Portuguese passage graves in the light of the Easter moon

Roslund, Curt
Fornvännen 2000 (95), s. [1]-12 : ill. : diagr.
Ingår i: samla.raa.se
Portuguese passage graves in the light of the Easter Moon

By Curt Roslund, Yasmine Kristiansen and Birgitta Hårdh

An examination of Georg and Vera Leisner's published ground plans of passage tombs in the administrative district of Évora in central Portugal reveals an exceptional conformity in the orientation of their passages. It is here suggested that observations of the rising of the first full moon, or sightings of the first lunar crescent, which followed the vernal equinox, were instrumental in orienting the passages. Furthermore, it is suggested that polished slate plates, often adorned with elaborate engravings of zoomorphic features, sometimes found in large numbers in grave chambers, may be linked symbolically with the moon implying a lunar cult among the people responsible for erecting the monuments.

Curt Roslund,
Department of Astronomy, Gothenburg University, SE-412 96 Gothenburg, Sweden
Yasmine Kristiansen,
Department of Archaeology, Lund University, SE-223 50 Lund, Sweden
Birgitta Hårdh,
Department of Archaeology, Lund University, SE-223 50 Lund, Sweden.
birgitta.hardh@ark.lu.se

Tomb characteristics
The Iberian peninsula is rich in megalithic remains. They are particularly abundant in the province of Alto Alentejo in central Portugal where they stand as conspicuous features in the landscape. In the administrative district of Évora, covering some 6,000 square kilometres, Georg and Vera Leisner (1956) reported no less than 203 groups of passage tombs, each group often containing two or three graves, and frequently many more. Thanks to the meticulous systematic work carried out by the Leisners (1956; 1959; 1965; 1985), we are now in possession of an exceptionally rich source of material for megalithic studies.

The investigations of the Leisners show a great homogeneity in the construction of passage tombs in the district of Évora. The outward passage to all tombs opens up towards the east. The chamber is as a rule polygonal in outline, and the orthostats forming its walls usually number seven. Although the majority of the tombs have been classified by the Leisners simply as polygonal, those of extreme appearance are devided into subgroups such as regular and irregular polygons, broad and long polygons, etc. These subgroups often differ in their geographical distribution and possibly, also as to the date of their construction.

Even though the polygonal shape of the chambers prevails in the Évora district, the tombs around the town of Reguengos de Monsaraz in the southeastern sector seem to deviate from the rest in at least two respects. Not only are the passages often shorter, but tombs with a bigger, heavier stone at the back of the chamber opposite the passage are rare in the Reguengos region (da Veiga Ferreira & Leitäo 1990, pp. 158–163). It is not clear at present whether these changes are just local variations of a common building concept, or whether they indicate a different period of construction for the Reguengos tombs.

Directional conformity
Scrutiny of the ground plans for the 82 tombs in the Évora district which the Leisners describe as having passages sufficiently well-defined to war-
The determination of meaningful directions reveals a striking similarity in orientation (fig. 1). The centre line of the passages is in half the cases confined within a sector of the horizon as narrow as thirteen degrees, i.e. slightly wider than the angle subtended by a man's fist held at arm's length. This concentration in orientation is all the more surprising as one would expect large errors in measurements of directions, caused by the deterioration of many of the tombs, due to the ravages of time. Stones are missing and others have been disturbed by human activity and natural processes.

As the Leisner ground plans were presumably drawn with reference to magnetic north, a correction for magnetic variation should be applied before azimuths can be obtained from them. In order to determine this correction, seven tombs with well-marked passages surveyed by the Leisners were selected for measurements with a precision theodolite. The direction of true north was determined in each case through observations of the sun. Assuming that these tombs constitute a typical sample of the Leisners' surveys, it was found that the point of north on their charts should be turned seven degrees clockwise. The existence of this systematic effect was later confirmed by comparing measurements listed by Hoskin (1998, pp. S80–S81) with those obtained from the Leisner ground plans.

