

## ETHNOASTRONOMICAL INVESTIGATIONS OF THE ZAVOJSKO JEZERO AREA (PIROT, YUGOSLAVIA)

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**Abstract.** In August 2002 the Astronomical Group of the Research Society "Vladimir Mandić - Manda" from Valjevo performed ethnoastronomical investigations in the Zavojško Jezero area near Pirot. The present paper deals with the common beliefs of the regional people concerning astronomical phenomena. The informations were obtained by interviewing elderly people in this, mainly rural, area. The obtained results are grouped according to a few key subjects (calendar, Moon, Sun, Milky Way, stars and constellations, world systems) and they are commented as much as possible. The present study is a continuation of the ethnoastronomical studies realised by this Group from 1997 on and forms a part of the project "Ethnoastronomical Research in Serbia" and "History of Astronomy among Serbs".

### 1. INTRODUCTION

Ethnoastronomy is a scientific discipline studying the presence of astronomy in the folklore. It enables to establish for the population of a given territory the knowledge level and interest in astronomical phenomena in the past, the way of explaining them and to what degree these explanations are correct from the scientific point of view.

The Astronomical Group of Research Society "Vladimir Mandić - Manda" from Valjevo (Serbia) has from 1997 on organised a project named "Ethnoastronomical Examinations in Serbia". By 2000 the ethnoastronomical examinations were completed in the Valjevo Mountains area (Božić, 1999; Božić, 2002) so that the results given in the present contribution appear as a continuation of the project in another geographic locality. For 15 days in August 2002 a team of ten members of the Astronomical Group covered the area of Zavojško Jezero located in the surroundings of Pirot, south-eastern Serbia.

### 2. THE METHOD

The method used in these examinations was interviewing. The participants were organised in small groups of two to three persons and they visited country houses.

In the beginning the attention was paid to the choice of interviewed people. One chose persons whose education level was the lowest possible, mainly elderly ones, but also younger ones knowing old tales and beliefs. Such a choice was inevitable because to the project are of interest not only tales in accordance with science, but also those reflecting the beliefs of the common people.

The questionnaire of ethnoastronomical examinations contained 15 questions (Božić, 1999; Janković, 1986).

The answers were recorded in an A4-format sheet, whereas the data concerning interviewed persons were recorded in, for this purpose specially, printed forms. These forms contained the following data: personal number, examiner's name, date, interviewing place, first and family names, age and profession (education level) of the interviewed person.

### 3. THE RESULTS

The results are presented in the frame of several subjects: Moon, Sun, Milky Way, stars and constellations, world system. All results are discussed as much as possible.

What is interesting regarding all celestial bodies in general is that, according to the beliefs of the inhabitants of this region, one must not curse them, i. e. say any bad words, because they are divine creations. Therefore, no one mentioned any curse or bad words concerning the celestial bodies. It is also forbidden to point at the celestial bodies. In the opposite case a person doing this might catch warts or she/he might be converted into an animal.

#### 3. 1. THE MOON

Concerning the Moon we have collected stories and legends bearing on the features, eclipses and customs related to the phases.

According to one of the stories on the Moon one can see the silhouette of a bear. Another one tells that there exists a world similar to the terrestrial one (one can see mountains, rivers, cities) and as a modification it is sometimes said that the Moon is inhabited by savage people. There is also a tale that on the Moon one can see clouds and it is thought that with the clear sky, when the Moon is visible, it absorbs and takes the clouds with itself.

A Lunar eclipse is a bad omen. It might mean that a calamity is imminent - war, natural catastrophe or an epidemic. There are several explanations of the cause of a Lunar eclipse. According to one of them old women take the Moon off from the sky while they water their cows to put it back subsequently; according to another one the Moon is eaten by animals (sometimes dogs are explicitly stated). There are explanation involving the Moon as being eclipsed by the Sun. An interesting statement blames a struggle of two celestial forces as the cause of an eclipse. There is a special word for that celestial force - "palašće" (for this probably obsolete, Serbian word, the authors find no English translation).

Customs related to the Lunar phases can be divided into ones related to the Full Moon and those relating the crescent.

