

## The Dakhmas of Khakassia

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### Abstract

In 2005 in the Ordzhonikidze district of Khakassia during an exploratory archaeological work was found "Temple of the Creation of the Universe" sanctuary of Fedorovo (Andronov) culture in Khakassia with cosmogonic petroglyphic compositions.

The study of the petroglyphs of the "Temple of the Creation of the Universe" and the shadow-to-light pattern when the composition is illuminated by Sun revealed that these petroglyphic images are "moving depictions" which sacral semantics and the order of reading are determined with the sequence of the images of heroes' illumination by the rays of the rising and setting sun in the astronomically significant days of seasonal cycles. Disclosure of the semantics of mythological content of the "Temple of the Creation of the Universe" compositions determined by the dynamics of the shadow-to-light pattern demonstrated that two rocky planes of the "Temple's" central altar are "multi-page treatise" enabling them to consistent and coherent reading of the myth of the universe creation depicted in it.

Attribution by us the semantic content of the petroglyphic compositions as an illustrations of the "proto-Zurvan-Mazdean and proto-Rigvedean" origins of the creation mythologem was artifactually confirmed by the discovery of a temple complex of two dakhmas at the top of the mountain used for the exarnation.

This confirmed again the correctness of the semantic understanding of the mythologem depicted in the "Temple's" petroglyphic compositions.

The astronomical principle of spatial distribution of the Dakhmas of the "Temple of the Creation of the Universe" was identified in the process of their studying. It is theologemically related with the dichotomous nature of the semantics of "proto-Zurvan-Mazdean myths" depicted in the petroglyphic compositions of the twin myth in the "Saratsk sanctuary" which is directly visible from the "Temple of the Creation of the Universe".

On the rocky planes framing two central altar compositions of the "Temple of the Creation of the Universe" more than thirty previously unpublished compositions petroglyphs of Andronovo, Karasuk and Tagar cultures of Khakassia were discovered and copied. These chronologically different petroglyphic images semantically complement the central altar of the "Temple" with mythologemic content specific to each of the above cultures.

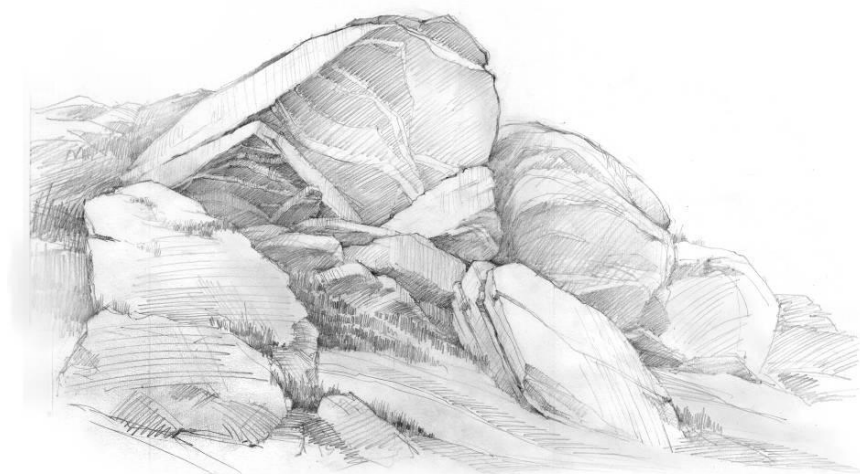
In addition to multi-temporal petroglyphic compositions in the immediate vicinity of the "Temple of the Creation of the Universe" a number of cult places were found which were created by the above native

cultures of Khakassia. Obviously that these religious objects were added in chronological order in the sacred structure of the temple complex, which was originally formed by two petroglyphic compositions depicting "The Creation of the World Egg from the source of chaos", two altar planes and monumental statues of the Moon and the Sun located at the foot of the "Temple of the Creation of the Universe".

**Keywords:** dakhmas, mazdayasnizm, proto-Zurvan-mazdayasnizm, proto-RigVeda.

### 1. Introduction: the dakhmas of the "Temple of the Creation of the Universe"

The "Temple of the Creation of the Universe" [1] is two rocky planes of Devonian sandstone expanded to each other at an angle of 990 and covered at the top by a massive rocky peak (Fig. 1). The mythologem of the "Temple" captured in two petroglyphic compositions tells the story of the creation of the universe by the zooantropomorphic deity depicted as an "Eagle" (Fig. 2) holding a "globe" in its claws.



**Figure 1.** "The Temple of the Creation of the Universe" with monumental "statues" of the Moon and the Sun at the Temple's base (drawing by S.V. Karlov).

The first thing that attracts attention while studying the compositions of the "Temple" is a symbolism of the "World Egg of the Universe" and dichotomous semantics of mythological scenes depicted on the two rock planes.

On the left (the altar) plane of the "Temple" the mythologem of the universe creation from the "World Egg" is shown. On the right depicts the original chaos structured in three levels of the universe the top is Heaven, the middle is Earth, lower is underground.

Two altar petroglyphic compositions of the Temple are well preserved. The images on the left rocky plane remained virtually damaged, except for the initials "YK" and "PIO" engraved in 1953-1957 in the upper part of the "World Egg" by shepherds of the nearest settlement. The rocky surface of Temple's right plane is partially destroyed by the time (Figure 3) and the destruction slightly affected the petroglyphs of the composition. Two "sacrificial" plates are set at the base of the "Temple of the Creation of the Universe". One is set directly under the petroglyphs, the second is to the right of them. Down the hill from the "Temple" there are the monumental "statues" of Devonian sandstone which obviously symbolized the moon and the sun in a view of the priests (Fig. 1).



**Figure 2.** Creation of the Universe from the "World Egg" in proto-Zurvan-Mazdean mythologem of Creation. Left altar plane of the "Temple of the Creation of the Universe" [15, Fig. 8]. The middle of the II millennium BC. Khakassia, Ordzhonikidze district.

Two sub-square stone planes defined by us as dakhmas for Mazdean type for excarnation were found on the top mountains of the "Temple of the Creation of the Universe" complex. The study of technology's facilities of the dakhmas has shown that the method of dry stone masonry is similar to the masonry of the shafts in solar sanctuaries of the Okunevo culture in Khakassia, but there is also a fundamental difference between the dakhmas and Okunevo's facilities. According to the results of an archaeological excavations [2] among attributed to Okunevo cultural objects there are no isolated sub-square planes of sandstone slabs with dimensions slightly larger than the size of the human body placed on the continental surface. Typical constructions of Okunevs are not closed shafts of sanctuaries (often extended for many kilometers long) ubiquitous placed on the tops of mountains of Khakassia (Fig. 4, 5).

The shafts are massive "walls" built of different-sized plates and fragments of sandstone forming unclosed contours of solar sanctuaries on the tops of mountains of Khakassia. The configuration of the sanctuaries walls often forms the entire "rooms" along with this in the sanctuary and in its "rooms" as well there are passages clearly marked with blocks of stone gates.

The shafts of the Okunevo sanctuaries are usually an extension of the outputs of natural sandstone ridges at the tops of the hills of the steppes of Khakassia. Thus natural rocky outcrops of Devonian sandstone and artificial shafts form a single architectural shape of the sacral separated space of Okunevo sanctuaries. As a "typical" Okunevo structures we can point to the shafts of the "First Sunduk" and "Saratsky Sunduk" sanctuaries [3, 4, 5]. Sometimes inside sanctuaries there are multimeter height and broad areas structures composed with a dry masonry from sandstone slabs. A typical example of such an object is a wall-pad at the top of the second canyon of "First Sunduk" sanctuary (Fig. 4). These constructions which are significantly superior size than the dakhma we found probably served for ritual sites rites and sacrifices.



**Figure 3.** Primal Chaos structured in the three universe levels. Right altar plane of the "Temple of the Creation of the Universe." Photo by S.A. Parshikov, 2006.

Architectural shafts of Okunevo sanctuaries are sub-triangular profile embankments built of sandstone debris such as shafts of "First Sunduk" and "Saratsky Sunduk" sanctuaries, either this are rectangular walls built of large sandstone slabs in the outer trim and backfilled in the middle with finer sandstone plates, such as the Vara's walls of the sanctuary at Sohatin Mount (Fig. 5). The width of rectangular walls is the same in the ground and in the upper part and is in the range of 1÷1.5 meters.

The interesting fact is that the spatial arrangement and the curved features of the Okunevo sanctuaries shafts are determined by the shadow-to-light image formed from the top of the sanctuary or the nearby mountain peaks in the days of the equinoxes and solstices. The outline of the shadow-to-light image appearing at the sunset or sunrise in the astronomically significant days and hours required the spatial arrangement of the shafts of the sanctuaries.

Thus the almost square shape of the two plates we found with dimensions slightly greater than the average height of a person is unique among Okunevo culture facilities in Khakassia. The study of these functional structures in conjunction with the semantic content of the petroglyphic compositions of the "Temple of the Creation of the Universe" makes it possible to consider the sites as dakhmas - a special kind of ritual burial structures not typical for Okunevo culture in Khakassia. Using a dry masonry for stone structures was familiar to Andronovos in Khakassia. Thus among the 164 "adult" Andronovo graves studied by archaeologists [6, p. 58, Table 4], 57 graves (35%) are burial cysts made by dry masonry of sandstone slabs. Herewith the inner walls of the Andronovo cysts are always carefully aligned as well as the walls of the dakhmas we have found.

Given the fact that the sizes of the cysts and Andronovo's dahmas are comparable we can consider that their construction principles are almost similar. The difference is that dakhma's structure is square and cyst is rectangular wherein the inner space of Dakhmas is filled with sandstone backfilling of small plates.



**Figure 4.** Dry masonry of the "ritual" wall-site at the top of the second canyon of the "First Sunduk" sanctuary. Khakassia, Ordzhonikidze district. Photo by S.A. Parshikov, 2005.

Discovered dakhmas are located on the rocky top of the mountain to the north-west of the "Temple of the Creation of the Universe" and represent the two subsquare stone laying whose minimum size of the walls is 202 cm and the maximum is 250 cm. The visible (without excavation) height of the walls of the top dakhma is not more than 77 cm, the bottom – 29 cm. Due to the fact that dakhmas are located on the bedrock of the mountain's top the thickness of the soil layer around Dahmas is insignificant and is about 5÷10 cm. Thus dakhma's height above the base of the rock is close to actually visible part over a soil layer.



