AN ESSAY ABOUT THE THEATRE OF MEDIEVAL ARMENIA (BASED ON ARCHAEOLOGICAL AND ANTHROPOLOGICAL MATERIALS OF THE CITY OF DVIN)

Aghavni Zhamkochyan
Nyura Hakobyan
Anahit Khudaverdyan
`Institute of Archaeology and Ethnography, NAS RA

The ruins of the ancient city Dvin, the capital of medieval Armenia, a major cultural, trade and craft center, are situated 35 kilometers to the south of Yerevan. The first excavations of the monument was implemented in 1937-1939 (director S. Ter-Avetisyan). During the Second World War, the works were interrupted and restarted only in 1946 and were guided by Professor K. Khafadaryan up to 1977. From 1977 to 2009 the head of the excavation was professor Aram Kalantaryan.[1] In the period of the developed Middle Ages (XI-XIII centuries) there was a great increase in the trade, economic and cultural life of Dvin. As a specific genre of art, theatrical and aerial performances, closely connected to folklore and reflecting reality, firmly entered the mode of urban life. The city and its urban environment became the center of the social and cultural life where the spiritual world of the medieval man was formed. The social hardships and class inequality, the tendency of renouncing the problems of the surrounding reality found their reflection in theatrical performances.

Some earliest information about folk festivals, court feasts and all kinds of entertainment held in princely chambers and monasteries, can be found in the writings of the early medieval historians Agathangełos, Faustus of Byzantium, Yeghishe, Eznik of Kołb and Movses Khorenatsi. V. Hatsuni, G. Goyan, G. Levonyan, S. Lisitsyan, E. Petrosyan, Zh. Khachatryan, G. Hovhannisyan, G. Ordoyan and some other researchers of the medieval theatrical heritage thoroughly illuminated certain cultural processes of the developed Middle Ages (XII–XIII centuries) and gave the interpretation of some genres in their works. In search of information about the medieval theatre of Armenia, they appealed to various sources reflecting the urban life of the society. Their search led to the medieval Armenian miniature with paintings of theatrical performances.

However, it is worth mentioning that such sources don't always reflect the cultural environment of that period. It is proved by the fragments of ceramics, as well as complete samples discovered on the territory of the city in the result of archaeological work. Numerous fragments of fragile faience vessels decorated with various mascarons, depicting actors with high theatrical wigs, jesters with shaved heads, as well as wild animals - lions, wolves, found in Dvin, represent a whole repository of information (Fig. 1; 6; 7; 8; 9; 11).

[1] Kafadaryan 1952, vol. 1; Kalantaryan 1996.

The first part of the current publication, dedicated to the image of the jester, widely-known in the medieval folk theatre, is reflected on the faience blue-glazed vessel in the form of an alabastron discovered during the excavations of 1977 in the Lower Fortress of Dvin (Fig. 1; 6). The surface of the vessel is divided into vertical columns of various width. Three mascarons of a bald jester are placed in each column from top to bottom at an insignificant distance from each other in the form of a triangle. Wolf mascarons are similarly distributed in a harmonious combination of shape and size. A mesh vertical tape consisting of filled bud sockets is used as a separating element. The result of the creative approach of the master-potter is his ambition to choose more expressive means. The surface of the vessel decorated with stucco images of lions, bears, wolves, jester masks and various compositions can be seen on other ceramic fragments discovered in Dvin (Fig. 1; 7; 8; 11).

In this article, the characteristics of the mascarons with the images of lions, wolves, bears share a common nature. The compositional scheme on this alabastron is confidently resolved within the framework of the canons of the medieval iconography. In our opinion, the composition as a whole conveys the literary plot of some parable, saying or riddle that is clear to the audience through the jester's play. We suppose that the constant threefold repetition of a clown and a wolf depicted on alabastron reflects a certain worldview that reflects the mythology of the triad - Cosmos-Ocean-Earth[2].

One can find the key to these plots in the depth of ancient ideological and cultural views, totemic beliefs and ritual ceremonies during which masks were used.[3] In the medieval period, however, a certain tendency of adopting cultural heritage comes up with new ideas in theatrical performances, the sources of which date back to a much earlier period. According to N.Ya. Marr, the prototypes of the images of animal planet can be found in fiction, particularly in the fables of M. Gosh (XII c.) and Aygektsi (XIII c.).[4] This remark is actual even nowadays.

Moreover, in applied art, wandering rope dancers, jugglers, buffoons, jesters, hunch-backs, wrestlers and animal tamers were ascribed a real human relationship in the theatrical performances due to their simple, imitative and symbolic movements. This phenomenon is characteristic of Byzantium.[5]

Theatrical performances of a similar genre are mentioned by Eznik Kołbatsi and David Anhaght (V c.). In his book "Refutation of the Sects" Eznik of Kołb illustrates the example of wolf-cubs that became companions of man as a result of taming. The tamer pacifies those cubs that flatter their owners and only become hostile towards strangers. A bear-cub, imitating a human being, is dancing.[6] Davit Anhaght (the Invincible) considers that "spatial arts" such as tightrope walking or juggling bring neither benefit

[2] Harutyunyan 2000: 9-18; Mifi 1987: 398 – 418.

[3] Ardzinba 1982:120.

[4] Marr 1899: 160.

[5] Udaltsova 1988.

[6] Kołbaci 1968: 63-64.

nor harm to life".[7] One can assume that the master-potter has attempted to transfer the impressions gained from theatrical performances on the vessel of a wolf, bear and a lion (Fig. 1; 7; 8; 11).

The image of a jester is created by the potter not only within the canons of medieval iconography but also under the immediate impressions received from theatrical performances. This is the egg-shaped, bald head of the jester, with a sad expression on his face. It is common knowledge, the image of the bald jester dates back to the ancient Hittite and Urartian traditions.[8] The study of U. Seidl dedicated to the Urartian bronze belts, illustrates an example of a belt fragment in which an acrobat with a shaved head is represented.[9] This tradition was inherited in the ancient world, and the following expression "The theatre man is bald according to his profession and not by his nature" testifies to it.