According to what the people of the region under study know the filling of the Moon takes a fortnight, to be followed by its vanishing also lasting a fortnight. The crescent phase is suitable for starting a job, whereas during its vanishing the job

should be stopped. When the Moon starts fainting, dogs attack and eat it, whereas during the Full Moon they bark (howl) and drive it away. If the weather during a Lunar phase is fine, a started job should be continued, but if the weather is bad, the job is to be stopped.

In the region under study it is believed that during the Full Moon it is possible to become rich.

During the crescent one should not do: go into the forest to cut wood, slaughter cattle or start a bigger job because the outcome will be bad or it will meet a fiasco.

### 3. 2. THE SUN

A Solar eclipse is taken more tragically than a Lunar one because it takes place relatively rarely. Its meanings are similar to those of a Lunar one: a calamity is imminent (war, natural catastrophe, ruler's death). The explanations are similar to those concerning Lunar eclipses: the Sun is eaten by animals, an old woman hides it, it is eclipsed by a celestial force - "palašće". So one believes that the Sun is screened by a net or that the air is closed by the darkness causing in this way an eclipse.

The question "what does the Sun do over night?" is mainly answered by saying that at night the Sun goes into the sea or another big water. This is especially interesting for a discussion having regard that the population of the region under study never saw a sea and could hear about a sea only from what they were told by travelers. Therefore, to them the sea is something very distant. There are alternative explanations: the Sun stays over night behind a mountain, or it escapes from the Moon.

### 3. 3. THE MILKY WAY

The whitish belt across the sky is called by the Serbian people "Kumova slama" (Godfather's Straw). The story of its formation is very interesting. On the Christmas Eve a man visited his godfather asking to borrow straw. The latter answered that lending straw was impossible because he needed it in the Christmas rite. However, the former stole the straw, but he was spilling it on the way. He was punished by God who left the straw trace in the sky to be seen by all as a warning.

### 3. 4. STARS AND CONSTELLATIONS

Among the common people in Serbia the word stars is used, except for real stars, also for meteors (translated Serbian popular name - falling stars, to be compared to shooting stars), comets (translated Serbian popular name - tailed stars) and planets.

Out of stars by name were indicated "Danica" (Venus) although "Danica" = Venus is a planet it is ranged into stars and "Vlašići" (Pleiades). Venus is also called "Savi- valka". Danica is said to rise in the morning and to set in the evening. As for Vlašići, it is known that there are seven brothers. Asterisms, called in the region "Ralo" (wooden plow), "Plug" (plow) and "Slama" (straw), are also given. The interviewed persons mentioned some "sky pictures", but due to bad weather conditions during the examinations these "pictures" could not be identified, i. e. no corresponding asterism, or part of a constellation, were found.

As said above, meteors are called "zvezde padalice" (falling stars). There are several beliefs following them. It is most frequently thought that someone died (i. e. someone's soul released). It is believed that then a star falls and gets destroyed on

the ground. When a falling star is seen, one should conceive a wish and it will come true.

### 3. 5. THE WORLD SYSTEM

When saying the world system, the shape of the Earth and its position in space is what is meant with.

The most frequent story is that the Earth has a spherical (or egg-like) shape and that it is situated upon a water surface. It has been already mentioned that according to some beliefs the Sun at night sails on the water from the west towards the east, in accordance with this story. Somewhere, an addition to it appears, saying that the Earth is situated upon a big animal, never seen by anyone, but staying in the water. Some people say that this animal is a whale. So, a possibility arises that the people of the region under study know what a whale is and how it looks like. Probably they have heard of this animal from tellings of travelers and it has been included in the story as something big and unknown. When the animal moves, an earthquake takes place.

In the opinion of the regional population the sky and the Earth touch each other somewhere far from us. So it is thought that the sky is supported by the forest, while some people mention the air instead of forest.

## 4. CONCLUSION

The performed examinations show that, in spite of the influence of mass media and the increase of education, ancient beliefs concerning astronomical phenomena have been preserved among the common people.

Many answers contained religious motifs. This means that a majority of celestial phenomena is a kind of God's signs to the human beings - a permanent warning (e. g. legend concerning Milky Way) or given from time to time (e. g. eclipses).

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