The 'king' was one of these aristocrats. Beneath them were the peasants who had certain obligations to the aristocracy. There is also the suggestion of the existence of a lower stratum of society consisting of enslaved servants and shepherds (Velkov et al. 1985; Fol and Fol 2005).

Thracian art can be divided into styles that correspond to the two periods of its history. The first of these is characterised by simple, geometric artwork with stylized lines. The dolmens and rock-cut tombs were constructed during this period. The second period, in the second half of the first millennium BC, shows significant influence from Greek and Persian sources, especially in architecture (the construction of false vault and cupola tombs), sculpture (e.g. the tomb of Kazanluk) and goldwork (e.g. the Panagyuriste treasure).

Thracian religion

Because we do not have direct accounts of Thracian religion written by Thracians, we have to rely on Greek and Roman sources. Herodotus mentions four deities whom he argues were equivalent to Artemis, Dionysos, Ares and Hermes. Strabo describes the sacrificial mystery surrounding the hierogamy, or sacred union, between two gods: the Mother and the son/Sun-fire god. He also mentions a triad of gods including the Great Goddess Mother and her two offspring, Artemis and Apollo (Fol and Fol 2005).

There are numerous sources that refer to Orpheus as a Thracian king. The Greeks practised a mystery cult related to Orpheus (i.e. Orphism) and they also mention that the Thracians introduced their cult to Greece. However, there seems to have been somewhat of a difference between the adoption of the cult in Greece and in Thrace. There was an 'open level' where the cult was accessible to everyone and there was a second, 'restricted' level only accessible to the initiated aristocrats. Apparently, the king was initiated in these rituals in order to achieve immortality (Fol and Fol 2005).

Fol (Fol and Fol 2005) describes this Thracian Orphic cult in terms of ten degrees or stages:

- there is a Great Goddess-Mother/cosmos/mountain in a state of rest;
- the Great Goddess-Mother (GGM) self-conceives;
- the GGM carries her child;
- a son (solar-chthonic character) is born;
- the sun rises on the horizon;
- he sets the Cosmos in motion;
- the sun has a marital relation with the Great Goddess-Mother;
- a child is born;
- this child becomes a king-priest;
- the king-priest has a symbolic marital relation with the GGM, becomes immortal, and secures a new cycle. Hero cult.

According to Fol, the Great Goddess Mother—the image of the original mountain and thus of the whole Universe—is at the heart of Thracian cosmogony. Her self-conceived child, the Sun, will break the state of rest, setting the cosmos in motion. This son has chthonic character, since he is born from the earth (the mountain), but also has a solar character, since he is the Sun itself. The Sun then has a marital relation with the GGM. The child conceived will become the king-priest of the Thracian community. As a result, the king-priest's power is linked to the divinity through his own divine origin. The king-priest has to be initiated in order to secure a new cycle and become immortal. This is performed in a hierogamy, i.e. a new symbolic marital relation, with the GGM. After the death of the king, he is worshipped as a hero, most probably at his tomb.

These cults were at the centre of Thracian society and as such they may help in the interpretation of the funerary customs.

Funerary customs

The first period of Thracian history is characterised by the use of the so-called dolmens and rock-cut tombs. Thracian dolmens are found mainly in the mountainous areas, and particularly in the Strandzha, Sakar and Rodophe regions. There seems to be a lack of dolmens in the low plains and valleys (Fol 1982; Rousseva 2000). The rock-cut tombs very much resemble the dolmens but are found in different places: the two kinds of monuments only overlap in a small geographical area (Owen 2000; Fol 2003).

The dolmens were built from around the twelfth century BC to about the sixth century BC. They typically consist of four large stone slabs defining a rectangular space with another one for the roof (Plate VI: Fig. 1). The entrance is usually a hole (typically c. 75 x 50 cm) in one of the vertical slabs. In a number of monuments, the entrance is prolonged by two vertical slabs, forming a dromos. The whole structure was probably covered by a tumulus. We can distinguish two types: the simple dolmen, where there is only one chamber, perhaps with a dromos, and the double dolmen where there is an additional ante-chamber. In the most elaborate monuments, a façade was also built in the entrance area. One can imagine a process of evolution from the simplest dolmens (one-chambered without a dromos) to the most elaborate ones (double-chambered with dromos and façade) and perhaps also to the later false cupola Thracian tombs, although this last point is still controversial (Maleva 2000).