[7] Anhaght 1960: 105.

[8] Ardzinba 1982: 120.

[9] Seidl 2009:163-167.

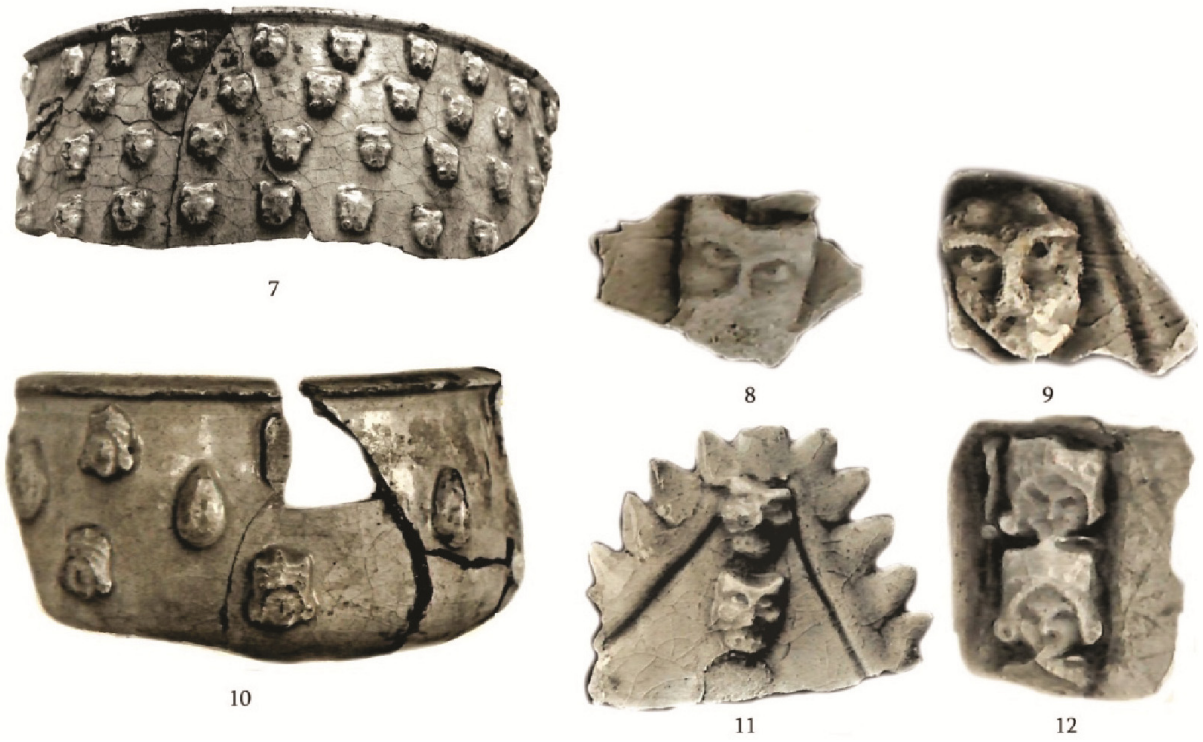

Figure 1. Fragments of vessels and alabastron from Dvin

According to some sources, the tradition of shaving the head was accounted for by the fact of wearing a leather hat as it was necessary to protect the head from the blows during duels or on battlefields.[10] The jester was a collective character in medieval, funny and comic areal plays. In this sense V. Aygektsi writes: “He made people laugh and happy.[11] Jesters were constant participants and parodists in various ceremonies. In the Armenian language there are a series of theatrical terms for the word “jester”, such as *kheghkatak*-comedian, jester-freak, *hackatak*-jester-sycophant, *tsaghrakatak*- jester-buffoon, *katakagusan*- jester- minstrel, *ajpanak*- buffoon[12]. S. Syunetsi, a poet and philosopher of the 14th century, opposes the class of clowns and characterizes it in the following way: “some become comedians, fanatics or scoffers, others become jesters – freaks who have no abilities, and some others become buffoons who dance devilishly.[13]

The image of the jester is characterized by its duality; both positive and negative characteristic features of his are singled out. The parable “Buffoon Zis and the Merchant” by V. Aygektsi is about a jester acting as a deceiver at the city gates. He drags the late-comer merchant through the narrow city gates, deceivingly dresses him in his clothes, robs the merchant of his belongings and disappears.[14]

Taking into consideration the jester’s participation both in royal amusements and in town performances, he was treated as a non-class character to which J. Orbeli refers

[10] Ordoyan 1984: 117-125.

[11] Marr 1894: 26-27, 49-50, 175-177.

[12] Hovhannisyan 1978: 229.

[13] Adonts 1915: 193.

[14] Marr 1894.

in his article “The Buffoon and the Bathhouse of the 12th Century”.[15] However, as Yesai Nchetsi stated in his work “The Analysis of Grammar”, the jester was a descendant of peasantry and constituted its integral part.[16] Church-porches, markets and city gates, where a number of people gathered during celebrations, served as the main place for the jester’s performances. Hovhan Mandakuni, the bishop of Dvin Patriarchate, defender of the disadvantaged layers of the society, as well as a militant preacher expressed his extreme intolerance towards “the devilish theatre” in his famous speeches entitled “On the Obscene Devilish Theater” where buffoons (gusans) and dancers sang and danced. He condemns those who go to theatrical stages (by saying *stage* he means church-porch in Dvin) instead of going to church, and the booth where the church, church rituals and the clergy are ridiculed: “contempt, mockery, abuse… someone is gossiping or mocking dazzled by shame, others are lying with a respectful vanity like a brutal dog indiscriminately barking at everyone.[17]

In another speech Mandakuni writes: “They mistakenly follow Satan, wizards, magicians, witches or jugglers and quit the Patriarchal Church.[18] The church, not tolerating public performances on its territory, established its own laws. The twelfth canon of the fourth decree of the Cathedral of Dvin (645), which is stated by the author of the Code of Law,[19] contains the following passage in the Armenian Code of Law: “Although some *azats* and riders are not fit for having places in monasteries, they find shelters there on arriving at villages. However, they, staying along with their wives and maids, violated the canons of the holy fathers. It was terrible for Christians to hear, even more, to see them having supper in front of buffoons and dancers in a sanctuary. However, the theatre never opposed the church or abused its authority. Each attempt to excommunicate the medieval man from the theatre ended up with a failure as love for entertainments was formed in the psychology of a human being along with love for the church.