When the effect of the magnetic variation was subtracted, the Leisners' and Hoskin's measurements showed a statistical dispersion of ±9 degrees, which is acceptable, considering the difficulty in establishing the orientation of the severely disturbed passages. Moreover, the dispersion is undoubtedly influenced by the difference in information obtained when viewing an actual tomb in the field compared with inspecting a two-dimensional plan of the same tomb, no matter how accurate the chart. Direct eye estimates are notoriously misleading, subject as they are to the measurer's current state of alertness and concentration.

After correcting the 82 tombs surveyed by the Leisners for magnetic variation, and adding measurements for six more tombs, the mean orientation of the outward openings of the passages was found to be towards azimuth 102 degrees, i.e. twelve degrees south of east, with a statistical dispersion of ±11 degrees from the mean value, in close agreement with Hoskin's results (1998, p. S79). Local deviations were sought but found only for the Reguengos region, where the mean orientation was towards azimuth 107 degrees. An analogous shift in orientation is also confirmed by Hoskin's measurements (1998, pp. S80–S81). The difference in orientation can be seen as an additional support for the above mentioned supposition that the Reguengos tombs form an independent group inside the Évora district.
**Astronomical factors**

The coherence in orientation extends over too large an area for the passages to have been lined up towards a single distant feature on the horizon. Instead, it hints at a method of construction based on astronomical observations, although we can only speculate what celestial object was foremost in the minds of the builders.

The passages have so far only been treated as pointing outwards, because this is the direction allowing a view of the scene outside the tomb. However, the builders may have believed that the dead were concerned with occurrences on the celestial vault in the opposite direction behind the chamber. The tombs were hardly intended as observatories. An astronomical focus of the orientation of the passages should be seen only as a symbol of a certain religious conviction.

Several celestial phenomena could have been used for lining up the passages: for instance a star which held special significance for the people’s conception of death and the afterlife, or perhaps a planet, the sun or the moon.

A star rises and sets in the same directions night after night. Only over centuries does a star slowly shift its nightly course across the sky. The gradual drift along the horizon of its rising and setting points could explain the dispersion in orientation observed for the tombs which were probably built over a considerable length of time. Although a couple of stars fit the required stipulations for orienting the tombs, none could be singled out as the liable agent.

Planets appear as stellar objects which move among the stars. They are often the most conspicuous features of the night sky after the moon because of their brightness. Their movements, however, are complex and seemingly erratic. It is difficult to see how planets in their orbits could be of any help in orienting the tombs.

One obvious celestial target for setting out an alignment is the sun. Sunrises and sunsets are spectacular events, easy to observe, because the intense brilliance of the sun is reduced to a manageable level at the horizon. The points of sunrise and sunset vary with the seasons, but the sun rises and sets in the same directions at the same locality on the same date every year. In March at the vernal equinox, it rises exactly in the east and sets in the west and the length of the day equals that of the night all over the world. From then on the sun’s path moves north, finally coming to a halt on the longest day of the year at the summer solstice in the northern hemisphere. The sun’s movement then reverses. It again passes east and west on its way south at the autumnal equinox, reaching its southern halt at the winter solstice on the shortest day of the year, whereafter the sun anew changes its direction of progress.

At Évora, the sun rises in the mean direction...
of the openings of the passages on February 25 and again on October 16 and sets along the opposite line on April 13 and August 30. The statistical spread in orientation from the mean direction amounts to as much as ±24 days. The wide spread in dates for the rising and setting of the sun could result from our inability to measure the true orientation of the passages in their poor state of preservation. Or perhaps the megalithic builders were incapable of setting out an exact alignment or the date chosen for the alignments was not reached by astronomical means but from imprecise meteorological and ecological clues, such as the emergence of the sun after the winter rains, the blooming of flowers and the arrival of birds in the spring, and the ripening of fruits and edible nuts in the autumn. However, none of the obtained dates can be seen to have any relevant connection with a death cult.