**Figure 5.** Dry masonry walls of the Okunevo culture solar sanctuaries. Sohatin Mountain. Khakassia, Ordzhonikidze district. Photo by S.A. Parshikov, 2008.

The height of the walls of the upper dakhmas measured in its corners is in the range from 70 to 77 centimeters. The difference in the height of the walls was determined by the need to align the rocky foundation of the dakhmas to the horizontal plane. The measuring of the inclination angles of the "Upper dakhma" surface at the extant and less destroyed south-east wall showed that the deviation from the horizon is equal to 1.1 degrees (Fig. 6) and the inclination of more devastated south-west wall of the dakhma is not more than 23 degrees. Probably this "precision" in placing of the upper plates was due to the desire of the priests to prevent cadaveric liquid to runoff from the dakhmas to ground. Moreover the placement of dakhma on a rocky mountain top allows to comply with the need to prevent the earth deity Spandarmad to contact (pahl.) (Spenta Armaiti - "Holy Piety" (avest.); "Holy Mother Earth" (Ruska) with dead flesh as recorded in Pahlavi sources. In Chidag-handarz i poryotkeshan [7, p. 69-74] it is said that a person needs to know that his "race and tribe are from Gayomard", his mother Spandarmad, his father Ohrmazd.



**Figure 6.** "Upper dakhma". Measuring of the angles of inclination of the dakhma's surface.

Photo: S.A. Parshikov, 2007.

The height of the walls of "Lower dakhma" (Fig. 7) measured at its corners is in the range of 17 to 29 cm. The difference in the height of the dakhma walls is also due to the need to align its foundation. Measurements of the deviations of the upper plane of "Lower dakhma" from the horizon gave values within 1.6 degrees to the direction of the north-west - south-east and 1.3 degrees for the northeast - southwest direction.

Dakhma's dimensions are shown in Figure 8. From the diagram it is clear that the length of the north-west and south-west sides of each of the dakhmas are pairwise equal with an accuracy of +/- 2 cm and the length of the south-eastern walls of the dakhma are both equal to 210 cm.

The dakhma's largest sandstone slabs have linear dimensions of about 125x40x14 cm and stacked in the external dakhma's walls. The smallest sandstone tiles are located in the central part of dakhma and have dimensions less than 10x10x1 cm. Thus in the construction of the dakhma the largest plates were placed in the bottom of dakhma and the external trim of its walls the finest masonry is in the filling the central part (Fig. 6; 7). The length and width relationship of sandstone plates is from 4:1 for the largest in the base plate to of 1:1 for the smallest central

filling plates of dakhmas. In general the plates used for constructing the walls of the upper dakhma are twice the size of the plates used for the Lower dakhma "situated lower in the crest of the mountain.

As it shown in Figure 8 the distance between the centers of dakhmas is 67 m between the nearest walls – 66 m. Dakhma heights above the ellipsoid WGS-84 determined by GPS-navigator are 495 m and 492 m.

## 2. Orientation of the dakhmas of the "Temple of the Creation of the Universe"

To determine the spatial location of dakhmas at the top of the Temple Mount firstly we determined their orientation. Theodolite was set along the dakhma's side in an extended range. The observations of the Sun determined the astronomical azimuth of the initial direction to the remote benchmark (in this case "the throne of the priest" of the "First Sunduk" sanctuary [3]). The orientation of dakhma was calculated by measuring the horizontal angle between the initial direction and the range.



**Figure 7.** Lower dakhma. Photo: S.A. Parshikov, 2007.

The error in determining of the orientation of dakhmas is due to the values' errors in determining of the astronomical azimuth and the range's changes. The technique of astronomical measurements by the Sun gives an error of 1' so the main problem in dakhmas orientation's measurement is made by the range's changes. The error in the range installation during the measurement process within the dakhma's side length of about 2 m is determined by a mutual error of establishing points on the dakhma's two corners (3 cm) which corresponds to establish the alignment error of 1 degree.

Given that the geometry dakhmas is not "perfect" because of the specificity of the dry masonry of the stone slabs without a binder and because of the partial destruction of dakhmas (Fig. 1, 3) we can assume the accuracy of one degree in determining of the orientation.

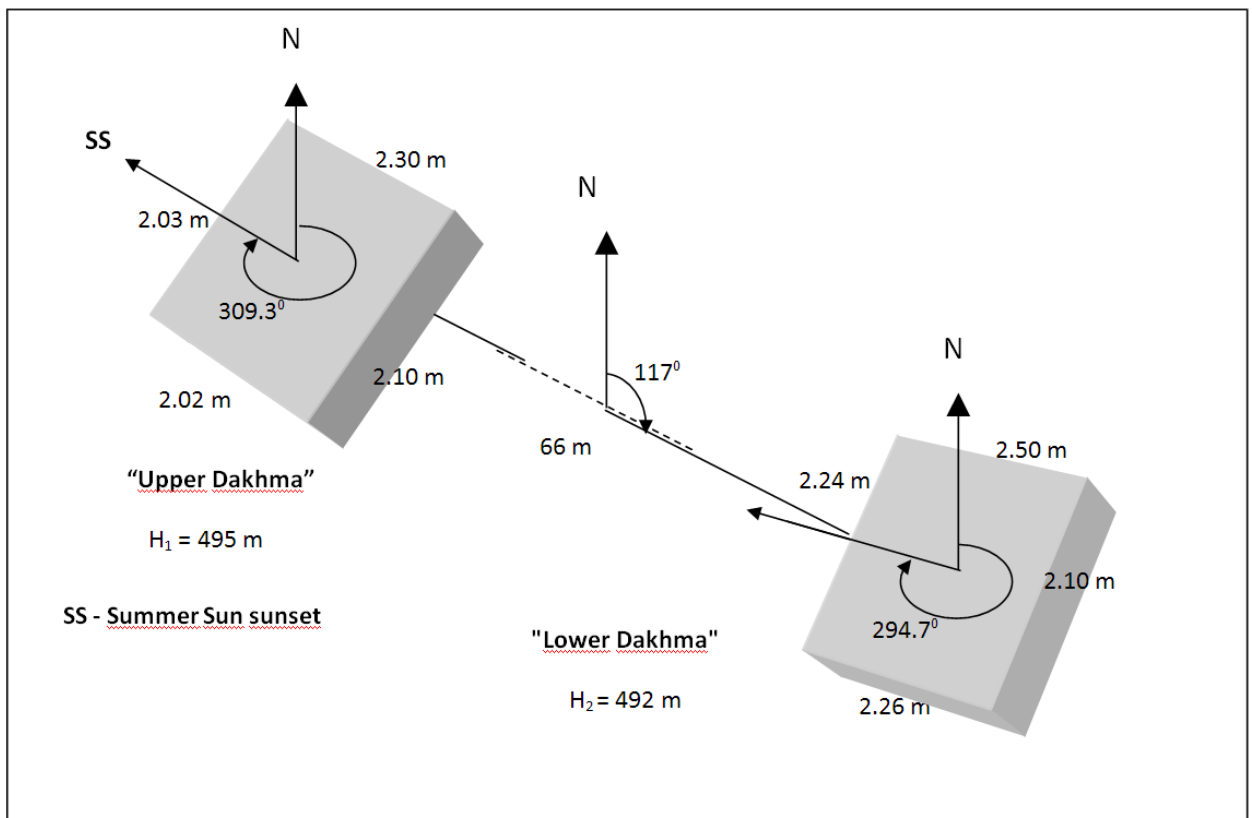
The difference in orientation dakhmas is  $14.6^\circ$  that far exceed the measurement error.

To identify astronomically significant directions we measured the height of the dakhmas observed from the horizon and calculated the declination of the daily parallels of rising and setting stars [8] (tab. 1). Of all the areas of the Dakhmas' sides only the north-western one was astronomically significantly appropriate to setting of the sun during the summer solstice (see Fig. 8 and Table. 1). There was an explanation of the difference in the orientation of these two objects. This difference is due to the different heights of the horizon observed from dakhmas: for "Lower dakhma" the horizon is above that's why the sun at the summer solstice sets "to the left" (the azimuth 294.7°) and for "Upper dakhma" the horizon is below and the sun sets to the "right" the azimuth 309.3°.

**Table 1.** Results of the calculation of declines of the daily parallels observed on the horizon in the direction of orientation dakhmas (see Fig. 8):

"Upper dakhma"				"Lower dakhma"			
Azimuth	Height	Declination	Note	Azimuth	Height	Declination	Note
309.3°	3°	+ 23.8°	Sunset at the summer solstice	294.7°	11°	+ 23.6°	Sunset at the summer solstice

Summing up the calendar and astronomical calculations we can say: the orientation of each of dakhmas at sunset at the summer solstice shows that during the construction of the burial scaffolds the priests solved the problem on the individual orientation of each of them and not the inverse problem of orienting them towards the West as the "Side of death" and to the East as the "Side of life". The largest size had surfaces of wall facing the North-East.



**Figure 8.** The circuit of the Dakhmas arrangement on top of the Temple Mount.



Individual orientation of each of the dakhmas evidences the sacred character of the very astronomical orientation on their sunset and sunrise during the solstices. Probably it is taken into account that during the summer solstice daylight ("light", as "a symbol of life and immortality") reached a maximum duration and in the days of the winter solstice night ("Darkness" as "a symbol of death and nothingness") continued for the longest period.

The orientation of the long sides of dakhmas to the North-West chosen by the priests let the Sun during the moving on the Sky from dawn to set "clean with life-giving light" all four walls of the plinths for dead and wipe out "not good (Daeva) component" with the power of the theological semantic of specially arranged places for the excarnation.

### 3. Rites of opengraving

M. Boyce in 1975 [9, p. 61-62] In his work supports the view of Kyunh A. [10, p. 266-267] that the original content of the dakhma term goes back to the Indo-European basis dhmbh - "bury". The tribes that inhabited the territory of Iran "before-Zoroastrian and Zoroastrian" eras also buried the dead in the ground. Therefore in the ritual of excarnation at the dakhma was not the original practice of funeral rites of the iranoaryan. Therefore the problem of time and territory of the origins for the excarnation and burial of bone not in the ground but in stone boxes-ossuaries on the tops of hills has no solution.