In this respect the following evidence by Catholicos Abraham Kretatsi (XVIII c.) about the inhabitants of Ani is worth mentioning: “Deacons, sent to the service, are expelled and made to pick up the Gospel and kiss it; having received unleavened bread, they go to the theatre, watch the performance and visit the hippodrome”.[20]

The analysis of the images of the mascaron buffoon on alabastrons and other fragments highlights the harmony of the color scheme and attributes alabastrons to the works of small sculptural forms. On the one hand, it can be viewed as a work of decorative art, on the other hand as the combination of the handicraftsman’s skill and taste when producing household items. It is due to cite the definition of culture proposed by Davit Anhaght: ”Culture is first of all a skill, a practical aim for accomplishing the rational: to work out empirically means to verify through great experience as different

[15] Orbeli 1963: 316-322.

[16] Ncheci 1966.

[17] Mandakuni 1860: 127-128.

[18] Bishop Karapet 1913: 122.

[19] Mkhitar Gosh 1975: 206; Armenian Code of Law 1971: 211–212.

[20] Abraham Kretatsi 1870: 103.

types of art were verified through multiple representations and only then they were worth being part of art". "Destined to achieve something important in life, to distinguish from vain and vicious arts that don't aim at performing anything good in life.[21]

In the second part of the article we would like to pay attention to a relief ceramic fragment discovered in the Central Quarter of Dvin in 1966 (at a depth of 20 centimeters). It was preliminarily published by the head of the excavations K. Ghafadaryan and A. Kalantaryan (Fig. 1; 5). H. Petrosyan defines[22] the plot of the image as an illustration for the fable "The Priest and the Dog", by V. Aygektsi (XIIc.). Suchlike plot interpretation, to our minds, requires precision.

First of all it should be mentioned that on the given fragment the theatrical elements are represented artistically - in the form of dancing elements and movements. Moreover, this composition is an exception rather than a regularity. The composition, symmetrically divided into parts, depicts a priest wearing a headgear, with a cross in his hand, and naked women are performing a dynamic circular dance on his both sides. The ornamented long and narrow belt under the wreath is a rhythmically repeated composition, the content of which is distinctly legible. In our opinion, the scene is depicted from the daily life of Dvin of XII-XIII centuries (the artifact was found precisely in this layer), and it reflects cultural, ideological, moral and spiritual changes. One of the decrees of the above-mentioned cathedral of Dvin contains a passage condemning the provision of a shelter for hired dancers and buffoons on the church territory. It is logical to suppose that these meetings ended up with feasts as we can see on the described fragment. The clue to the interpretation should be searched for through the ideology and aesthetic views of XII-XIII centuries.

M. Abeghyan writes that in the given period, along with the economic and urban life revival, the secular spirit of paganism times awakens, and the new world outlook opposes the religious one.[23] It should be mentioned that the circumstances in which the artifact was found chronologically coincides with the above-mentioned world outlook. This plot can be viewed as the echo of the religious movement of the Tondrakids that arose in the 830s, to the north of Lake Van. The relationship between the potter and the customer towards the movement is dual: a supporter on the one hand and an opponent on the other hand. It is known that the Tondrakids rejected the cross, the clergy, the church, baptism ceremonies, sacraments, marriage ceremonies, i.e. they rejected everything divine and apostolic.

Historian A. Lastivertsi (XII c.), narrating about Monk Kuntsik and Prince Vrver, considers them as the servants of Satan and writes that they led a dissolute life with a woman, named Hranush and two sisters, called Akhni and Kamaran who were also overwhelmed by nasty dissipation.[24] It is also possible that the master who had made

[21] Davit Anhaght 1960: 105.

[22] Petrosyan 2003: 347.

[23] Abeghyan 2015: 20.

[24] Aristakes Lastivertsi 1966: 36-38, 123,125-127, 170.

that vessel was the opponent of the Tondrakids and he had depicted the profane mode of life on purpose. On the other hand, he may also be considered as a supporter of the Tondrakid movement, making efforts to justify the presence of the representative of the clergy among them. The Tondrakids accepted the idea of free love as a symbol of marriage, and not the church marriage. The origin of the dance scene (ballroom dancing) dates back to the ancient Hurrian and Hittite traditions. In the publication of field materials Theatricologists E. Petrosyan and Zh. Khachatryan illustrate a number of examples of imitative dances with a gradual exposure and thinks that this ritual dates back to the ancient times.[25]

Having analyzed the fragments of the artistic ceramic vessels discovered in Dvin, we can conclude that they reflect the national characteristics and the fundamental elements of the medieval urban culture. They do confirm the theory of A. Jacobson that ceramic production, particularly glazed ceramics was characteristic of the city and met not only domestic but also aesthetic needs of the population.[26]

In the third part of the current article we will analyze the anthropological materials discovered in Dvin that are directly related to the issue under discussion. Anthropological material of two individuals, distinguished by some traces of growth disorders was found in the Cathedral of St. Gregory during clean-up operations. The bones of the individuals were carelessly lying over the surface at a height of about 40-50 cm. These are probably the reburial of the remains that had appeared to be in the construction zone of the cathedral.

Various types of dwarfism were repeatedly described in paleopathological literature.[27] Its earliest manifestations on the territory of Armenia date back to the late Bronze Age[28] and antiquity.[29] Dwarfism is the violation of growth processes among people of small stature. Dwarfs are those people who are of height of 150cm or less. Growth disorders may be divided into two types: in case of disproportionate dwarfism growth impact on limbs or on torso or on both of them is limited but to varying degrees, and in case of proportionate dwarfism all the parts of the body are equally involved in the growth disorder processes (the ratio of the size of the head to the torso, limbs).