The deviation of the natural from the astronomical horizon modifies the rising and setting of a celestial object. As the landscape is rather flat around Évora and the astronomical bodies have highly inclined paths towards the horizon at the latitude of Portugal, no provisions were made to correct for this effect.

An alternative object for aligning the tombs would have been the moon. Some evidence for a lunar origin of the orientation of passage tombs has already emerged from a few sites on the Atlantic seaboard (Hårdh & Roslund 1991; Burl 1981, p. 262). Like the sun, the moon is a prominent celestial body. At full moon, it floods the night sky with light which obliterates all but the brightest stars. The movement of the moon in the sky is similar to that of the sun, but while it takes the sun six months to travel from its extreme northerly to its extreme southerly limit on the horizon, the moon covers this distance in just a fortnight. Whereas these limits are invariably the same for the sun, they move slightly from month to month for the moon in a regular
manner with a period of 18.6 years. Another difference is that while the sun is always seen as a full circle, the moon changes its appearance cyclically, repeating the same shapes after a period of 29.5 days or a month.

The moon and its phases
At the beginning of each cycle, the moon first emerges as a faint thin crescent in the evening twilight just above the western horizon with its cusps pointing away from the sun which has already set. On succeeding evenings, the moon waxes and brightens, appearing higher in the sky towards the south. It reaches the first quarter of its cycle, when half of the moon’s disc is illuminated by the sun. It is then seen high in the sky in the south at sunset, moving towards the western horizon as the night progresses and finally setting around midnight.

The bright part of the moon’s surface continues to grow. The waxing gibbous moon sets after midnight and shines most of the night. When the moon reaches its half cycle, it is seen as full, rising in the east opposite the setting sun and setting in the west opposite the rising sun, making it visible all night.

The moon’s brightness then diminishes as it enters its waning phase. Darkness envelopes the lunar surface in the same order as it first came to light during the waxing phase. At the last quarter, when the moon is again half lit, it rises in the east around midnight and stands in the south at sunrise. At the end of the moon’s cycle, it is once more reduced to a thin, dim crescent, now sighted low in the east before sunrise. It then vanishes altogether for two or three nights as it becomes lost in the glare of the sun’s light before it reappears in the west as a new moon.

The new moon is readily observable, weather permitting. Especially in spring, the new moon

Fornvännen 95 (2000)
is a prominent feature high in the twilight of the western sky. On the other hand, it is less easy to decide on which of two nights the disc of the moon most closely fits a perfect circle. The decision is made easier in spring, however, by a peculiarity in the moon’s movement. It then appears well above the horizon on the evening before full moon, while it first rises long after darkness on the evening after full moon. By contrast, the moon in the autumn near its full phase rises nearly at the same time at sunset on several evenings in a row.

_Easter moons_

A particular phase of the moon does not occur on the same dates in successive years. A familiar example is that of the Easter full moon. According to the rule established at the Council of Nicaea in AD 325, the Easter full moon is the first full moon that follows the vernal equinox. It can occur on any date between March 21 and April 20. Depending on the date of the Easter full moon, it can be seen rising at Évora at all azimuths between six degrees north of east and twenty-two degrees south of east. A rigorous calculation, taking into account appropriate factors of lunar behaviour, and making allowance for an estimated error of about twenty hours in the judgement of the exact moment of full moon, gives the frequency curve presented in fig. 2 for the Easter full moon with its disc clear of the astronomical horizon. Its top lies at azimuth 98 degrees with a statistical dispersion of ±9 degrees in close agreement with the observed distribution of passage orientations, when measuring errors and construction flaws of the passages are taken into account. The match would have been even better, had the Reguengos tombs been left out.

The Christian Easter commemoration has its origin in the Jewish Passover festival, the offering of new-born lambs to Jehovah at full moon in the first month in spring. Although this moon corresponds to our Easter full moon, its place in the solar year was not determined from astronomical observations but rather from agricultural signs (Ginzel 1911, p. 21), resulting in a major ambiguity in the time for the celebration of the festival.