These monuments were reused on several occasions. In the majority of cases a funerary use is attested although some of them could have been mere cenotaphs. They were apparently built for the aristocracy, given the wealth of the goods found in them (Owen 2000).

The subsequent evolution of Thracian culture, along with their increasingly frequent contact with the Greek colonies of the Black Sea coast, translated into more sophisticated yet still 'megalithic' burials for their leaders. These leaders were worshipped as heroes. The most widely known features of these monuments are the use of a false cupola and their impressive carvings and decorations (Rousseva 2000).

The Orientation Data

The Strandzha tombs

From within the tomb, the sense of orientation provided by the entrance hole is very evident. We measured this wherever possible. We also measured the orientation perpendicular to the back-stone, at those monu-

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V. REFLECTIONS OF ASTRONOMICAL AND COSMOLOGICAL KNOWLEDGE IN MONUMENTS, LANDSCAPES AND ARCHITECTURE

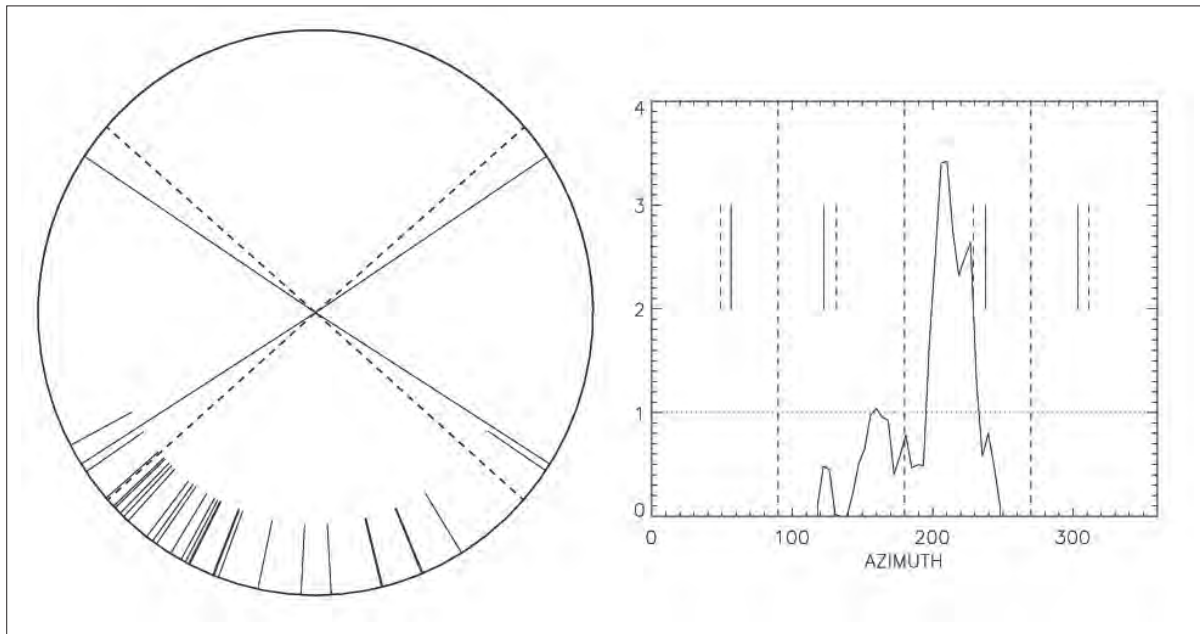


Fig. 2. Left: orientation diagram of the 31 dolmens measured in the Strandzha Mountains. The long solid lines are the solar limits, while the dashed lines are the lunar limits. Right: Histogram of the azimuths v. normalized frequency. The long dashed lines indicate the cardinal points, the short solid lines the solar limits and the short dashed lines the limits for the Moon. We find a concentration to the south-west, with a tentative accumulation towards the Southern Major Lunistic.

ments where nothing remains of the entrance. In this paper, we present some preliminary results from the first campaign that collected data relating to the Thracian dolmens. These data were collected in the spring of 2006 from 31 monuments in the Strandzha Mountains in south-eastern Bulgaria, close to the border with Turkey. We also measured five Thracian Tombs (from the classic Thracian period) and 34 Roman cists from the necropoleis of Propada and Mishkova Niva, near the town of Malko Tarnovo; and we also visited several open-air sanctuaries. All of these will be reported upon in a forthcoming paper.