Modern scientific tradition ascribes much importance to the morphological, including X-ray anatomical studies of the skeleton bones in the context of growth disorder processes, its development and adaptation, etc. In order to provide most information on the material in question, it is useful to scrutinize the skeletons,[30] as any kind of information may be of great value. We mainly aimed at a detailed fixation of the morphological features of the skeleton bone structure and the teeth. In the current study

[25] Petrosyan 2003: 336-337; Khachatryan 2014: 174.

[26] Jacobson 1978: 150.

[27] See Babakov et al. 2001: 120; Dubova, Kufterin 2014: 167; Farkas, Nagy, Kosa 2001: 80; Frayer, Horton, Macchiarelli, Mussi 1987: 61; Gladykowska-Rzeczycka 1980: 72.

[28] Khudaverdyan 2016: 95.

[29] Khudaverdyan 2015: 220.

[30] Alekseev, Debets 1964: 52; Alekseev 1966: 221; Buikstra, Ubelaker 1994: 17; Goodman, Martin, Armelagos, Qark 1984: 28; Movsesyan, Mamonova, Richkov 1975: 129; Zubov 1968a: 10; Zubov 1968b: 139; Zubov 2006: 40.

the femur and tibia were exposed to a radiographic study. The study of the internal structure of the bones of individual 2 was carried out in the Republican Medical Center "Armenia". As it is known, the greatest number of Harris lines can be seen at the distal end of the tibia.

Craniology

Individual 1.

The skull belongs to an adolescent of about 17 (±2)(Figure 2). The upper wall of the left orbit and the supraorbital part of the coronal bone were posthumously broken. There was a complete fusion of the lateral parts of the occipital bone with the body and a partial closure of the occipital-main synostosis. On the skull the third left molar didn't reach its final position among other teeth, whereas the right one was deep in the cell. The upper third molars absence exists at all.

Figure 2. Skull №1 from Dvin.

The skull of the individual is characterized as brachycranic with a large transverse and longitudinal index that is on the low end of the norm. It is absolutely low and relative to the altitude-transverse index. The parameters of the length and width of the skull base are on the border of very small values. The occiput is of medium width with a small arch and chord. The external occipital protuberance is badly developed, and in the lateral norm the occiput is rounded. The parietal arch and chord are very small. The mastoid is moderately developed. The forehead is of medium width. The frontal-transverse index is middle - *mesozem*. The frontal archs and chords are of medium size. The glabella and superciliary arches are moderately developed, and molar arches are very thin. The top of the brainpan is of a spheroidal shape. The cranial sutures are serrated.

The zygomatic diameter is very small. The length of the face (as well as that of the skull) is also small. The face is low and small by the upper breadth and very small at a zygomaxillary points. At the upper level the horizontal profile angle is weakened, whereas in the middle it is quite strong. The upper facial index falls into the category of *mésos*, which indicates the upper mid-facial profile. Both the nasal height and the nasal

breadth are very small (beyond the norm).The nasal index is small (*leptorinia*).The dacryal width is very big, whereas its height is small, the dacryal index is small as well. The simotic width is medium, whereas its height and index are small. Likewise, the area of noseband may be characterized as flattened. The anterior nasal spine is middling. The lateral edges of the piriform opening go to the lower line, having a sharp size. The orbits are of medium height, narrow and gypsum conch. The palatal breadth goes beyond the lower limit of the norm. The length and breadth of the alveolar arch are very small. The projection length of the lower jaw is medium. The angles are deployed, the ramus mandible is small. Both the angular width and the frontal one are small. The tuberosity on the external surface of the angle (the reposition of the mastication muscle, m. masseter) and the internal surface of the angle (the reposition of the internal wing muscle m. pterygoideus medialis) is distinctly discerned on both sides. The symphysisis of medium height, the body is short, massive and thick.

Individual 2.

The cranium is heavy and belongs to a twenty-two-year-old man (±2)(Figure 3). The skull relief is poorly developed. The dental system is completely formed and in a good state. The skull of individual is also brachycranic with a small transverse and longitudinal index that is on the low end of the norm. It is very low and the height transverse diameter index is on the edge of very small and medium values (*metriocrane*). The high-rise longitudinal index is big (*gipsicran*). The height-breadth index of the skull base is on the edge of small and very small values. The occiput is of small width with a very small arch and a chord. The external occipital protuberance is poorly developed and in accordance with the lateral norm, the occiput is rounded. The parietal arch and chord are very small in size. The mastoid process is moderately developed. The forehead is very narrow and the fronto-transverse index is middle - *mesozem*. The frontal arches and chords are small in size. The upper part of the brainpan is turquoise-shaped and sharply narrowed in the temporal region. The cranial sutures are serrated.

Figure 3. Skull №2 from Dvin.

The zygomatic diameter is on the low line of the norm. The facial part of the skull is mesognate, low. The horizontal facial profile angles fall into the category of small size, i.e. the face of the Caucasoid standards is well profiled. The upper facial index falls into the category of leptins. Both the nasal height and weight are small. The nasal index is small in size (*leptorinia*). The dacryal height is big, whereas its width is small in size and the dacryal index is very big. The symotic width is small, whereas its height and index are wide. The frontal nasal spine is strong. The lateral edges of the piriform opening extend downward, forming clearly outlined fossae that separate the frontal part of the nasal tenon. The orbits are narrow and not wide (*mesoconcha*). The palatal breadth is deep and on the low line of the norm, whereas the palatal length is small. The length and breadth of the alveolar arch are very small. The projection length of the lower jaw is on the edge of very small and small values. The angles are developed, the ramus width is small. The tuberosity of the external and internal surface angle is distinctly expressed on both sides. Both the angular width and the frontal one are small. The symphysis joint is not high, the body is very short and thick.