The first sighting of the crescent moon after the vernal equinox may also have been regarded as an important lunar event. We can here call it the Easter new moon. Calculations show that this event over the years statistically follows roughly the same frequency curve as that for the Easter full moon, but displaced 180 degrees in azimuth.

It is highly probable that one of the earliest recorded Mesopotamian festivals, the _ā-ki-ti_ festival, dedicated to the moon god Nanna and patron deity of Ur, was connected with the appearance of the Easter new moon (Cohen 1993, pp. 140–142). This festival is attested at Ur as...
early as the middle of the third millennium BC. It was later adopted or integrated into local ceremonies at other Mesopotamian cities to become one of the major festivals of the region.

The close agreement between the observed orientations of the passages and the theoretical curves for the Easter full moon and new moon is amazing in respect of its implications. It requires the megalithic people of Évora to have been able to determine the vernal equinox with an error of a few days at the most. Although the arrival of spring in this part of Portugal is both sudden and dramatic, heralded by the singing of nightingales and the blooming of luxuriant spring flowers, the date of the vernal equinox cannot be precisely fixed by this method. Their achievement is all the more astonishing as the Mesopotamians succeeded in establishing this fundamental reference of time with the same exactitude only as late as the middle of the first millennium BC (van der Waerden 1963, p. 97).

It is, of course, altogether possible that the builders of the passage tombs fortuitously discovered how to identify which moon was the Easter moon without resort to any knowledge of the vernal equinox. For example, around 3600 BC, at a time when the tombs may have been built (Kalb 1982, p. 62), the Easter full moon was the first full moon to appear east of the conspicuous asterism which we now call the tail of the constellation Scorpio. Likewise, the Easter new moon at about the same epoch should have been sighted in the modern constellation Gemini, although the evening sky around the lunar crescent would have been so bright as to obliterate most of the stars therein.

Unique funerary gifts
If the moon, which is either the Easter full moon or the Easter new moon, were decisive for the orientation of the Évora passage graves, one would expect to find further evidence for a lunar cult in the megalithic society. Such a support may come from artefacts found in tombs in the form of polished slate plates often adorned with elaborate engravings. Because of their occasional anthropomorphic appearance, they have frequently been referred to as idol plaques (fig. 8).

The slate plates are steel-grey and of local origin. The town Évora itself is situated on top of an outcrop of micaceous slate. The majority of the plates are trapezoidal or rectangular with slightly slanting long sides. Occasionally, their strict geometrical shape is broken by details resembling the head, shoulders or arms of a figurine. Intact plates are usually 20–30 centimetres in length. Approximately 2000–2500 whole or fragmented trapezoidal slate plates have been recorded in Portugal (Gut 1990, p. 28).

Most plates have been engraved with a sharp point. The ornamentation is mainly geometric, consisting of recurrent patterns of cross-...
hatched bands of zigzags and parallel lines, triangles and squares, but some plates display anthropomorphic or zoomorphic features like large staring eyes. The eye motif in particular has lent these plates an owl-like appearance (Mohen 1990, p. 236). The style of ornamentation is repetitive but no two plates are identical. Repeated attempts have been made at a classification scheme (Leisner & Leisner 1959; Pina & de Carvalho 1962; da Veiga Ferreira & Leitão 1990) but none has so far been generally accepted.

This pattern of ornamentation is not confined to the Alto Alentejo province. Exactly the same design, including the strange eye motif, characterise the ornamentation of the ceramics deposited in megalithic tombs in southern Scandinavia 2,500 kilometres to the north. Although the medium and the form of the deposits are dissimilar, the style of ornamentation is so strikingly alike, in both workmanship and choice of motifs between the Portuguese slate plates and the South Scandinavian ceramics, that the existence of a close cultural link between the two regions must be regarded as probable.

As the finds of slate plates have mainly been limited to tombs, they have largely been regarded solely as funerary gifts. However, signs of wear to the hole which has been drilled in some of them contradict this interpretation.