The assumption of attributing of two discovered sites as opengraving Dahm required analysis of Mazdean funeral rites known mainly from Vendidad and other Pahlavi literature. In Vendidad describes three methods of burial practiced by mazdeans: "sairi masya zeme nikante" – the burial of the corpse in the ground, "sairi iriste zeme nifaite" – the placing of corpse's on the ground, "sairi masya ireste dahme nifaite" – the graving of the corpse on a Dahm. At the same time the most frequently mentioned in Vendidad way of burial is the burial of bones of the deceased after the excarnation According to the archaeological sites of the Andron tribes in the II thousand BC they buried tribesmen mainly by inhumation of dead bodies or burial ashes after cremation. Due to the fact that there was no mazdean cremation rites it is evident that after the collapse of "Fedorovo-Alakul Confederation" the Indo-Aryans primarily had fixed in their burial practices cremation rites and some of iranoaryan admitted excarnation refusing cremation.

Evidences of rejection cremation rites by mazdeans are seen in Vendidad [11, p.171].

*73. "O Maker of the material world, thou Holy One! If worshippers of Mazda, walking, or running, or riding, or driving, come upon a Nasu-burning fire, whereon Nasu is being burnt or cooked, What shall they do?"*

*74. Ahura Mazda answered:  
"They shall take off the cauldron,  
they shall take off the tripod."*

The fact of cremation mentioning in Vendidad evidences that this practice was initially in the Indo-Iranians which is confirmed by the results of archaeological research of Andronovo graves [12, p.400-402]. At the same time after the separation of iranoaryan for two thousand years from the first third of II thousand. BC till the middle of I millennium AD the funeral rites took them a

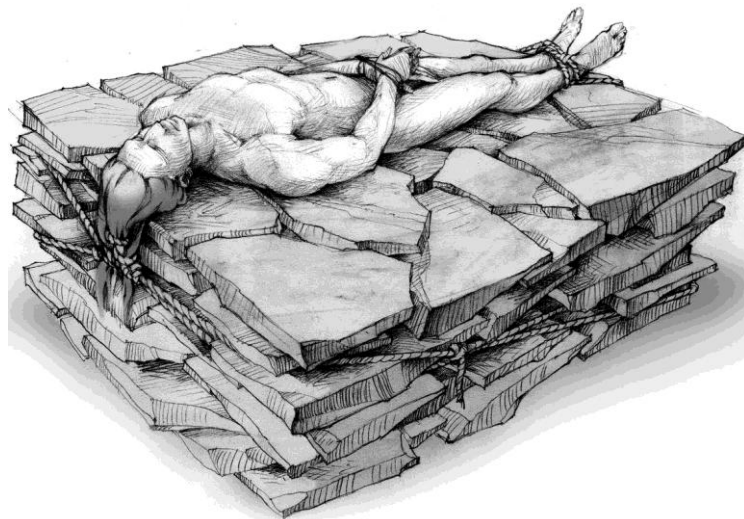
long evolutionary way as evidenced by the differences in rituals fixed in the fifth and eighth fragardas Vendidad. In the eighth fragarde [11, p.140-150] it is said:

1. *"If a dog or a man die under a hut of wood or a hut of felt  
What shall the worshippers of Mazda do?"*

2. *Ahura Mazda answered: "They shall search for a Dakhma,  
They shall look for a Dakhma all around.  
If they find it easier to remove  
the dead, they shall take out the dead, they shall let the house stand,  
and shall perfume it with Urvasna or Vohu-gaona, or Vohu-kereti, or  
Hadha-naepata, or any other sweet-smelling plant.*

3. *If they find it easier to remove the house, they shall take away  
the house, they shall let the dead lie on the spot, and shall perfume  
the house with Urvasna, or Vohu-gaona, or Vohu-kereti, or Hadha-naepata,  
or any other sweet-smelling plant."*

4. *"O Maker of the material world, thou Holy One! If in the house of  
a worshipper of Mazda a dog or a man happens to die, and it is  
raining or snowing or blowing  
or it is dark,  
or the day is at its  
end, when flocks and men lose their way,  
what shall the worshippers of Mazda do?"*



**Figure 9.** The ritual of an opengraving on a dakhma (drawing by S.V. Karlov).

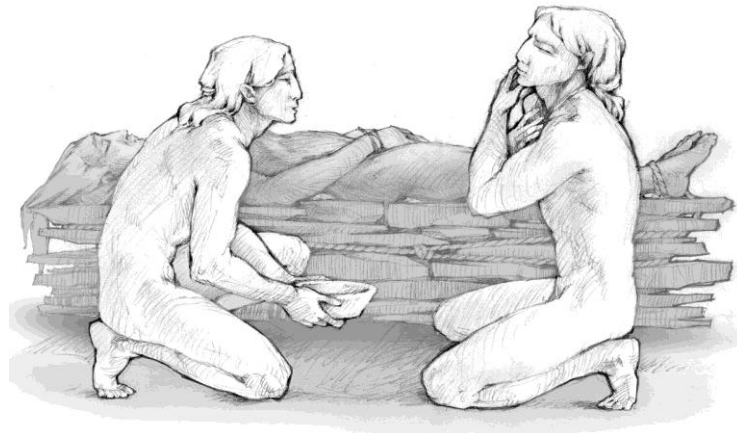
5. *Ahura Mazda answered: "The place in that house whereof the  
ground is the cleanest and the driest, and the least passed through by  
flocks and herds, by the fire of Ahura Mazda, by the consecrated  
bundles of Baresma, and by the faithful."*

6. *"O Maker of the material world, thou Holy One! How far from the fire? How far from the water? How far from the consecrated bundles of Baresma? How far from the faithful?"*

7. *Ahura Mazda answered: "Thirty paces from the fire; thirty paces from the water; thirty paces from the consecrated bundles of Baresma; three paces from the faithful;*

8. *On that place they shall dig a grave, half a foot deep if the earth be hard, half the height of a man if it be soft; they shall cover the surface of the grave with ashes or cowdung; they shall cover the surface of it with dust of bricks, of stones, or of dry earth.*

9. *And they shall let the lifeless body lie there, for two nights, or three nights, or a month long, until the birds begin to fly, the plants to grow, the hidden floods to flow, and the wind to dry up the earth.*



**Figure 10.** The rite of ritual cleaning with Gomez of corpse carriers in the ritual of purification in three steps from dakhma (drawing by S.V. Karlov).

10. *And when the birds begin to fly, the plants to grow, the hidden floods to flow, and the wind to dry up the earth, then the worshippers of Mazda shall make a breach in the wall of the house, and two men, strong and skillful, having stripped their clothes off, shall take up the body from the clay or the stones, or from the plastered house, and they shall lay it down on a place where they know there are always corpse-eating dogs and corpse-eating birds".*

After placing and fixing of the dead body on the dakhma two corpse carriers had to perform the ritual of purification in three steps from dakhma. At the same time the priest had to declare: : – *"Bring here the urine, which the bearers of the corpse will wash their hair and their body"* [11, P.159].

12. *"O Maker of the material world, thou Holy One! Which is the urine wherewith the corpse-bearers shall wash their hair and their bodies? Is it of sheep or of oxen? Is it of man or of woman?"*

13. *Ahura Mazda answered: "It is of sheep or of oxen; not of man nor of woman, except a man or a woman who has married the next of-kin: these shall therefore procure the urine wherewith the corpse-bearers shall wash their hair and their bodies".*

In the fifth fragarda of Vendidad unlike the above eighth fragardas there is a duty of removal of a dead body outside the human home and room and placing it in a dedicated room. In particular, it states that in case of difficulty, the burial of the deceased in the winter, were supposed to store the corpses before the onset of warm days in temporary "home" – kata for the deceased.

10. *"O Maker of the material world, thou Holy One! If the summer is past and the winter has come, what shall the worshippers of Mazda do?"*

*Ahura Mazda answered: "In every house, in every borough, they shall raise three rooms for the dead".*

11. *O Maker of the material world, thou Holy One! How large shall be those rooms for the dead?*

*Ahura Mazda answered: "Large enough not to strike the skull of the man, if he should stand erect, or his feet or his hands stretched out: such shall be, according to the law, the rooms for the dead.*

12. *And they shall let the lifeless body lie there, for two nights, or for three nights, or a month long, until the birds begin to fly, the plants to grow, the hidden floods to flow, and the wind to dry up the earth.*

13. *And as soon as the birds begin to fly, the plants to grow, the hidden floods to flow, and the wind to dry up the earth, then the worshippers of Mazda shall lay down the dead (on the Dakhma), his eyes towards the sun.*

14. *If the worshippers of Mazda have not, within a year, laid down the dead (on the Dakhma), his eyes towards the sun, thou shalt*

*prescribe for that trespass the same penalty as for the murder of one of the faithful;  
until the corpse has been rained on, until the Dakhma has been rained on, until the unclean remains have been rained on, until the birds have eaten up the corpse".*

Differences in ritual fixed in the fifth and eighth fragardas might be determined by the duration of the time interval of the excarnation. application in practice by different ethnic groups of iranoaryan as a result of intra-teodinamyc. In our case it is important to base the allocation of the overall position in the funeral ritualistic of Indo and iranoaryan before the beginning of the process of its differentiation and above all the presence or absence of the excarnation practice. It is probable that in the first stage this ritualistic was practiced on tops of mountains without building special sites – "proto-dakhmas" where the mountains and hills were in the territory of residence of the excarnation practicing by Andronovs' tribes. At the moment some ethnic Tibetan fed corpses to birds-scorpengers on mountain tops (pre-dismembered corpses) without building any special grounds for the excarnation.