Thus, the study of the skull puts forward a number of dimensional characteristic features that go beyond the standard variations[31] which testifies to significant deviations from the normal morphology of the brain and facial sections. We have already published the data of the microcephaly skull with a mechanical fracture of the occipital condyle and a damage of the mastoid process (decapitation) found during the Dvin excavations in 2013.[32] All the main parameters of the skull under study are characterized by very small values. With the exception of the length and width of the *foramen magnum* (the occipital foramen), the width of the alveolar arch and naso-molar angle are characterized by very big values.

Cranioscopy

It is of great importance to take into account the kinship relations between the individuals found in Dvin. Ten of the nineteen studied discrete-varying markers are found in both individuals. No traces of twenty six discrete-varying signs are discovered on either skull. The lateral edge of the frontal process of zygomatic bone is straight (*spina processus frontalis*), and the transverse palatine suture (*sutura palatina*) is П-shaped. The unstable foreman and the venous blood passing (*foramina zygomaticofacilia, foramina parietalia, foramina mastoidea, canalis condyloideus*), the incisive suture (*sutura incisive*), the frontal process of the temporal bone (*processus frontalis squame temporalis*) and the processes extending from the inferior surface of the jugular processes (*processus paramastoideus*) are marked on the skulls. The zygomatic bone (*os japonieum*) separated by the suture regarded as an eastern sign was distinguished in both individuals.

[31] Alekseev, Debets 1964: 116.

[32] Khudaverdyan, Babayan, Hakobyan, Zhamkochyan 2014: 98.

Table 1. Measurements of the skulls from Dvin

Feature	***Individual 1*** ♂	***Individual 2*** ♂
1.Maximum cranial length (g-op)	159,5	153,5
8. Maximum cranial breadth (eu-eu)	146	136,5
8:1.Cranial index	91,54	88,93
17. Height skull	130	126
17:1.High altitude longitudinal pointer	81,51	82,09
17:8.Altitude-transverse index	89,04	92,31
20. Height skull	122,5	118
20:1.High altitude longitudinal pointer	76,81	76,88
20:8. Altitude-transverse index	83,91	86,45
5.Length of the skull base	90	95,5
9. Minimum frontal breadth (ft-ft)	96	89
9:8.Fronto-transverse index	65,76	65,21
10.Maximal frontal breadth	127,5	114
12.Occipital breadth	107	100
29.Frontal chord (n-b)	111	100
30.Parietal chord (b-l)	103	96
31.Occipital chord (l-o)	89	86
11. Width of the skull base	119	119
26. Frontal arch	128	112
27.Parietal arch	113	113
28. Occiput arch	106	101
32.Frontal pronfile angle (n-m)	85	85
Frontal pronfile angle (g-m)	84	80
45.Bizygomatic breadth (zy-zy)	122	116?
48. Upper facial height	65,5	64
48:45 Upper facial index	53,69	55,18
43.Upper facial breadth (fmt-fmt)	101?	96
46. Mid-facial breadth	83	88
60. Maxillary alveolar length (incision-alv)	48	51
61. Maxillo-alveolar breadth (ecm-ecm)	56	59
62. Palatal length (st-o)	39,5	42
63.Palatal breadth between the second molars (enm-enm)	27,2	27,8
63:62. Palatal index	68,87	66,191
55.Nasal height (n-ns)	46,5	49
54. Nasal breadth (al-al)	18,8	21
54:55.Nasal index	40,44	42,86
51.Orbital breadth (d-ec)	39,5	40,2
51a.Orbital breadth (ect-d)	36,5	36
52.Orbital height bicondylar width	34	32,5

52:51.Orbital index (mf)	86,08	80,85
52:51a.Orbital index (d)	87,5	90,28
MC. Maxillo-frontal chord	23	15
MS. Maxillo-frontal subtense	5,5	9
MS:MC. Maxillo-frontal index	23,92	60,0
DC. Dacryal chord	24,5	19,5
DS. Dacryal subtense	9,5	13
DS:DC. Dacryal index	38,78	66,67
SC (57). Simotic chord	8,8	7
SS. Simotic subtense	2,2	5
SS:SC. Simotic inde	25,0	71,43
72. Total facial angle	86	84
73.Mid-facial angle	87	81
74.Alveolar angle	88	88
75(1).Nasal protrusion angle	23	36
77. Naso-malar angle (fmo-n-fmo)	142	136
<zm.Zigo-maxillary angle (zm`-ss-zm`)	134	126

In ***individual 1*****,** the supraorbital foramen (*foramina supraorbitalia*), the frontal foramen (*foramina frontalia*), the pterygospinous process (*pterygospinosum*), narrowing of the H-shaped pterion (stenocrotaphia) and the occipital condyle bipartitum (*condyles occipitalis bipartitum*) are detected, too.

In ***individual 2***, the temporal process of the frontal bone (*processus temporalis ossis frontalis*), the narrowing of the X-shaped pterion (*stenocrotaphia*),the suture bones in the scaly suture (*os wormii suturae squamosum*), the inserted bone in the parietal notch (*o spost squinosquamosum*) are fixed.

Odontology

The shape and the degree of their attrition corresponds to the individual's age and psalidodontic character of the bite. The observed dental asymmetry is more noticeably marked in individual 2 than in individual 1.

Table 2. Cranioscopic features of individuals from Dvin

	Individual 1.	***Individual 2.***
Foramina supraorbitalia	+ /right/	-
Foramina frontalia	+ /right/	-
Foramina zygomaticofacialia	+	+ /right/
Os zygomaticum bipartitum	+ /right/	+ /right/
Spina processus frontalis	straight	straight /right/
Stenocrotaphia	H-shaped	X-shaped
Processus frontalis squamae temporalis	+	+ /right/
Processus temporalis ossis frontalis	-	+ /left/

Os Wormii suturae squamosum	-	+
Os postsquamosum	-	+ /right/
Foramina parietalia	+	+ /left/
Foramina mastoidea	+ /right, off seam/	+ /on and off seam/
Sutura palatina	П-shaped.	П-shaped
Sutura incisiva	+	+
Foramen pterygospinosum	+	-
Canalis craniopharyngeus	-	+
Condylus occipitalis bipartitum	+	-
Processus paramastoideus	+	+
Canalis condyloideus	+	+ /right/

Individual 1.