Finds of these plates, sometimes in great numbers, are documented from only twenty out of the 41 passage tombs which have been excavated among the 88 tombs studied here. It therefore seems clear that slate plates were not deposited in all graves, although some of the graves in which none were found, are reported to show signs of disturbance by grave looters and most probably robbed of their contents.

The ratio of tombs containing slate plates proved fairly constant. Slate plates have been recovered from eight out of 17 excavated graves in an area covering about 150 square kilometres around the town of Reguengos de Monsaraz, compared to eight out of 15 passage graves in an area of equal size, 70 kilometres to the northwest centred on the small village of Pavia.

Slate plate deposits show no preference for any particular type of tomb. The size of a tomb has no bearing on whether it contains slate plates or not, but when slate plates are present, their number rises sharply with increasing size of the tomb (fig. 5). Because it is time-consuming, a comparison of slate plates with other funerary gifts is still in an initial stage. A fuller account of the slate plate characteristics has been given elsewhere by Kristiansen (1996).

**Slate plates and tomb orientation**

In our study, the orientation of the graves emerged as the overriding single factor favouring the deposition of plates. The outward passages of tombs containing slate plates are confined to a much narrower stretch of horizon than passages to tombs with no plates (fig. 6). This coherence
in orientation is even more pronounced when the number of plates in the tombs is taken into account (fig. 7). Exact figures for the total number of recovered plates are missing for four graves near the maximum orientation. The dashed lines in fig. 7 show the directions in which these four graves are lying, indicating that the corresponding columns should most likely be extended upwards.

Although the available sample of tombs is rather small for a rigorous statistical analysis, suffering as it does from incompleteness due to grave looting and flawed reporting, there is still irrefutable evidence that slate plates were only deposited by the mourners into graves with their passages pointing at a restricted range of the horizon. This conformity in orientation is so startling that further research in other regions is needed to substantiate it.

Stray finds of slate plates have also been recorded for two unexcavated tombs. One find is interesting because it is said to come from a grave whose exit points in the direction of azimuth 78 degrees, well outside the azimuth range for excavated tombs with slate plates.

The observed distribution of orientations of the passages in tombs in the Êvora district was earlier shown to agree with the rising of the first full moon or the sighting of the first lunar crescent after the vernal equinox. However, the distribution of slate plates is too narrow to conform with any of these moons over a prolonged period. It would be much simpler to attribute it to the rising and setting of the sun at a certain date or the rising and setting of a bright star.

Another solution to the problem could be that slate plates were only deposited in graves constructed in years when Easter fell on a particular date. The Easter full moon or new moon, owing to the varying date of Easter and the motion of the nodes of the moon’s orbit, can occupy a position anywhere within an area in the sky thirty degrees long and ten degrees wide. If slate plates were only deposited in years when the
Table 1. Measurements of the orientation of the outward passage in passage tombs in the district of Évora.