On the plains of the Eurasian steppes there were often no natural rocky hills so the construction of man-made-dakhmas was required to isolate the holy nature of the Earth-Spandarmad from corpses. Perhaps chronologically simultaneously (or sequentially) there was a practice of temporary winter burials inside dwellings, until the warm spring days but distantly from the holy incarnation of good gods - fire and water. Then, obviously, there was a legitimate need theologem removal of dead bodies outside the house in built for the "home" of the dead - katas. Then there as a theologemically motivated practice of destruction of old dahmas fixed in Vendidat [11, p.149-150]:

*45. "O Maker of the material world, thou Holy One! How long after the corpse of a dead man has been laid down on the ground, clothed with the light of heaven and beholding the sun, is the ground clean again?"*

*46. Ahura Mazda answered: "When the corpse of a dead man has lain on the ground for a year, clothed with the light of heaven, and beholding the sun, then the ground is clean again, O holy Zarathushtra!"*

*47. "O Maker of the material world, thou Holy One! How long after the corpse of a dead man has been buried in the earth, is the earth clean again?"*

*48. Ahura Mazda answered: "When the corpse of a dead man has lain buried in the earth for fifty years, O Spitama Zarathushtra! then the earth is clean again."*

*49. "O Maker of the material world, thou Holy One! How long after*

*the corpse of a dead man has been laid down on a Dakhma, is the ground, whereon the Dakhma stands, clean again?"*

*50. Ahura Mazda answered: "Not until the dust of the corpse, O Spitama Zarathushtra! has mingled with the dust of the earth. Urge every one in the material world, O Spitama Zarathushtra! to pull down Dakhmas".*

*51. He who should pull down Dakhmas, even so much thereof as the size of his own body, his sins in thought, word, and deed are remitted as they would be by a Patet; his sins in thought, word, and deed are undone.*

*52. Not for his soul shall the two spirits wage war with one another; and when he enters Paradise, the stars, the moon, and the sun shall rejoice in him; and I, Ahura Mazda, shall rejoice in him, saying: "Hail, O man! thou who hast just passed from the decaying world into the undecaying one!"*

The above changes in the funeral ritualistic recorded in Vendidad were due to the chronological duration of the formation of the excarnation of iranoaryan and lasted at least for two thousand years from the middle of the II millennium BC to the middle of I millennium of a new era – the era of Sassanid Iran.

#### **4. Chronology of the Dakhmas and Fedorovos expansion**

The reason for the expansion of Fedorovo tribes in the Minusinsk basin as explained by E.E. Kuzmina was a development the technology of tin bronze by Fedorovos. "The invention of tin bronze which was the most important innovation of the Bronze Age has led to the rise of Andronovo and Fedorovo population living near fields of cassiterite in the East Kazakhstan and the Seven Rivers stimulated rapid growth of bronze production and the creation of new types of bronze objects (spears with forked rod, arched-edged knives, cast tubular temporal rings etc.)" [12, p. 260].

New Fedorovos opportunities for vantage barter with neighboring tribes of their bronze casting products led ultimately to their expansion to neighboring territories. E.E. Kuzmina basing on the analysis of geography and the chronology of the finds of bronze items produced by Fedorovo bearers in adjacent territories marked two major geographic areas of Fedorov bronzes export.

The first direction of the export flow can be traced to the North along the Irtysh. The presence of this trend is confirmed by the concentration of a large number of finds of Fedorovo products from tin bronze near Irtysh and the discovery by archaeologists of Rostovka and Chernoozere monuments. Then from the territory of the Irtysh the Fedorov products were exported to the west up to the Urals (Turbino) and Volga (Sejm). [12, p. 260].

The second export flow of Fedorov bronzes can be seen in the North-East direction. "Another part of the exports went to the Northeast (apparently bypassing the Altai highlands) the Irtysh and on through the Kulunda and Baraba steppes up to the foothills of the Altai Mountains and

from there to the north along the Ob to the taiga, where were a settlement of Samus IV". " The Siberian people after receiving horses and metal from Fedorovos mastered the bronze production and later in areas rich in ore sources - especially in the Altai - formed a local metallurgical hearths "[12, p. 260-261].

Thus, from the viewpoint of EE Kuzmina after "export expansion" of Fedorovos products from tin bronze the increased population Andron tribes expanded into new territory of habitat. Due to the fact that the skills of metallurgical production transmitted by masters who came with tribes into new territories the Andronovs expansion to the territory of Minusinsk basin was economically based on the export of Fedorovo products from tin bronze in the serial development of new ore deposits of the Altai and Minusinsk bassin.

We propose the era of the Dahmas creation also relies on data of radiocarbon analysis on chronology of cultures of Khakassia [13] and the spread of information about the history of Andronovo's tin bronze products in the territories and habitats of Alakult and Fedorovos [12, p. 236-237].

Taking into account the comparison of chronologies [12; 13] of the collapse of the "Indo-Iranian Confederation", "Saratsk composition" [14] and the complex of "Temple of the Creation of the Universe" [14; 15] we can assume that the lower chronological boundary of the dakhmas creation is the XVII century BC and the upper cannot be later than XIII BC the period when Andronovo era ended up in the territory of Khakassia.

The contradiction we have with the position of E.E. Kuzmina on chronologically of Andronovo expansion in the Minusinsk basin are based in the determination of the time of Fedorovos appearing in Khakassia [12, p.236-237]. As well as A.V. Polyakov and S.V. Svyatko [13] we believe that the first Andronovos appeared in the North West of Khakassia already in the middle of the XVIII century BC.

### **5. Sun role in the funerary practice**

The role of the Sun in the posthumous retribution in conception of mazdean in Vendidad in [11, p. 266, P. 269] (Vd XIX 27-32; 35), in response to questions of Zaratushtra from the mouth of Ahura Mazda:

27. *"O Maker of the material world, thou Holy One! Where are the rewards given? Where does the rewarding take place? Where is the rewarding fulfilled? Whereto do men come to take the reward that, during their life in the material world, they have won for their souls?"*

28. *"Ahura Mazda answered: 'When the man is dead, when his time is over, then the wicked, evil-doing Daevas cut off his eyesight. On the third night, when the dawn appears and brightens up, when Mithra, the god with beautiful weapons, reaches the all-happy mountains, and the sun is rising:*

29. *Then the fiend, named Vizaresha,  
O Spitama Zarathushtra,  
carries off in bonds  
the souls of the wicked Daeva-worshippers who*

*live in sin. The soul enters the way made by Time, and open both to the wicked and to the righteous. At the head of the Chinwad bridge, the holy bridge made by Mazda, they ask for their spirits and souls the reward for the worldly goods which they gave away here below".*

(Vd. XIX.27-29) [11, p. 266 ]<sup>1</sup>

30. *"Then comes the beautiful, well-shapen, strong and well-formed maid, with the dogs at her sides, one who can distinguish, who has many children, happy, and of high understanding. she makes the soul of the righteous one go up above the Hara-berezaiti; above the Chinwad bridge she places it in the presence of the heavenly gods themselves".*

31. *"Up rises Vohu-mano from his golden seat; Vohu-mano exclaims: "How hast thou come to us, thou Holy One, from that decaying world into this undecaying one!"*

32. *"Gladly pass the souls of the righteous to the golden seat of Ahura Mazda, to the golden seat of the Amesha-Spentas, to the Garo-nmanem, the abode of Ahura Mazda, the abode of the Amesha-Spentas, the abode of all the other holy beings".*

(Vd. XIX.30-32) [16, p. 123]<sup>2</sup>

And further in the text:

35. *"Zarathushtra imitated those words of mine: 'I invoke the holy world, made by Ahura Mazda. I invoke the earth made by Ahura, the water made by Mazda, the holy trees. I invoke the sea Vouru-kasha. I invoke the beautiful Heaven. I invoke the endless and sovereign Light."*

(Vd. XIX. 35) [11, p. 269]<sup>3</sup>

In the above fragardas of the Vendidat there are explanations of necessity of the excarnation at the sun. From the Vendidat texts above it is clear that a three-day ritual cycle of "the funeral of the deceased" should be completed by a ritual "purification-sanctification" of the remains of the

<sup>1</sup> Adapted translation: E.V.Rtveladze, A.X. Saidova, E.V.Abdullaeva

<sup>2</sup> Translation K.A.Kossovich

<sup>3</sup> Adapted translation: E.V.Rtveladze, A.X. Saidova, E.V.Abdullaeva



deceased with sunlight at dakhmas. On the third day after his death "Mitra victorious" indicates to the soul the way to the highest level of paradise to the House of Garonmana-Sun (House of Infinite Light) where the the soul is held by astatey vigorous high Maid (conscience of the deceased) on the way indicated by Mitra toward the rising sun.

The role of fire in the funeral rites of the Aryans is shown by the following hymn of the Rig Veda (Rig Veda X, 16; 6-7).

*6. What wound soe'er the dark bird hath inflicted, the emmet, or the serpent, or the jackal, May Agni who devoureth all things heal it and Soma who hath passed into the Brahmans.*

*7. Shield thee with flesh against the flames of Agni, encompass thee about with fat and marrow,*

*So will the Bold One, eager to attack thee with fierce glow fail to girdle and consume thee.*

In addition to the sacred role of cleansing function of fire in the above funeral ceremony the fact that Indo-Aryans also had the excarnation rites fixed in the sixth verse of anthem is important for us. Also important the fact that the above the excarnation is included to Agni hymn describing its cleaning functionality in the funeral rites. We believe that the sixth verse of the anthem is a direct evidence that Indo-Aryans including Fedorovos in Khakassia had the practice of opengraving of dead tribesmen to cleanse the bones from corpses with "black bird, an ant, a snake, a wild animal".

Given the fact that the Rig Veda we know formed in the second half of II thousand BC [17, p. 426, 435-437] the question the Indo-Iranians had the common roots of the funeral rites of cremation of excarnation has special relevance. If we consider the sacred contents of both forms of ritual their original ritual theologemc relationship becomes obvious. Indo-Aryan rituals prior placing of a corpse before its cremation on the quadrangular wooden platform lifted up above the ground in addition to the material platform in fact does not differ from the preliminary excarnation by iranoaryans on a quadrangular stone platform also ascended above the ground. From the standpoint of the sacred burial content ritualistic of iranoaryan, purification-sanctification of deceased bones placed on dakhma with the rays of the sun is not different from the purification-sanctification the dead Indo-Aryans with the rays of the sun placed on a wooden platform before the cremation. The process of burning of the corpses by Indo-Aryans as well as the process of opengraving in iranoaryan culture carried out under the rays of the good sun lighting and cleansing the mortal remains.