Fig. 2, left panel, presents the azimuths of our 31 measured dolmens. We find that most of them are orientated outside the range of sunrise, and just a few are inside the range of moonrise. Fig. 2, right panel, presents the histogram of the azimuths normalized by the mean. This means that any value greater than 1 is above the mean. In a statistical sense, we could say that a value is highly significant if it is above 3; a value of 2 is also quite significant. We find that we have a highly significant peak at a value close to 210 degrees, far from any obvious solar or lunar connection. There is a secondary peak (with a value of 2) close to the Southern Major Lunistic.

Azimuths are only meaningful on a flat level horizon. The dolmens are located in mountains and hills, often surrounded by forest. However, we were able to measure the altitude of the horizon in most cases and hence to obtain the distribution of declinations. This

is more reliable in searching for possible astronomical alignments, and the declinations obtained are shown in Fig. 3. We find a clear peak close to declination -35° and a possible secondary peak close to the Southern Major Lunistic.

Discussion and Conclusions

As previously mentioned, Thracian religion is commonly believed to have had a Solar-Chthonic character. The evidence from the tomb orientations challenges this hypothesis, however. Indeed, from the data collected so far we can rule out the sunrise/sunset hypothesis (Hoskin 2001), although the data remain partial so far.

Both Dermendzhiev (2005) and Belmonte (2005) analyzed the orientation of Bulgarian dolmens from maps. The results of both are quite similar to those presented here. Dermendzhiev (ibid.) notes that, according to Pausanias, the bones of Orpheus should not be seen by the Sun or else a huge catastrophe would befall the Earth. Euripides makes a similar claim in relation to the remains of Rhesos. Dermendzhiev then argues that the orientation of the dolmens is such that the Sun never illuminates the bones of the dead. However, an easier way to have achieved this would have been to orientate the monuments to the north, not to the south as they are.

Alongside the above arguments we should note that Herodotus and Diogenes Laertius, when referring to hero cults, state that burial offerings were made in

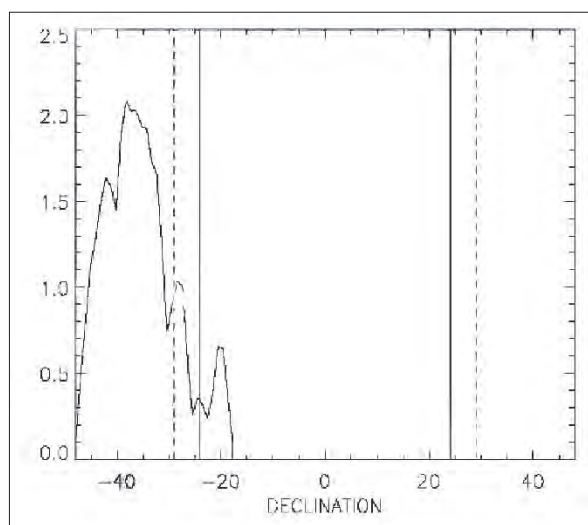


Fig. 3. Histogram of the horizon declination in the direction of orientation of the dolmens v. normalized frequency. The lines are as in Fig. 2. We find a concentration about declination -35° and a secondary peak close to the declination of the Moon at the Southern Major Lunistice.

the afternoon, when prophecies were offered. Furthermore, Porphyrius states that 'the South is reserved for the gods, curtains were dropped at noon and nobody entered the temples until the Sun God inclined to the south'. Therefore we suggest the possibility that the dolmens were intentionally oriented according to the afternoon sun – what we might call the 'afternoon hypothesis'.