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Long. W/G</th>
<th>Lat. N</th>
<th>Azimuths according to</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anta Grande do Olival da Pega</td>
<td>7°24.1'</td>
<td>38°27.2'</td>
<td>103° 104° 107°</td>
</tr>
<tr>
<td>2.</td>
<td>Anta 2 do Poço da Gateira</td>
<td>7°26.3</td>
<td>38°27.0</td>
<td>99 102</td>
</tr>
<tr>
<td>3.</td>
<td>Anta 3 da Herdade da Farisoa</td>
<td>7°32.1</td>
<td>38°22.8</td>
<td>101 -</td>
</tr>
<tr>
<td>4.</td>
<td>Anta 1 da Herdade da Colmieira</td>
<td>7°37.5</td>
<td>38°41.7</td>
<td>94: 96 94</td>
</tr>
<tr>
<td>5.</td>
<td>Anta 2 da Herdade do Freixo de Cima</td>
<td>7°51.4</td>
<td>38°24.8</td>
<td>103 - 113</td>
</tr>
<tr>
<td>6.</td>
<td>Anta da Herdade da Anta</td>
<td>7°51.4</td>
<td>38°42.0</td>
<td>88 93 93</td>
</tr>
<tr>
<td>7.</td>
<td>Anta 1 Grande do Freixo de Cima</td>
<td>7°51.9</td>
<td>38°24.6</td>
<td>98 89 106</td>
</tr>
<tr>
<td>8.</td>
<td>Anta 1 da Herdade do Paço das Vinhas</td>
<td>7°53.1</td>
<td>38°37.2</td>
<td>102 101 107</td>
</tr>
<tr>
<td>9.</td>
<td>Anta 1 da Herdade do Barrocal</td>
<td>8°00.0</td>
<td>38°30.0</td>
<td>78 -</td>
</tr>
<tr>
<td>10.</td>
<td>Anta Grande do Zambujeiro</td>
<td>8°00.8</td>
<td>38°32.2</td>
<td>102 104 -</td>
</tr>
<tr>
<td>11.</td>
<td>Anta 2 do Zambujeiro</td>
<td>8°01.0</td>
<td>38°32.2</td>
<td>106 -</td>
</tr>
<tr>
<td>12.</td>
<td>Anta 2 da Herdade do Pinheiro do Campo</td>
<td>8°05.0</td>
<td>38°35.4</td>
<td>119: 122 106</td>
</tr>
<tr>
<td>13.</td>
<td>Anta 2 de Entreaguas</td>
<td>8°05.3</td>
<td>38°28.9</td>
<td>101 -</td>
</tr>
<tr>
<td>14.</td>
<td>Anta 1 da Herdade do Pinheiro do Campo</td>
<td>8°06.4</td>
<td>38°35.9</td>
<td>88 - 99</td>
</tr>
<tr>
<td>15.</td>
<td>Anta 1 Grande da Comenda da Igreja</td>
<td>8°12.7</td>
<td>38°45.4</td>
<td>106 - 112</td>
</tr>
</tbody>
</table>

The colon symbol after an azimuth indicates that the measurement could be in error. These measurements were not used in making comparisons with other surveys.

As mentioned previously, the tombs may have been built around 3600 BC when the first new moon after the vernal equinox would have appeared in the modern constellation Gemini. The outline of this constellation may have been perceived as an owl with the bright stars Castor and Pollux being its eyes, in analogy with the zoomorphic engravings appearing on some plates (fig. 8).

The Easter full moon would have appeared east of the constellation Scorpio. However, it is impossible to discern an owl among the stars around this moon, no matter how far the imagination is stretched.

Owl in the moon
The strong coherence in orientation for the passage graves which contain slate plates may suggest the role these plates played in the belief system of the megalithic people. The plates may have symbolized the moon’s conjunction with a particular star or asterism which for some reason or other was associated with the owl. The full moon itself with its pattern of dark lunar maria which has given rise to the impression of a Man in the moon, can with some justification also be seen as an Owl in the moon.

It is natural to see a connection between the owl on the one hand, and death and the moon on the other. The owl is a nocturnal creature and its calamitous screeching on moonlit nights and the bird itself, have until recently been regarded in folklore as a portent of death. The intense yellow colour of the eyes of some species may have been seen as a reflection of the full moon.

The owl was a characteristic attribute of the Greek goddess Athene who was sometimes entitled Agraulos, the Moon-goddess (Graves 1960, p. 100). Moreover, two owls figure prominently on the unique Burney terracotta relief of a goddess whose identity we unfortunately do not know (Frankfort 1938). Marija Gimbutas (1989, p. 285) believes that cartouches in the
shape of owls may incorporate abstract symbols of the lunar cycle on orthostats in a passage tomb at Les Pierres Plates in Brittany.

