

SYMBOLIC – NUMERICAL AND NUMERICAL CALENDARS AT LEPENSKI VIR

During the archaeological research on location Lepenski Vir (1965-1970) near Donji Milanovac, R. Serbia, it was observed that the architectural complex of the sanctuary had been designed and realized with a measuring mathematical language and the practice that encompassed a canonized degree of architectural and artistic expression. The symbolic that depicts the religious resides in a palpable analogical-associative simplicity here. The presence of the numerical, in the dominating symbolic-numerical form, was also observed and characterized terminologically by the numerical statement on the 'rabosh', but it was not analyzed in terms of a numerical system.

In this work, an analysis based on calendrometric parameters of all types of artistic findings of the culture of Lepenski Vir was carried out (except for one, which belongs to the Starčevo cultural group, fig. 28). It includes: architecture, i.e. shrines, marked with symbols of light (21 sanctuaries), cult objects, i.e. sculpture (25), altars (10) and cult-magical, i.e. ritual instruments (7), as well as 2 finds: the *Scepter with calendars* and the *Child's left forearm with calendars*, which makes the total of 65 analyzed cult religious works.

The results of the analysis, without exception, comply with the following statements: all works of art of the Lepenski Vir culture are sacral, they all have clearly defined functions, all of them are marked by calendars (lunar, solar, lunar-solar), their realization is symbolic-numerical and numerical through figural and figural-symbolic idioms in their developed form.

Calendars in sanctuaries labeled with symbols of light (which apply the orthogonal projection of the movement of the Sun deity in its place and position), mark the sanctuaries of his nocturnal epiphany, as well as the day and night epiphanies of the Moon goddess in the following way: in the sphere of the day (in 7 sanctuaries) by lunar calendars only, in all cases by sidereal revolution of the Moon ranging between 324 and 364 days, except for one (sanctuary 4), which is marked with synodic revolution of the Moon (in the astronomical range in terms of day and hour: 29 days, 12 hours x 12 months = 354 days). In this sense, this shrine is a milestone and a marker, the starting point in the calculation of the monthly lunar calendar with the initial rising of the new Moon in the sky. In the sphere of night, 14 sanctuaries are marked with symbols of light. Two of them are marked with the solar calendar (360 days), three are marked with the lunar-solar one (from 324 to 360 days) and in the nine of them lunar calendars apply (336, 364 and 350 days), with the universally present sidereal revolution of the Moon in all lunar calendars.

In accordance with the numerical analyses presented in the text, it is safe to conclude that there is a subtle numerical relationship between the solar and the lunar in the structure considered, be it the prevalence of the former or the latter, or the harmony between them within a certain sphere, at a certain theogonic event. Calendrometric analysis in the sphere of day shows regularity. The sum of cult objects (7), altars (6) and ritual instruments (4) is 17. All lunar-solar and lunar calendars show the presence of sidereal revolution of the Moon ($12+3=15$ cases) within the range from 324 to 336 days. Cult objects and ritual instruments are marked with calendars of cult dedication to a certain deity, two to the Sun and three to the Moon. As for the sacrificial altars, there is one exception (dedicated to the deity of the Moon, fig. 44). In all other cases the altars are of canonical, lunisolar dedications.

The same regularity is recorded in the analysis of the sacred objects in the sphere of night, and there are 25 of them ($18+4+3=25$), out of which 22 are marked with lunisolar calendars, and 3 are marked with lunar calendars (2 cult objects, fig. 53,72 and 1 ritual instrument, fig. 81), with the presence of sidereal revolution of the Moon in all cases without exception, and it is 324, 336, 350 and 364 days, with the presence of the same Moon revolution in the astronomical range of 328 days in one case (fig. 67). Synodical Moon revolution in the range of 354 or 348 days is recorded in 6 cases (fig. 56, 57, 59, 64, 67, 80), i.e. at the sanctuaries whose theophanic dedication was observed (sanctuaries 23, 6, XLIV, 19, 64). In all analyzed cases, the solar calendar is present in the annual calculation number of 360 days, and in one case the astronomical range is 365 days (fig. 64).

A more detailed calendrometric analysis of the sanctuaries marked with symbols of light, in the spheres of day and night ($7+14=21$ sanctuaries), follows the lunations of the Moon goddess (on 7-14-21-28 days) according to the time of the rising and the setting of the Moon by phases in the corresponding sphere, thus indicating the existence of the calculation calendar (of 28 days) and determining the beginning of the lunar monthly calendar calculation with the appearance of the new Moon, in sanctuary 4 (the synodic revolution of the Moon being 29 days and 12 hours). Understanding the Moon goddess movement in astronomical frames with the day and hour precision (sidereal of 27 days and 7 hours and synodic of 29 days and 12 hours), together with the movement of the Sun god in the calculation frame $10 \text{ days} \times 3=30 \text{ days}$, $30 \times 12=360 \text{ days}$ in the astronomical range of 365 days, is evident on special objects of the cult (fig. 64, 67), on the altar (fig. 76) and on certain ritual instruments (fig. 48, 49).

The research presented here shows the application of mathematical knowledge in the domain of the sacral and the use of knowledge and application of the lunar and solar calendars within the cults of the divine pair of the Sun and the Moon, whose center is the shrine complex at Lepenski Vir.

Calendrometric analysis of the three cult-religious works: the Scepter with calendars (fig. 27), the Child's left forearm with calendars (fig. 28) and a set of six cult objects in sanctuary XLIV of the Hierogamy of the Gods (fig. 59-64), offer perfect illustrative examples and build evidence for the topic presented in this paper.

Key words: Calendars (solar, lunar), calendrometrics, Moon phases, Moon revolutions (sidereal, synodic), Solar tropical year, saros cycle.

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