The maxillary first and second molar, as well as the right lateral incisor, canine, the premolar and the first and second molars were examined. The mandibular central incisor, the left mandibular incisor and the first and second premolars were missing. The crown diameter of the maxillary and mandibular molars range from very small to large quantities and only in one case (M^2) the width of the crown (VL) exceeds its length. According to the average module, in both rows M1-M2 (9,38 upper), M1-M3 (9,56, lower) the individual is clearly inclined to microdontism that is particularly typical of South European forms. The crown height of the maxillary second molars fall into the category of big values. In the area of crown extent, the formula M1>M2> M3>is fixed with the reduction in the area of the last mandibular third molar.

The comparison of the mesiodistal and vestibulo-lingual dimensions of the mandibular first and second molars revealed the following regularity. According to vestibulo-lingual diameter (90), the size of the third step-index is bigger than the one calculated by the mesiodistal diameter (83.64). The data on the pan-paper distribution of the values of the third molar cited by A.A Zybov,[33] enable us to conclude that in most modern populations of its size, calculated by mesiodistal indicators, are greater than the one calculated by vestibule-lingual indicators. It may testify to the fact that in the considerable part of the globe, the evolutionary tendency to reduce the size of the second molars was to a greater extent covered by the tooth transverse diameter rather than the longitudinal one. In comparison with the mesiodistal diameter of the individual from Dvin, the reduction of the vestibule-lingual diameters of the mandibular second molars probably reflects the variability of the individual rather than the conservatism of the morphogenetic processes on the studied territory.

The shape of the right lateral incisor is “premolar” (Figure 4). The corono-radicular furrow on the incisor is mesially shifted, and it cuts off the lingual tubercle from the mesial marginal ridge fitting it there. The furrow separating the lingual tubercle stretches

[33] Zubov 1968a: Table 28.

along the root. The shovel shape most pronounced on the lateral incisor. On the right canine a poorly discernible vestibular shovel-shape is noted, and a triangular fossa is fixed at the level of the third medium lingual surface. The dimensions of the vestibular tubercle on the maxillary first premolar are bigger than those of the lingual (type 2).

Figure 4. The right lateral incisor is "premolar", cusp of Carabelli (point 1-2)

According to the Zybov[34] scale, the odontoglyphic crown pattern ranges between 4 and 6 points. The lingual and vestibular tubercle have approximately the same dimensions on the second premolars. The odontoglyphic crown pattern is rated 4. Both the metacone (point 2) and hypocone (point 4) of the first molars are slightly reduced. The cusp of Carabelli is fixed on the first molars (point 4). The shape of the first paracone furrow can be observed on the maxillary first molar. The morphological characteristics of the second molars are the three tubercles, arranged in a chain (metacone-paracone-protocone). The whole crown is narrow, ellipse-shaped, flattened, the hypocone is missing. The tubercles are displaced in the diagonal direction of the dentition, and the cusp of Carabelli (point 1-2) has a rudimentary form. All the three roots are merged, the length is the same (14 mm). The overall height of the tooth (along the outer edge of the mesial root) is 19.2 mm. The enamel stain on the maxillary first molar is rated 4.

The mandibular central incisor is not shovel-shaped, however, a slight increase in the marginal ridges of the lingual surface can be observed on canines (point 1). The mandibular first right premolar has 4 cusps (point 6), the inter-cuspal furrow of the left premolar has a lingualtwig dividing the lingual half of the tooth into two parts, forming a three-cusped type (point 5). The second left premolar has 3 cusps. The mandibular first molars have 5 cusps, the crown pattern has the shape of Y. The anterior and posterior fovea are present on the first molars and a slight lingual shift of the occlusion shape is observed. A distal trigonid crest used to be here (the crest is formed by the distal crests

[34] Zubov 1968b: 52.

of the protoconid and metaconid) (on the left and right tooth respectively). Among the additional features, variant 2med (II) and the anterior fossa in the mesial section are noted here. The second molars have four cusps and the pattern has the shape of X. The third left molar is strongly reduced (3 cusps) with the crown pattern that has the shape of Y. The enamel strain on the first and second molar is rated 5 points.

Table 3. Dental features individuals from Dvin

	Individual № 1		***Individual № 2***	
	Maxilla VL_{cor}			
	right	left	right	left
I1	-	**-**	6.5	6.5
I2	6.5	-	5.5	5.5
C	7.5	-	7.2	7.5
P1	8.5	-	8.2	8.2
P2	9.1	-	8.8	8.8
M1	10	10	10.2	10.2
M2	12	11	10	10.2
M3	-	-	10.2	9.2
	MD_{cor}			
I1	**-**	**-**	8	8
I2	7.2	-	6.8	6.8
C	7.5	-	7.5	7.5
P1	6.8	-	6.5	6.5
P2	7	**-**	6.5	6.5
M1	10	10	10	10
M2	6	6	9	9
M3	**-**	**-**	7	7
	H_{cor}			
M1	6	6	5	5
M2	8	8	5	5.5
M3	**-**	**-**	4.2	4.5
	MD_{col}			
M1	7.2	7.2	7.5	7.5
M2	5	5	7	7.2
M3	**-**	**-**	7	5.5
	MD × VL			
M1	100	100	102	102
M2	72	66	90	91.8
M3	**-**	**-**	71.4	64.4