The new moon and the full moon are two phases which are readily assigned strong symbolic meanings. The reappearance of the moon every month after two or three days of invisibility could have been interpreted as an assurance of rebirth from death and the prospect of life in a new world. The full moon with its phase shift from waxing to waning could have been seen as a symbol of the height of maturity as a harbinger of inescapable decline and ultimate death, hopefully followed eventually by resurrection to a new life. The option of one of the Easter moons as a target for the orientation of passages in passage tombs may be due to the very special behaviour in the sky of the full moon and the new moon at the time of the year when nature awoke from its winter sleep.

Evidence from passage graves outside Portugal provides further support for a megalithic lunar cult. In Ireland, elaborate carvings on stones around the perimeters and in the passages of the imposing tombs at Newgrange and Knowth have been interpreted as lunar symbols. Martin Brennan (1983, pp. 135–157) claims that engravings in the form of multiple semicircular arcs may represent the lunar crescent in a sophisticated lunar calendar. Recently, Philip Stooke (1994) proposed that the very same arcs might depict the lunar maria visible to the naked eye as the Man in the moon.

The Newgrange passage tomb, on the other hand, is most renowned for the impressive play of sunlight which occurs there in winter. At sunrise during the week before and after the winter solstice, a narrow beam of light at sunrise enters a carefully designed opening, known as the roof-box, above the entrance and penetrates the passage all the way through to the chamber, dramatically and brightly illuminating the stones in its path (Patrick 1974; O’Kelly 1982, pp. 123–125). It should be pointed out, however, that the same drama of light, although not as bright and distinct, is enacted every year by the rising summer full moon.

### Conclusion

The coherence in orientation of the passage tombs is an indication that the people living around Évora in megalithic times had already evolved a complex, sophisticated belief and ritual system. To an agricultural society, the life-giving sun would seem an appropriate object of veneration with its obvious relation to spring and the regeneration of growth. On the other hand, the moon with its cycle of phase changes and monthly reappearance, echoing the fortunes of life and the hope for an afterlife, may also have attracted considerable interest. The first appearance of the crescent moon or its first attainment of fullness after the spring equinox may have been of great symbolic relevance to people heavily dependent on the revival and regeneration of nature.

### References


Portugisiska gånggrifter i påskmånens sken


Beräkningar över månens uppgång visade att såväl gångarnas medelriktning – tolv grader söder om öster – som spridningen i riktning stämmer väl med vad som gäller för första fullmånens uppgång efter vårdagjämningen, en måne som brukar kallas påskfullmåne – se fig. 2. Gånggrifterna bör emellertid inte betraktas som observatorier från vilka man genom gång- en kunde följa månens uppgång. Det kan till och med ha varit så att den eftertraktade riktningen i stället varit den motsatta in mot kammaren, en symbolisk riktning i vilken första nymånen efter vårdagjämningen, påsknymånen, uppträdde.

I ungefär hälften av de gånggrifter som blick föremål för arkeologisk utgrävning har man påträffat skifferplattor dekorerade med geometriska mönster med i några fall tillägg av mänskliga eller djurliknande drag. Utseendemässigt har några av dem beskrivits som uggleliknande. Ugglan är ett nattdjur och dess genomträngande skrik mänljusa nätter har i folktron ofta satts i samband med ond, bråd död. Skifferplattorna kan därför möjligen betraktas som stöd för en månkult bakom gånggrifternas orientering. Att en av påskmånarna sedan fick agera riktningmärke för gångarnas orientering kan ha berott på att just dessa beter sig på ett alldeles speciellt sätt på himlen samtidigt som naturen på marken vaknar ur sin vinterdvala.

Skifferplattor har bara påträffats i gravar med en ännu smalare riktningssfördelning än för dem som saknar plattor. En förklaring till detta kan vara att skifferplattor bara nedlagts, då påskens inföll inom en bestämd tidssram, eller, vilket är samma sak, når påskfullmånen eller påsknymånand intog en bestämd plats bland stjärnorna. Under alla omständigheter är gångarnas likformiga orientering ett uttryck för att ett komplext och sofistikerat religiöst regelsystem redan utvecklats av människor i Portugal för minst 5000 år sedan då gånggrifterna kom till.