The fundamental difference in these rituals is in the nature of the destruction of dead flesh and material platforms used for the excarnation. In iranoaryan culture the process of purification is carried by birds, wild animals and dogs eating the flesh of dead. In the Indo-Aryans culture this functional is entrusted to a flame of fire which is unacceptable in iranoaryan funeral ritualistic as well as the use of wood for the manufacturing of platforms for the excarnation, but signs to the similarities in both rituals greater than the differences.

The main thing here is the part of sunlight as the incarnation of the Creator in the purification of both forms of the ritual. In addition the Indo-Aryans destroying a wooden platform with fire in the cremation ceremony has sacred analogy in iranoaryan ritualistic which also prescribes the need for a regular destruction of old Dakhmas. In addition the ritual burning of a wooden house with the dead fixed in 3 graves of 90 tombs of the Chistolebyazhenskoe necropolis and in 5 graves of Hripunovo necropolis of alakul-iranoaryan in the near Ural districts [18, p. 194-195] can also be indicative of a single burial ritualistic of Indo-Aryans and iranoaryan.

About the content of the sacred shadow-to-light semantics in the sequence of lighting of the characters in the Saratsky petroglyphic composition with the rays of the rising sun we wrote in the previous publications [14, 15]. Placing of corpses on the dakhmas on top of the mountain which is closer to heaven as the abode of the gods made easier the way for deceased souls to Mazdean paradise sacral located on three successive levels of the celestial spheres. Location of dakhmas on top of mountain approached the soul of the deceased to the Sun and the Sun Road - the dawn sun rays (Way of Mithras) - pointed the way to the soul of the deceased to the place of infinite light (Garonmana) - the highest step of the proto-Mazdean paradise. Due to the fact that initially in protozurvano-Mazdean theologeme of paradise there were three stages (the scope of the Stars, the Moon and the Sun (Fig. 2)), the lighting of dakhma with the rays of sunlight allowed to clear dakhma itself and exposed the corpse placed on it from corpse defilement and liberate the soul of the righteous dead from the loop draped by Daeva of death on his neck.



**Figure 11.** Saratsk petroglyphic composition. Angra Manyu, "hiding" in the rock crevices.  
Photo S.A.Parshikov, 2010.

Directly on the sacred need to sunlight rays "participation" in the funeral ceremony is evidenced by the compositional structure of Saratsk petroglyphic mythologem. In addition to the sacred contents of the sequence of lighting the character of the composition with the rays of the rising sun during the summer solstice [14, 15] it is necessary to pay attention to the fact that the proto-Angra Manyu of the Saratsk composition is trying to "get away into the shadows" from sunlight and "hide" in the nearest rock to crack it (Fig. 11). However he "faces" to the rock fracture, in which he "intended to hide" from the rising of the sun light.

## **6. Influence of landscape on the burial practices**

The differentiation of funeral rituals of "Andronovo confederation" tribes was apparently affected by the change of the natural landscape in the way of their expansion to the territory of modern Kazakhstan to the south to Iran and India. In the steppes there was not enough wood for

the cremation of the dead. Effective burning of corpses by the use of dry steppe grass and dung was impossible. Note in Vendidad to the need in excarnation "in the clay brick and lime" perhaps was due to the fact that there was not stones on the way of their migration to the south in the steppe and desert areas of the south of Kazakhstan and the Aral Sea and dakhmas were built of mud bricks, plaster or limestone. Moreover in a sharply continental and cold climate even summer nights of Eurasian steppes decaying of corpses was slow and the birds, wild animals and dogs had time to destroy it before the complete decaying and thus prevent the possibility of contamination of the Holy Land-Spandarmad with dead flesh. While in the forest-rich areas of India where the Indo-Aryans migrated the situation was just the opposite. In hot climates of India dead corpses quickly decayed so the bird carrion and wild animals were unable to destroy the decaying flesh and consequently the threat of pollution of the divine essence of the Earth demanded the Indo-Aryans to burn the body of the dead pre-exposing the burned body on wooden rectangular platforms under the rays of sunlight.

Thus from the point of theologemic positions the reason for appearing of "proto-iranoaryan" for the excarnation practice as an alternative to the practice of cremation of the "Proto-Indo-Aryans" was the need to prevent contamination of the holy Earth-Spandarmad with decaying dead flesh. The same theologemic legitimate need was basic for the Indo-Aryans, who cremated the dead tribesmen on wooden platforms. In this double violation of the Proto- Mazdean funeral ritualistic by Indo-Aryans who burnt the bodies on wooden platforms and put the remains of dead not destroyed by fire to water is similar in other representatives of the Indo-European civilization. For example, the Vikings, who burned the dead leaders in wooden boats and put the not burnt remains to water. Consequently because of the difference of natural landscapes of new places of residence and because of differences in theodinic, iranoaryan and Indo-Aryans chose sacral the most "environmentally friendly" ways of corpses eliminating what ultimately was seen in the difference in the burial practices of both societies.

### **7. Burial traditions Andronovos**

In his work A.V. Matveev [18, p. 200-201] drew attention to the fact of having a large number of Andronovo burials without or with the fragmentary remains. Chistolebyazhenskiy necropolis of the total of 90 examined graves 45 were buried without bone remains. Statistical analysis held by A.V. Matveev in Chistolebyazhensky graves and cemeteries of Hripunovo by sex and age composition of the buried by the presence or absence of bone remains and traces of robbery revealed a number of unique features. Despite the fact that all large burial in Chistolebyazhensky necropolis where the remains were found buried were plundered in the previous period their study did not show decisive role of grave robbers in the absence of skeletal remains of buried. The graves of the researched necropolis with the absence of buried bones of adults inplundered graves there were the bones of children and adolescents [18, p. 202]. The presence of children bones in looted graves cannot be explained only by the fact that the robbers got rid of the bones of adults from the plundered graves leaving the bones of children. After analyzing the aggregate sample of tombs of the Chistolebyazhensky necropolis without the remains A.V. Matveev came to the conclusion about the absence of a single number of characters (principles in the placing, size, orientation, presence or absence of ceramics and bronze wares, sex and age composition of buried) what makes them different from other burial of necropolis tombs. Consequently, there must be another reason that explains the presence of such a large number of graves without the buried remains, traces of bone decay or fragmentary skeletal remains of buried.

We believe that at least in a part of the graves a complete or partial absence of buried bones [18, p. 200-204] can be explained by the fact that the missing bones were lost as a result of the preliminary excarnation of dead. The lack of small bones of limbs of the buried can also be explained by the use of rituals of open-graving. With subsequent inhumation of large bones of the dead remaining after the small limb bones were lost as a result of stripping by animals, birds and carrions.

Similar statistics for Andronovo graves leads T.M. Potemkin. Thus out of 254 Alakul graves researched in Kurgan and Chelyabinsk regions in 139 remains were not found, in 93 graves there were single bones or bone ashes and only in 22 graves skeletons of a satisfactory safety were found. V.F. Gening in the works devoted to the results of the excavations in Sintashta and Lisakovsk cemeteries [19, p. 62-63; 20, p. 132, 134, 208, Fig. 56, 111, 112], gives examples of not-robbed graves where the bones of buried laid not in anatomical order but heaped into compact piles. Thus the available statistics of studied Andronovo graves suggests that the presence of such a large number of burials where were no skeletal remains, traces of cremation or traces of the looting of graves but there are some bones buried or bones stacked in groups can be explained by the use of part of the Andronovo society practice of a prior excarnation of buried tribesmen.

E.E. Kuzmina believes that "the convergence of Indo-Aryan rites (burial) with Andronovo and especially Fedorovo is systemic including not a single but a complex of signs". "Specific complex compliance with the Indo-Aryan Bishkent and Andronovo especially Fedorovo ceremony (burial) hinted at the possibility of connection of these groups of Indo-Iranian continuum with Indo-Aryans".

E.E. Kuzmina primarily included to these correspondences a construction of a circular or rectangular fence and a stone or wooden house inside the grave, the orientation of the deceased at the inhumation was head to west and facing south and also used a ritual of cremation. All these signs of the Fedorovs funeral rites in Khakassia are present in the graves examined by archaeologists [6, p. 190].

Of 257 surveyed Andronovo graves in Khakassia 65 skeletal remained completely preserved, 51 partly and only 21 had a cremation site [6, p. 60]. Therefore the use of cremation is not a decisive argument to Andronovo graves Khakassia explaining the existence of burials without skeletal remains and (or) without a trace of bone decay. A distinctive feature of the Fedorovo burials in Khakassia from Fedorovo in Kazakhstan [12, p. 263-266] is in a small number of Andronovo burials in Khakassia with traces of cremation. In Khakassia the number of graves of Fedorovos with traces of cremation is only 8% of the total number of researched graves [6, p. 60].

Thus the absence or presence of fragmentary skeletal remains of buried in Andronovo graves in the Minusinsk basin cannot be explained by using of Androns in Khakassia a ritual cremation of the dead compatriots, as well as the fact that the looting of graves and the deliberate destruction of bone remains by looters. The presence of tombs with skeletons without small bones of hands and toes among studied Khakassian Andronovos' burial also might be explained by the practice of rituals of prior for excarnation in some graves. The fact that there are graves not looted and undamaged by the time where bones lie buried not in anatomical order may indicate practicing of the rituals [6, p.133-173, table. I-XXXIX]. In addition the similar fact that most of the preserved skeletons have not small bones of the upper and lower limbs [6, p. 133-

173, table. I-XXXIX]. Gives us an additional argument to believe that there were a prior exhumation of deceased at dakhma among the burial practice of Andronovs in Khakassia.

### 8. Ossuaries

Different types of ossuaries for Mazdean ritual burial of bones of the dead are described in details in the work of M.B. Meytarchiyan [21]. The book tells that the regions where the ossuaries were found are the areas which in different ages from Achaemenid to Sassanid were inhabited by adherents of one or another form of mazdayasnizm (Zoroastrianism). Discovering of the dakhma of the "Temple of the Creation of the Universe" has raised the question of the presence or absence ossuaries of Andronovs in Khakassia for burying the bones of the dead after the rites of open-graving.



**Figure 12.** Half-destroyed ossuaries.  
At the top of "Breast mount" Khakassia,  
Ordzhonikidze district. Photo by  
S.A.Parshikov, 2008.