	I_{cor} (VL / MD) × 100			
M1	100	100	102	102
M2	200	183.34	111.12	113.34
M3	**-**	**-**	145.72	131.43
	m_{cor}MD + VL / 2			
M1	10	10	10.1	10.1
M2	9	8.5	9.5	9.6
M3	**-**	**-**	8.6	8.1
	Mandibule			
	VL_{cor}			
I1	**-**	**-**	5.5	5.5
I2	5.8	-	5.5	5.8
C	7	7	6.8	6.8
P1	7.5	7.5	7.2	7
P2	-	7.2	7.8	7.8
M1	10	10	10	10
M2	9	9	9,2	9.2
M3	**-**	9	9,2	8.8
	MD_{cor}			
I1	**-**	-	5	4.8
I2	6	-	5.5	5.5
C	6.8	6.8	7	6.8
P1	7	7	6.8	6
P2	**-**	7	7	7
M1	11	11	11	11
M2	9.2	9.5	10	10
M3	**-**	9	9.9	9
	H_{cor}			
M1	6.1	5.8	5.1	5
M2	6.2	6.5	6	5
M3	**-**	5.5	5	5.5
	MD_{col}			
M1	8.9	8.9	9	8.2
M2	8	8	8.2	8.2
M3	**-**	7.8	7.5	8
	MD × VL			
M1	110	110	110	110
M2	82.8	85.5	92	92
M3	**-**	81	91.08	79.2
	I_{cor} (VL / MD) × 100			

M1	90.91	90.91	90.91	90.91
M2	97.83	94.74	92	92
M3		100	92.93	97.78
	$m_{cor}MD + VL / 2$			
M1	10.5	10.5	10.5	10.5
M2	9.1	9.25	9.6	9.6
M3	**-**	9	9.55	8.9

Individual 2.

All the teeth of the upper and lower jaw were explored. Tooth dentition of the individual is four-angled (quadrangular), the frontal part of the dental arch is flattened and the entire dentition has a trapezium shape. Both the mesio-distal and vestibule-lingual (table 3) sizes of the molars fall into the category of vary small and small values, and the only exception is M1 (average). The crown height is very low. According to vestibulo lingual diameter the size of the third molar is slightly higher (92) than that of mesio-distal (90, 91). This proves that the reduction rate of the longitudinal and transverse sizes of the second molars' crowns is approximately the same. In the area of crown extent, the modern formula M1> M2>M3 is fixed with the reduction in area of the maxillary third molar.

The lingual surface of the central and lateral incisors was erased. The degree of the cited shovel-shaped incisors cannot be stated. One can observe rotation of the left lateral incisor and moderately expressed marginal ridges on the lingual surface (score 2). There is no reduction of the crowns of the maxillary lateral incisors. The marginal ridges are missing on the lingual surface of the canine teeth. The sizes of the vestibular tubercle on the maxillary first premolars are slightly larger than those of the lingual one (score2). The lingual and vestibular tubercles on the second premolars are approximately of the same size. The furrow pattern of the maxillary premolar masticatory surface has a low level of differentiation. The first maxillary molars are not reduced. Additional morphological details are missing. On the second molars, the hypocone is strongly reduced (score 3+), and the metaconus is markedly reduced (score 30). The wisdom teeth are evidently more reduced. The enamel stain is rated 4 on the first and second molars.

One can observe rotation of the mandibular central incisor and crowding of the lateralone. In the mandibular incisors the marginal ridges of the lingual surface were missing, whereas they were slightly expressed in the canine teeth. The first premolars were not differentiated, the second ones have a 3–tubercular structure. The first mandibular molars have a 5-tubercular structure with a "Y" crown-pattern. The second molars have a 4-tubercular structure with the crown pattern "X" on the right tooth, on the left tooth one can see the pattern "+" and a simplified morphology that doesn't have any additional tubercles orridges. The third right molar is 4-tubercular with an "X" crown pattern. The anterior fossa is highlighted in the mesial section from among additional features. The enamel stain on the vestibular side of the lower molars is rated 4.

Osteology

Individual 2.

One can observe some asymmetry: the left collarbones are slightly longer than the right one, whereas the right collarbones are slightly thicker (Figure 5). The upper scapular edge is of a horizontal or almost a horizontal shape, the upper angle slightly rises over the scapular notch (point 1).The scapular spine, becoming thinner over the base, sharply thickens and further remains more or less the same along its entire length (point3). The glenoid cavity of the scapula is of a pyriform shape. The transition from the upper edge of the scapula to the edge of the scapular notch is quite distinct, but the notch is shallow (point 2).

Figure 5. Clavicles of the individual №2.

According to the absolute dimensions, the brachial bone is characterized by the values of all the signs that go beyond the lower line of the norm. The value of the massiveness index falls into the gradation of small values. The supracondylar process (processus epicondyloides) of the right brachial bone is fixed on the inner crest of the body above the medial condyle. The structure of the upper part of the diaphysis of the ulna is normal, the section does not have a specialized form - eurolining. The size of the ulnar and radial bone is on the low end of norm. The ulna and radius are also in all dimensions characterized by values that go beyond the lower line of the norm.

The sacral bone is homobasal. The degree of the individual's sacral curvature is 15,16mm which is considerably lower than the group average of an adult (18-24).[35] The length of the femur (left) also extends beyond the lower line of the norm. The section of the femur is characterized by hyperplatimeria. The kneecap has the shape of a large oval. Eight facets are observed on the articular surface (medial and lateral parts). The tibias are characterized by small values of the longitudinal dimensions. According to platycnemic index, eurikemia is characteristic both for the right and left sides, i.e. the upper section of tibia is expanded in the transverse direction. The transverse section of tibial diaphysis is a rectangle of an irregular form. The posterior body surface is

[35] Roginskiy, Levin 1978: 77.

practically divided into two surfaces - posterior-medial and posterior-lateral (point 4). An even curvature of the lateral condyle (point 4) is observed in sagittal plane. There is an additional articular area on the lower articular surface of the tibia.