According to Fol's interpretation of Thracian religion, a key ingredient of this was the sacred marriage or hierogamy. There is an obvious connection between the Tumulus-Mound and the Sacred Mountain, which is itself linked with the Great Mother-Goddess as described in Section 1. At this point we should recall that, according to Herodotus, the Thracian Great Mother-Goddess may have been equivalent to the Greek Artemis who, it is claimed, was related to the Moon, as a result of having assimilated the characteristics of Selene and Hecate (Humbert 1994; Littleton 2002). Moreover, the decorations in some later Thracian tombs, such as those in Kazanluk and Sveshtari, contain iconography which is arguably related to the Moon. The possible orientation of some of the dolmens to the major southern lunistice provides some support for this 'Lunar' or 'Great Mother Goddess- (GMG)' hypothesis.

To date, we only have data for a sample of the Thracian dolmens, and we consider these questions still very much open. But we feel safe in concluding that Thracian dolmen orientation is not consistent with either the sunrise or sunset hypothesis as occurs in most of

the rest of Europe; instead, it seems consistent with the sun descending (afternoon) hypothesis or with an association with the moon, perhaps related to the GMG, or both.

We hope that new data may help to inform current theoretical thinking and invigorate the debate and the development of new theories.

Acknowledgments

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References

- BELMONTE, J. A., 2005. On the orientation of megalithic monuments of the eastern Mediterranean: new perspectives, In: M. KOIVA, I. PUSTYLNİK, L. VESIK, eds. *Cosmic Catastrophies*. Proceedings of the SEAC 2002 10th Annual Conference. Tartu.
- DERMENDZHIEV, N., 2005. PhD Thesis, Institute of Archaeology, BAS. Sofia. Chapter 4.2.3: *Orientation of Bulgarian Dolmens*.
- FOL, A. and FOL, V., 2005. *The Thracians*. Sofia: Tangra Tannakra.
- FOL, A., ed., 1982. *Thracian monuments III: The megaliths in Thrace II. Pontic Thrace*. Sofia: Nauka i Izkustvo Press.
- FOL, A., 2004. *Orphica Magica I*. Sofia: Universitetsko izdatelstvo „Sv. Kl. Ochriski“.
- FOL, V., 2003. Rock-Cut Caves with Two Entrances or the Model of the Cosmos. *Tracia 15*. Sofia.
- HUMBERT, J., 1994. *Mitología griega y romana*. Barcelona: Ed. Gustavo Gil S.A.
- HOSKIN, M., 2001. *Tomb, Temples and their Orientation*. Bognor Regis: Ocarina Books.
- LITTLETON, C.S., 2002. *Mythology*. London: Thunder Bay Press.
- OWEN, S., 2000. New Light on Thracian Thasos: A Reinterpretation of the Cave of Pan. *The Journal of Hellenistic Studies*, 120, 139-143.
- ROUSSEVA, M., 2000. *Thracian Cult Architecture*. Jambol: Ia.
- VELKOV, V., VEREDIKOV, I., GUERGOVA, D., SOLAR D., 1985. Los Tracios. *Cuadernos Historia*, 16, 222.

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TRAKŲ DOLMENAI IR JŲ ERDVINĖ ORIENTACIJA

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Santrauka

Megalitiniai kapai gausiai paplitę Pietryčių Bulgarijoje, Šiaurės Graikijoje ir europinėje Turkijos dalyje. Šie dolmenai pastatyti XII–VI a. pr. m. e., jų statybai naudotos pjaustytos akmeninės plokštės. Su jų pagalba buvo formuojama stogu uždengta stačiakampė erdvė. Įėjimo vietoje būta nedidelės ertmės. Kai kurie iš dolmenų turi pailgintus įėjimo koridorius ir yra užpilti žemių pilkapiais.

Straipsnyje pristatomi pirmieji lauko tyrimų, skirtų erdvinės dolmenų orientacijos matavimams, rezultatai. Pirmoji ekspedicija surengta Stranjos kalnuose. Jos metu, be kitų paminklų, išmatuotas ir 31 dolmenas. Šių dolmenų erdvinė orientacija nėra atsitiktinė. Nustatyta, jog įėjimas į dolmeną buvo įrengiamas laikantis tam tikrų principų. Remiantis vienalaikiais graikų šaltiniais, jie bandomi paaiškinti keliais hipotetiniais būdais.

Vertė Vykintas Vaitkevičius