**Figure 13.** Half-destroyed ossuaries.  
At the top of the mountain.  
Askizsky District.  
Photo by S.V.Karlov, 2009.

Undertaken exploration works have discovered the ossuaries in the line of sight from the "Temple of the Creation of the Universe" a few kilometers from dakhmas. At the top of the "Breast-mountain" in the immediate vicinity of the Iyus village three ossuary boxes were found (Fig. 12).

The ossuaries are half-destroyed stone boxes built near the top of the mountain on its eastern slope. Approximate dimensions of ossuaries are about one meter in length and 50-70 cm in width of more exact size cannot be determined because of heavy destruction. At the same time it is clear that the stone boxes of these ossuaries were originally placed at the bedrock and were not buried in the soil which surface layer at the location of ossuaries is 15-20 sm. Overall ossuaries found fit the ossuaries described by M.B. Meytarchiyan. One can claim them as child cenotaph, but in works on the archeology of ancient and medieval Iran and Central Asia there are no descriptions of child (size) cenotaph located on the tops of the mountains. Given the fact that we

found stone boxes at the Breast Mountai located in the direct line of sight from the dakhmas of the "Temple of the Creation of the Universe" we believe that these ossuaries were used for burial rites after the excarnation.

Similar in design and size ossuaries have been found by SV Karlov at the top of the mountain in Askizsk district in Khakassia. The location of these ossuaries is three hundred kilometers south from the "Temple of the Creation of the Universe" but at the territory inhabited by south Andronov in Khakassia according to archaeological sites. Three ossuaries found by S.V. Karlov (Fig. 13) have the best safety in comparison with the ossuaries of the "Breast Mountains".

### 9. Theologemic views of Andronov in Khakassia

Features of funerary practices are characteristic signs of any religious beliefs of ancient and modern civilizations. Fedorovs came to Khakassia brought with them not only the development of metallurgy of tin bronze but also the practice of burials differ from Okunevo [22, p. 19-33; 23, p. 9-123]. The presence of paradoxical fact of chronologically synchronous diversity of burial ways in Andronov detected in the study of Andronovo graves raises many questions about the reasons of this diversity. The excarnation and then burying of cleared corpses and bones of the dead tribesmen in stone boxes-ossuaries at the tops of the mountains is the most specific sign of Mazdean funerary traditions. dakhma and ossuaries of Andronovs is a testament to release a new religious concept of once single theologem basis in some ethnographic group of Indo-Iranian tribal confederation. The semantics of the "Temple of the Creation of the Universe" petroglyphic complex allows us to consider Khakassian Fedorov as belonging to such ethnographic group migrated from the North-East Kazakhstan to the North-Western part of the Minusinsk basin. Thus the proto-Zurvan-mazdayasnizm is the most likely subject for the role of theologem concept evolved from a common proto-Rigveda-Avestan mythologem basis of Indo-Iranians fedorovs in Khakassia. In turn the semantics of "Saratsk" petroglyphic composition indicates that its proto-Mazdean content was originally formed on the basis of dichotomous deification of heroes " the World twin myth " which later took shape in iranoaryan mythology of twins Ahura Mazda and Angra Manyu and firstly in Indo-Aryans formed in the mythology of twins and Nasatya and Surva and then reformatted in the mythology of twins Vasistha and Manu.

In her publications E.E. Kuzmina noted affiliation of Fedorov culture bearers of Andronovo cultural-historical community to the circle of the Indo-Aryan tribes not iranoaryan society. The validity of this assertion of E.E. Kuzmina is confirmed by syncretic semantics of theologemic images depicted in the compositions of the altar of "the Temple of the Creation of the Universe". In petroglyphic images left of the altar of the Temple plane although semantically clearly readable proto-Mazdean and iranoaryan interpretation of content of the cosmogemy of the depicted structure of the "World Egg" the Almighty Creator of the universe is the proto-Indo-Aryan deity Varuna the Binder. This syncretism can be explained only by the fact that theologem was reflected in the stories of " the Temple of the Creation of the Universe" contains equally and Indo-Aryan and iranoaryan theologem basis and therefore is the starting point for both splitted later theology Indo-Aryan (Hindu) and iranoaryan (Zurvan-Mazdean).

Thus the basic question arises theologemic dilemma is the question of the basis of the original content theologemic views of Andronov in Khakassia in the first half of the II millennium BC. Figuratively speaking what was initially in this basis the proto-Zurvan-mazdayasnizm or proto-Varun-Mithraism? What was the primary pantheon of gods figuratively incarnate by Andronovo

priests in proto-rigvedean images of Varuna-Mitra the Binder and in proto-Mazdean structure of the "World Egg" mythologem of the "Temple of the Creation of the Universe"?

From the Rig Veda we know the pantheon of the gods was formed during the second half of II millennium BC in India, far beyond not only from Khakassia but the North-Eastern Kazakhstan too. Full pantheon of proto-Rigveda is unknown to us in the Rig Veda has been vaguely said about. Indirectly we can determine that the old gods of the Rigveda were Assur headed by Varuna Almighty and only then Assur was displaced by young gods Daeva, headed by Indra the Almighty. Given our proposed chronology of sanctuaries of the "Temple of the Creation of the Universe" and "Saratsky Sunduk" ( The first half, the middle of the II millennium BC) which is based on the new chronology [13] of Okunevo and Andronovo cultures of Khakassia it is possible to attribute a semantic content of the petroglyphic compositions of these sanctuaries as a syncretic, proto-Zurvan-Mazdean and proto-rigvedean in its basis and therefore theologem basic in relation both to Avesta, second half I millennium BC and the RigVeda the second half of the II millennium BC.

T.Y. Elizarenkova [17, p. 426] considered that the Vedic basis of the RigVeda content was formed even before the penetration of the Aryans to the plains of India. This means that the area of the Vedic culture formation was a region of northern Afghanistan and southern Turkmenistan that are geographically equidistant in relation to the territories of Khakassia and North-West India. Hence the idea of the original genetic link of the theologemic bases of Vedic Indo-Aryans with Fedorov culture bearers of the central and northern Kazakhstan and then Khakassia is consistent in terms of geography of the Andronov migration. Chronology and mythologem content of essentially syncretic "Saratsk" petroglyphic composition and the "Temple of the split into independent ethnographic culture already in the territory of the Central Eurasian steppe ancestral home. This is obviously true to the sequence of stages of sociodynamics of Indo-Aryans-Fedorovo whose part of the tribal alliance left Central Eurasian homeland to south India and part to the east in Khakassia.

RigVeda as we know, was formed during the second half of II millennium BC (most likely in the chronological interval XVII-XII centuries BC) [17, p. 431-437] somewhere at the territory of modern northern Afghanistan and southern Turkmenistan. Chronology of composing of RigVeda is confirmed by fixation of a description of military conflicts of the future Vedic Indo-Aryans with future iranoaryans of Bactrian-Margiana Archaeological Complex. It is obvious that if there was a process of differentiation of the divine pantheons of future iranoaryan and Indo-Aryans to the Assura and Daeva respectively. For us it is especially important due to the fixation in the Rigveda (RV V 85, 1-5) the primacy of cosmocratic functions of Assur Varuna the Almighty before Daeva Indra the Almighty. In this context the primacy of old gods Assura over young gods Daeva of era of Indo-Iranian society disintegration fixed in the "Temple of the Creation of the Universe" petroglyphic compositions may testify in favor of the primacy of assura's proto-zurvanitskoy triad of deities of the twin myth of the "Saratsk composition" over daeva concept of the twin myth of birth of Vasistha and Manu twins (RV VII 33, 11-13), born by the divine couple of Varuna-Mitra-binder and Apsaras Urvashi. Obviously the myth of the divine twins Ashvin theologemically close to the "Saratsk" twin myth [14].

Thus the syncretic nature of the content of the myths of the "Temple of the Creation of the Universe" and "Saratsky" petroglyphic compositions says that Fedorovos in Khakassia in the first half of the II millennium BC were bearers of a common Indo-Iranian theologem basis.

Analysis of the theologem semantics of the petroglyphic compositions clearly shows us that in the theologem views of Fedorovos there were Proto-Vedic and Proto-Zurvan-Mazdean components.

### 10. Sacral numerical semantics of the Dakhmas in Khakassia

To study the patterns in the organization of sacred space of the dakhmas we studied it was necessary to determine the length of a single measurement unit used by builders in their construction. Due to differences in the size of the walls as the value of the unit was taken the arithmetic mean of the lengths of the walls of both Dakhmas. the construction unit calculated in this way was 219 cm which coincides with the value of the oblique fathoms equal to 210÷220 cm.

The distance between the nearest walls of the dakhmas is equals to 66 meters. Consequently the value of a single unit about a multiple of 30 defined as  $(66/2.19=30.1)$ . Given the nature of the sacred character of ceremonial functional of dakhmas and the temple complex as a whole can be assumed that the number 3 as a multiplicity of the distance between dakhmas is non-random and consciously given by priests who supervised the construction of the dakhmas. It is unlikely that random location of the Dakhmas was caused by the landscape restrictions. The terrain of the flattened top of the Temple Mount allowed placing the "lower dakhma" on any arbitrary distance from the "Upper dakhma".

Publication of L.S. Marsadolov [24, p. 70-71] based on the experience of Central Asian archaeological sites studying referred to the frequent use of oblique fathoms for marking of burial structures and ritual objects (mounds, commemoration places, stone sculptures, stelae etc.). For example the size of crepida-rings of the Arzhan-2 mound (VIII-VII centuries BC) are equal to 88 m or 40 oblique fathoms and Ulug-Horum, Chiliky-5 and Tuekta-1 mounds are 30 oblique fathoms or 66 m.

