

## CHAPTER FIVE

### ANIMAL AND GEOMETRICAL FIGURES OF LUMINARIES, CALCULATION AND THE CALENDAR.

The ancients conceived the universe to be divided into three horizons (upper, middle and lower) which formed one indissoluble unity and did not differ essentially from each other. They believed that the upper horizon—the sky, was also inhabited by various animals and their ancestors. Their heavenly life was pictured amid the stars and suns, frequently the remote images of celestial bodies were likened to the shapes of animals and were named after them. That is why we often come across luminary birds and animals in our rock carvings. Birds in association with the sun disc or fighting against the dragon-snake are likewise pictured in the newly-found rock carvings of the Gegham range (Tables 61–63). In other compositions the same birds figure among goats, deer and men, accompanied by pictures or signs of celestial bodies. If the bird symbolises the sun or the moon in those pictures (as in our folk tales), the remaining species of animals symbolize other heavenly bodies or phenomena. Sometimes the same celestial body or phenomenon is symbolized by different images of animals, or a single picture of an animal stands for an entire constellation. One of the pictures (Table 62, 3), for instance, depicts a highly stylized bezoar goat with a disc crossed in center; and facing it is the prey beast with a six-cornered star. Another magnificent composition (Table 62.4) displays two strong he-goats fighting with their horns, both of which are of celestial nature. They bear cross symbols of the sun in their semi-circular horns. Finally, apart from bird-animal there exist anthropomorphic figures, accompanied by circles symbolizing the luminaries (Table 63, 4). In each particular case their number comes to 3, 5 and 7. The images of the luminaries such as the sun, the moon, the stars and the geometrical symbols of planets are quite frequent in the Gegham mountain range; they are portrayed either single or in compositions. These symbols consist of the cross, the swastika, the circle, interlaced circles, star-like figures, crescents, circles with bowl-like concavities and so on (Table 64, 1–6). A thorough investigation of the identical ele-

ments in different compositions indicates that they express the various positions of the luminaries on the firmament, the different phases of their motion visible from the Earth. This is particularly clear with respect to the pictures of the sun and the moon. Another factor is also involved: the luminaries are represented by a definite set of numbers (5; 7, etc.) or on multiples of their constituents. Those observations leave no doubt that the ancients were well aware of the basic regular features of the motion of heavenly bodies, visible with the naked eye, and represented them in a numerical association.

The mountains of Gegham and Vartenis contain groups of images made up exclusively of the pictures of luminaries. They give the impression of open-air astronomical observatories by the singularity of the images and the exceptionally high and convenient position for the observation of the night sky.

One of the above groups of pictures in the Gegham range, located near the summit called "Sheikhi Chingul", among many other images contains double-circled full moon symbols done in broad carving (Table 65, Fig. 1). The external circles of those figures have 28 large and deep rays, the number corresponding to the number of days in the lunar month. One gathers the impression that they really convey the estimate of the lunar month.

The fragments from Sev mount of Vartenis Range confirm that belief. The celestial bodies on one of them (Table 66, Fig. 1) are represented in 56 concave circles, in which the numbers 7, 14 and 28 are of regular occurrence. **In this case the tendency to add and multiply definite numbers is manifest; it conveys the recurrent revolution of heavenly bodies, in this case—the monotonous repetition of moon's phases.** By multiplying the number 28 in Sheikhi Chingul by 13 one can derive the approximate number of days in a year. If we multiply number 56 of Sev mount by 6 the sum (336) will be the total of twelve lunar months, and by adding one more lunar month we shall get the number of days in a solar

year. A similar second monument from Sev mount contains the number of days in two solar months, while the third one which is a magnificent prehistoric monument of calculation and a calendar, is merely a combined calculation table with the help of which an estimate of the lunar and solar year can be made (Table 65, Fig. 3). The pictures are divided into four groups. One of them contains a symbol of the constellation "Ram" that corresponds to the month of March; it initiates the farming year in Armenia, the New Year.

The second group of images of mythological content depicts "The Twins", the last constellation in the apical cycle of the sun. The other two groups are made up of pictures of a definite number of heavenly bodies; they are calendrical in nature. The "celestial bodies" in the main group of pictures representing the solar system are arranged in numbers 7, 13 and 14. If we multiply 13 by 7 we shall get the average number of days in a year's quarter (91), i. e. the period from Ram to the Twins. If we multiply 13 by 14 we shall derive half the number of days in a year (182), and if we double this number we shall get nearly the total of 13 lunar months or a solar year (364). There are two tables in this large group of

images of the solar system. One of them is the one metre long solar disc, made up of four circles and 94 stocky-rays. It represents a quarter of the sun's revolution in a year that takes place between, say, the vernal equinox (March 21) and the summer solstice (June 22). If we divide that number 94 by three we shall get 31,3 days, which is completely in harmony with the number of days in the spring and the summer months. According to this table the number 188 for half a year is almost unmissable and exceeds the modern calendar by two days. But the number of the days of the year is considerably larger. That is why another table is engraved under the above large disc. It enables us to regulate the difference between the lunar and solar years.

The thesis advanced in respect to the prehistoric calendar is still in need of additional corroboration; however, all the material at hand supports the fact that our remote ancestors were in practice quite well aware of some fundamental laws of motion of the heavenly bodies and knew their reflection on the changes of purely earthly natural phenomena. The recognition and use of those regularities was a sinequa-non of progress, especially in advancing farming, animal husbandry and hunting.

## CHAPTER SIX

### RELIGIOUS—IDEOLOGICAL CONCEPTS, RELICS OF PREHISTORIC MYTHS

A substantial number of rock carvings from the Gegham mountain range display, in various relations, gods of the neolithic and Early Iron Age. Broadly speaking, though they are anthropomorphic, their large dimensions with exaggerated iconographic details and functions differ sharply from the pictures of ordinary men or hunters. Another differentiating feature is their appearance in association with celestial symbols, which indicate the extraordinary heavenly origin of those supernatural creatures. As we have seen above, the rock carvings dealt overwhelmingly with animal and hunting scenes. Accordingly the figures of gods of prey and hunt predominate (Tables 67—73). It is not an easy task to distinguish those two

gods by their morphological characteristics. They can be recognized only by their different functions. These gods appear very clearly during the 5th and 4th millennia, and they survive up to the beginning of the 1st millennium B.C., undergoing certain morphological changes. They dominate in the compositions. The gods of prey appear in "peaceful" conditions, in free herds of grazing, drinking or copulating animals. They are often seen driving away with spears or magical movements the wild beasts attacking the herds. More conspicuous are the gods of hunt that are portrayed invariably with hunters. The gods of hunt themselves are seldom involved in hunting. Their posture is usually static, the arms raised upward at the