It should be noted that the number three is a very sacred number in Mazdean theologem semantics. There are three successive stages of the Mazdean luminous garden, its three places to stay - Stars, the Moon and the Sun - are listed in Bundahishn. The priests of mazdayasean observed the starry sky, the moon and the sun thought about the macrocosm as three spheres of different distance from the Earth what was fixed in the structure of the construction of the "World Egg" and the "Temple of the Creation of the Universe" (Fig. 2, 17). Within the sacred cosmogony of the structures of the Mazdean heaven the nearest to the Earth sphere they considered the least bright sphere of stars, then the brighter sphere of the moon and the farthest from the Earth the brightest sphere of the sun. Theologem of mazdayasnizm linked the piety's degree of the deceased needed to achieve given level of paradise with the degree of brightness and luminosity of the celestial spheres where the soul could apply to after death. The more pious the deceased was during his lifetime the more bright and luminous celestial sphere became the last refuge for the soul. Therefore the closest to the Earth as the center of concentration of the struggle between good and evil in "mixing" era less bright sphere of stars was considered. Then there were brighter sphere of the moon. Next is the brightest sphere "shining sun" – "hvare ksaeta" (avest.) where is the "sun staying place" - the third stage of paradise – "the place of good deeds" [25, p. 103]. Astronomically observed contradiction of real picture of the stars location on the celestial sphere to Mazdean ideas about the structure of "heavenly macrocosm" compensated the theologem basis of the spheres of the universe gradation with the level of luminosity. The fifth, sixth and seventh stages of paradise described in the later Pahlavi texts belonged to the spiritual not cosmological structure of the spheres of the universe [26].



The fundamental importance of the numbers three and four in the Mazdean sacred numerical semantic of the universe structure applies also to the duration of the "World Year - cosmogonic world cycle" symbolized by Zurvan tetralogy [27, p. 231] with four cosmogonic cycles with a duration of three thousand years each. From "Bundahishn" we know that the linear and the final segment of the mazdean "World Time" in their view had a duration of 12000 years and consisted of four periods of 3000 years. The four-time interval sacred and semantically correlated with the number of four sides of stuning Dakhmas. The rite of opengraving on quadrangular dakhmas originally symbolized obviously its mortal earthly life (childhood, adolescence, adulthood, old age) at the time interval of Zurvan Dargahvadata. From a spiritual conception of the way in the representation of Akarana the Creator in the first three thousand years of the spiritual state of the world (the first north-east wall of dakhma) and finishing with the phase of the deceased soul leaving, firstly to the other world after the setting sun (the fourth - the north-western wall dakhma) . Then on the fourth day at sunrise which lights and sanctifies the north-east wall dakhma a soul ascended to the determined level of paradise of a celestial sphere (Fig. 2, 17). Thus the sequence of purification-sanctification of dakhma's four walls during the summer solstice by the pious Sun symbolizes the possibility of achieving of the highest level of the heaven by a deceased soul and all-conquering power of light over the forces of darkness and death.

Obviously the content of the sacred tetrad of Zurvan Dargahvadata can be semantically related to the principles of construction and spatial arrangement of quadrangular dakhma for the exarnation. This assumption of a possible sacral content semantics of four walls of the dakhmas, their spatial distribution and the sequence of lighting-purification of the Dakhmas' walls by sunlight during the summer solstice is confirmed by Mazdean sacred number semantics known to us from the Pahlavi sources.

Sacred dichotomy of the semantic of number two (two dakhmas for the exarnation) symbolizes in Mazdean theologem binary opposition of all the components of the universe such as: sunrise and sunset;

- Light and dark - good and evil in the mazdean views;
- good Ahura Mazda and not good Angra Manyu;
- the spiritual and the material that exists in the universe;
- initially good plan of Zurvan about a birth of a good son and the primary birth of a non-good son;
- heaven and hell etc.

The time interval of the dynamics of the universe in beliefs of mazdean was 9000 years and consisted of three cycles of 3,000 years, the first three millennium were initially good state of the world and next three thousand years of "the era of confusion." The time of formation of the universe in the pre-state plan of the Creator was three millennia. Sacred semantics of number 3 is fixed in the following positions of Mazdean theologem:

- in the sacred ethical triad of mazdayasnizma – "good idea – good word – a good cause" (Ohrmazd ordered to follow this triad [25, P.129];
- the need to pray three times a day to the Sun, Mihr, moon and Vahram fire [28, p. 114-115];
- in the three sacred fires - Frobay, Gushasp and Burzenmihr who guard and protect the world [28, p. 288-289];

– in the image threeleged donkey that stands in the center of the sea– Frahv kard and with "his gaze purifies and sanctifies" salty and contaminated water, [28, P. 120];

– three days and three nights the soul of the deceased stays near the body [25, P. 100, 108].

Vertically structured axis of iranoaryan universe also had three levels. The upper world of the gods, the median level of the Earth and the lower level is a place of hell location. The original structure of the society of the Aryans also three levels dividing all people into three classes priests, warriors and shepherds.

Tetrad of proto-Zurvan is symbolized by:

– four astronomically oriented walls of the dakhma;

– four spiritual levels (four staying places) of late structure of the Mazdean paradise Stars, the Moon, the Sun and the heavenly paradise where the soul goes [25, P. 102,103];

– four cardinal directions of the sacred topography of Mazdean myths;

– four stars - Tishtar, Sadves, Vanand and Havtoring that govern the four cardinal directions of the sacred mazdean topography [28, p. 268];

– the need for repentance to four deities - Sun Mihr (Mithra), the moon and Vahram fire [28, p. 301];

- four-time interval for three thousand years each forming the "World cosmogonic cycle" of Mazdean theologem etc.

From the above it follows that in the theologem semantics of studing Dakhmas the number 3 being one of the four basis in the sacred numerical semantics of the Mazdean theologem tetrad contained a sacred compensatory numerical potential overlapping non-good dichotomy of the number 2 semantics presented in two dakhmas of the "Temple of the creation of the universe" complex. Thus taking into account the sacred contents of the above numeric semantics in Mazdean theologeme is thought to assume its existence of such and the principles of building and mutual spatial arrangement of the Dakhmas of the "Temple of the Creation of the Universe" complex.

### 11. Mortuary Temple Dakhmas

Below the dakhmas on the hillside in the rock mass there is a local temple complex designated by us as "Mortuary Temple of Dakhmas". The temple is a hemispherical slanted niche with the "sacrificial shelf" (Fig. 14).

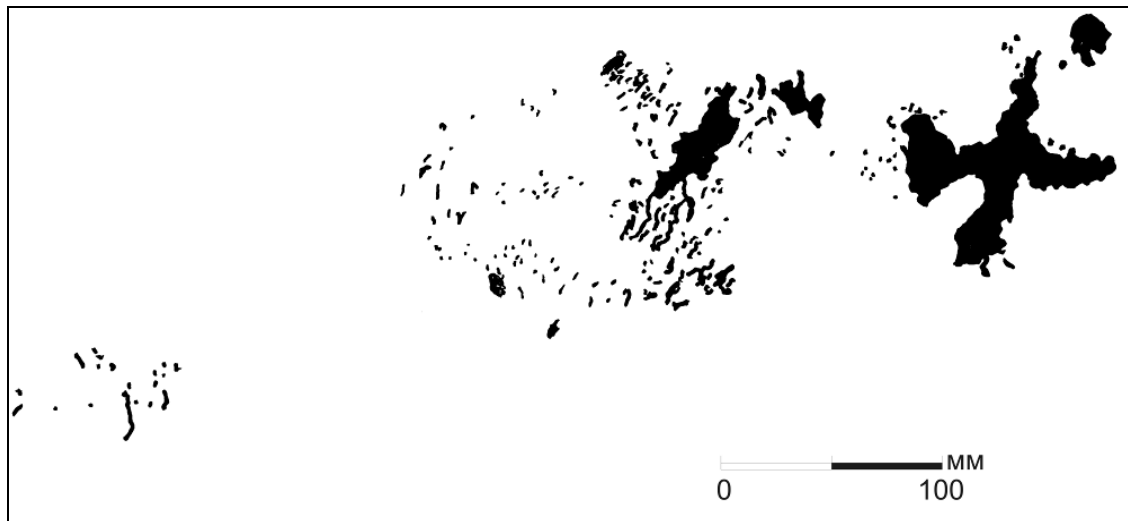
A petroglyphic picture of "Eagle" (Fig. 15) and engraving probably created by Andronovs in Khakassia preserved on the concave surface of the rock niches and on the sacrificial shelf. The nature and pattern of engraving is similar to engravings on the stone slabs of Andronovo burial box the Dry Lake I [6, p. 27, Fig 6].

The style of the "Eagle" picture of the "Funeral Temple of Dakhmas" has similar features with symbolism of petroglyphs depicted (Fig. 16) on a near rock surface. This petroglyphic composition depicts the same type of "Eagle" and three cosmogonic images (Fig. 16) symbolizing obviously the sun, the moon and the horse. The similarity of symbolism of petroglyphic images of two compositions may indicate the chronological synchronism of their creation.



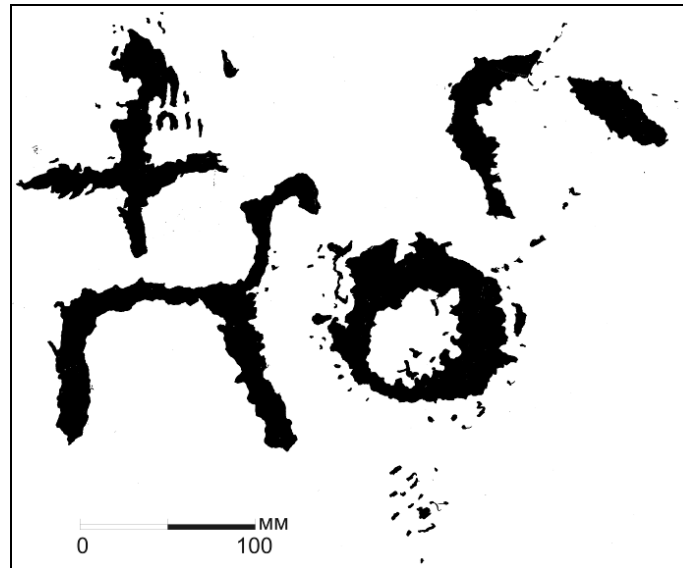
**Figure 14.** "Mortuary Temple of the Dakhmas". Photo by S.A.Parshikov, 2007.

Doctrinal explanations of the presence of the moon symbols, the Eagle, the Sun and the horse in the immediate vicinity to the "Funeral Temple of Dakhmas" can be found in RigVeda funeral hymn (X, 56) [16, p. 123] which is also has the above-described sacred numerical luminous semantics.



**Figure 15.** The petroglyphic picture of the "Eagle" on a rocky shelf niche of the "Funeral Temple of the Dakhmas".

Luminous semantics fixed in this hymn is concentrated around the luminous image of the heavenly horse transforming the circle of earthly existence into the circle of eternal life.



**Figure 16.** "Temple of the Creation of the Universe" complex. The composition of sacred petroglyphs with astronomical symbols.

Rig Veda X, 56

1. *HERE is one light for thee, another yonder: enter the third and he therewith united. Uniting with a body be thou welcome, dear to the Gods in their sublimest birthplace.*

2. *Bearing thy body, Vajin, may thy body afford us blessing and thyself protection. Unswerving, stablish as it were in heaven thine own light as the mighty God's supporter.*

3. *Strong Steed art thou: go to the yearning Maidens with vigour, happily go to heaven and praises:*

*Fly happily to the Gods with easy passage, according to the first and faithful statutes.*

4. *Part of their grandeur have the Fathers also gained: the Gods have seated mental power in them as Gods. They have embraced within themselves all energies, which, issuing forth, again into their bodies pass.*

5. *They strode through all the region with victorious might, establishing the old immeasurable laws.*

*They compassed in their bodies all existing things, and streamed forth offspring in many successive forms.*

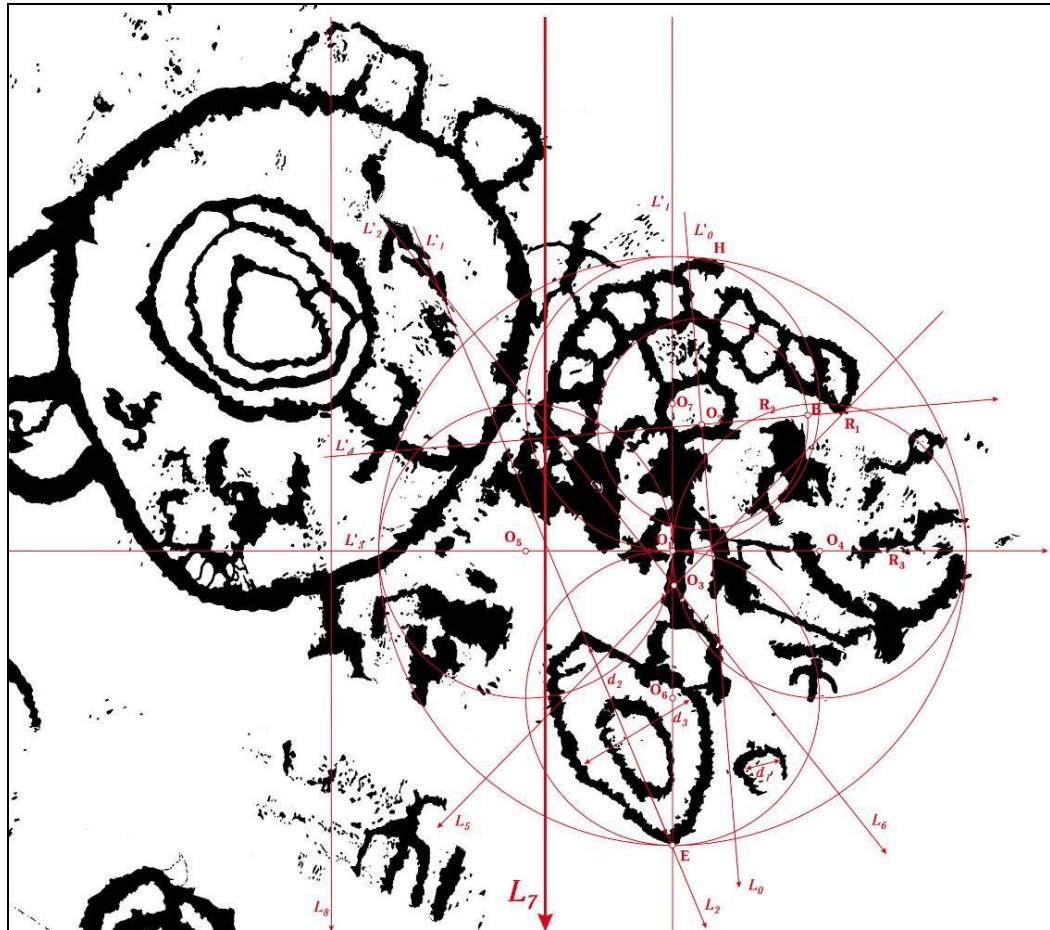
6. *In two ways have the sons established in his place the Asura who finds the light, by the third act, As fathers, they have set their heritage on earth, their offspring, as a thread continuously spun out.*

7. *As in a ship through billows, so through regions of air, with blessings, through toils and troubles*

*Hath Brhaduktha brought his seed with glory, and placed it here and in the realms beyond us.*

The appearing of Horse and Eagle images in petroglyphs of the "Funeral Temple of the Dakhmas" is especially important because in the altar compositions of the "Temple of the Creation of the Universe" there are symbols of Proto-Vedic twin myth of the divine twins Ashwini whose semantics (Fig. 17) will be presented in following publication. Sacred semantics composition and the above Given content of RigVeda hymn (RigVeda X, 56) [16, p. 123]

correspond with the symbols of "houses of the Sun (single ring) and Infinite Light-Garonmana" (double ring) in the Creation composition where they are shown at the top of the "World Egg" (Fig. 17). Also in the image of the "moon" crescent to the right of the image of "the Earth" which zootropomorphic "Eagle"- Varuna the Almighty holds in its claws.



**Figure 17.** The image of the Almighty Varuna-Mitra-Ahura Mazda. "House of the Sun" (single ring) and "The House of Infinite Light" (double ring) on top of the "World Egg". Fragment of the altar composition of the "Temple of the Creation of the Universe." [15, Fig.6].

Compliance of the history of the "Funeral Temple of the Dakhmas" "and the chronology of the creation of themselves is not currently defined. The assumption of a possible chronological synchronism of creation of these objects is based on their close location to the "Funeral Temple of the Dakhmas" when "Funeral Temple of the Dakhmas" is the rocky ground where the dakhmas are located.

## 12. Conclusions

The above doctrinal interpretation of exarnation on the dakhma indicates the presence of protozurvano-Mazdean and proto-RigVeda origins of funeral rites of Andronovs in Khakassia in the first half of the II millennium BC that is evidenced by the following arguments:

1. The fact of discovering of the dakhmas for the exarnation in the Andronov complex of the "Temple of the Creation of the Universe" sanctuary;
2. The discovery of the astronomical orientation of the dakhmas at sunset at the summer solstice;

3. Dakhmas located on the top of the Temple Mount where the dakhmas were "as close as possible" to the sun and its "good light-bearing" function included in the Mazdean theologemic and funeral rites;

4. The slight deviation of upper planes of the dakhma at the horizontal surface (in the range of 1.1 to 2.3 degrees) which was due to the wish of the priests to prevent corpse fluid leaking on the "Holy Land" - Spandarmad and fits into the Mazdean theologemic and funeral rites;

5. Using dry masonry for dakhmas similar to cysts' dry masonry of Andronovo graves in Khakassia;

6. The presence of the Mazdean sacred character numeric semantics in the petroglyphic images of the altar compositions of the "Temple of the Creation of the Universe" as well as in the principles of spatial distribution, the ratio of the size and the distance between dakhmas;

7. The discovering of ossuaries in the line of sight from the dakhma used for storing bones after the excarnation.

In her works E.E. Kuzmina noted some fundamental characteristics distinguished the funeral rites of Indo-Aryans Andronovos (she included Fedorovs here too). "The convergence of Indo-Aryan rite with Andronovos and especially – Fedorovos is systemic having not a single sign but a complex. ... Specific complex compliance of Bishkent, Andronovos and especially Fedorovos with the Indo-Aryan rites show to the possibility of connection of these groups of Indo-Iranian Indo-Aryans continuum" [12, p. 263]. Firstly to these compliances E.E. Kuzmina included the construction of a circular or rectangular fence and a stone or wood house inside of the grave, the orientation of the deceased head at the inhumation to the west and facing to the south and also the cremation of the dead tribesmen. All these signs of the burial rites are present in Fedorovo culture graves of Khakassia [6, p. 5-62, 75-86].

Individual astronomical orientation of each of the dakhmas evidences of sacred importance of their orientation to the direction of sunset for Fedorovos. There where the sun "goes to the underworld" in the days of the summer solstice when the daylight hours (semantically - light as a symbol of life and immortality) has a maximum length and the night (darkness of night as a symbol of death and nothingness) is the most short. At the same time the orientation of the Dakhmas given by the priests allows the sun rays during the motion of the sun over the sky from sunrise to sunset to illuminate, clear with its light all four walls of each of the dakhmas destroying thus "not good - daeva component" of the dakhmas' funeral functional as a place for excarnation. In fact the sunlight here has the same cleansing function as the funeral fire of Indo-Aryans in the cremation of the dead fellows.

The discovery in the line of sight of each other spiritual objects of Andronovo culture in Khakassia such as the "Temple of the Creation of the Universe", "Saratsk petroglyphic composition", dakhmas and ossuaries evidence that Andronov-Fedorovs in Khakassia had the ritual of the excarnation at least five hundred years before the theologem of gathic mazdayasnizm of Zarathustra and at least 1000 years before the era of the formation of the Persian (iranoaryan) society which are considered to be the bearers of the "classical excarnation" known to us from Vendidad and Pahlavi texts. Consequently the excarnations are not Iranian or Zoroastrian. More correctly ritualism of excarnation might be called proto-Zurvan-Mazdean and proto-RigVedean in their sacred ceremonial content caused by syncretic theologemic basis depicted in the images of the "Temple of the Creation of the Universe" and "Saratsk petroglyphic composition."

In general the stability in the Indo-Iranians of excarnation practice on the platform (before the cremation and inhumation respectively) for over three thousand years evidences of the sustainability of these funeral rites. Despite all subsequent theologem reforms that took place in iranoaryans for two thousand years since the middle of the II millennium BC till the middle of I millennium excarnation kept until the end of the Sassanid era.

The above facts indicate that Andronovs of Khakassia were bearers of syncretic proto-Zurvan-Mazdean and proto-RigVeda mythologem of era of single theologem basis of the Indo-Iranians community. The Andronovs came to the territory of Khakassia with already established world view and that means that this syncretic theologem existed in Indo-Iranian society already in the beginning of II millennium BC.

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