Table 4. Postcranial measurements of a skeleton №2 from Dvin

	Individual **№2** right	left
Clavicula		
1. Maximal length	119	123?
6. Midshaft circumference	28	26
6:1 Robusticity index	23. 53	21.14
Scapula		
1. Morphological length	119	121.5
2. Morphological width	88.5	89.5 /left/
2:1 Form index	74.37	73.67
Os sacrum		
5. Top width	110	
2. Front height	99?	
6. Bending depth	15	
5:2 Latitude-altitude index	111.12	
6:2 Bending depth index	15.16	
Humerus		
1. Maximal length	263	266
2. Total length	259	262,5
3. Upper epiphysis breadth	40.2	40.2
4. Maximal midshaft breadth	52,8	53
7. Minimal midshaft breadth	48	48
7a. Midshaft circumference	51	50
7:1 Robusticity index	18.261	8.05
Radius		
1. Maximal length	190	200
2. Physiological length	189	190
4. Cross-section diameter	12	13
5. Sagittal shaft diameter	10	9.8
3. Minimal shaft circumference	34	34
3:2 Robusticity index	17.99	17.895
5:4 Cross-section index	83.34	75.39
Ulna		
1. Maximal length	212.5	214
2. Physiological length	87	1189
11. Sagittal diameter	9	9.9

12. Transverse diameter	12	12
13. Upper transverse diameter	12	12.2
14. Upper sagittal diameter	13	13,5
3. Minimal shaft circumference	28	29
3:2 Robusticity index	14.98	15.35
11:12 Cross-section index	75,0	82.5
13:14 Platyleny index	92.31	90.38
Femur		
1. Maximal length	-	364
2. Natural length	-	353
21. Condylar breadth	68.8	69
6. Sagittal diameter of midshaft	21	21
7. Transverse midshaft diameter	24.5	25
9. Upper transverse shaft diameter	27	27
10. Upper sagittal shaft diametere	19	19
8. Midshaft circumference	70	69
8:2 Robusticity index	-	19.55
6:7 Pilastry index	85.72	84
10:9 Platymery index	70.38	70.38
Patella		
1.Maximum height	33	-
2. Maximum width	37	-
1:2 Latitude-altitude index	89.19	-
Tibia		
1.Full length	319	322
2. Condylo-talar length	300.5	301.5
1a. Maximal length	323	325
5. Upper epiphysis breadth	62.5	63
6. Lower epiphysis breadth	37	37
8. Sagittal diameter at midshaft level	23	22
8a. Sagittal diameter at the nutrient foramen level	24,8	24
9. Transverse diameter at midshaft level	16.8	16.8
9a Transverse diameter at the nutrient foramen level	18	17.8
10. Midshaft circumference	62	62
10б. Minimal shaft circumference	54	54
9:8 Cross-section index	73.05	76.37
10b:1 Robusticity index	16.93	16.78
9a:8a Cross-section index	72.59	74.17
10:1 Robusticity index	19.44	19.26
Fibula		
1.Maximum length	310	313
1a. Medial length	305	307
4 (1). Upper epiphysis width	22	23

4 (2). Width lower epiphysis	21	21.5
2.Maximum width of the mid-diaphyseal	10	10
3.The smallest width of the mid-diaphyseal	9.8	9.8
4. The circumference of the mid-diaphysea	29	30
4a. The smallest circumference of the diaphysis	23	23
4a:1 Robusticity index	7.42	7.35
3:2 Secheniyaindex	98.0	98.0
Skeletal proportions and body length		
Brachial index (R1 : H1)	72.25	75.19
Tibio-femoral index (T1 : F2)	-	91.22
H1+R1/F1+T1 Intermembral index	-	67.94
H1+R1/ F2+T1 Intermembral index		69.04
H1:F2 Humero-femoralindex	-	75.36
Radio-tibial index (R1 : T1)	59.57	62.12
C1:H2 Clavicula-humeral index	45.95	46.86
Body length(by S. Dupertuis and D. Hadden) 84.898+1.072 (F+T) 87.543+1.492 (H+R)	 - 134.34	 154.57 135.64
Average	145.11	

The reconstruction of body proportions on the basis of the dimensions of the skeleton bones revealed the following trends: the intermembral index goes beyond the lower line of the minimum values which testifies to the elongation of lower limbs with regard to the upper ones. The values of the tibia-femoral index go beyond the highest line of intergroup variation: i.e. the individual possesses the longest tibia, the maximum value of the shoulder-femoral index is also observed. The minimum value of the humeral pointer is observed, i.e the present individual has a very short forearm. The values of the radiohumeral pointer for the right and left sides fall into different categories (brachicercia /right/, mesaticercia /left/). The tibial index goes beyond the lower line of the minimum values; i.e. the forearm could be very short.

Now let's turn to the osteological length of the individual's limbs. The osteological length of the upper limbs (H1+R1:453/ right, 466/ left/; H1+U1:475,5/right/, 480/left/, as well as the osteological length of the lower limbs (F2+T1:675; F1+T1:686; F2+ f1:666: F1+ f1:677) are located beyond the lower line of the intergroup variation.

S. Dupertius and D. Hadden's[36] formulas, worked out for dwarfish Caucasoid, were used to determine the intravital growth of an individual. It is common knowledge that formulas for determining the length of various bones and the growth of dwarfs don't exist yet, therefore the formulas for people not having deviations in growth processes were used. The present individual had a disproportionate dwarfism and a height of approximately 145 cm.

[36] Alekseev 1966: 230

Markers of Physical Activity

Traces of physical exertion are observed on the bones of the upper and lower limbs. The crest of the lesser tubercle, the intertubercular sulcus of the humerus and the deltoid tuberosity of the humerus are fairly well developed on the humeral bones. On these grounds, the average values are totally equal to 1,94. Suchlike development of the deltoid tuberosity of the humerus testifies to the strong development of the muscle of the same name which raises the upper limb up to a horizontal level and rotates the shoulder inward and outward which in its turn suggests a developed muscular shoulder.

On the whole, we can talk about the great significance of the working activities of the individual's muscles which raise and rotate the shoulder. The radial roughness is moderately (not weakly) developed on the radial bones which is the reflection of the corresponding development of the muscles bending its shoulder and forearm, i.e. muscles, taking part in lifting weight. The quadrate pronator muscle is attached to the distal-lateral crest that is well developed on both ulnar bones. There is also a well-developed lateral edge of the inferior limb of radius (both bones) to which this muscle is also attached. Apparently, that dwarf had to support a heavy load above his head while working. The styloid process (of both bones) of the ulna is well developed; there is a powerful groove closer to the head of the ulna. The powerful ulnar styloid may also indicate the strength of the ligament us apparatus of the mid-carpal joint.

Figure 6. Enthesopathy on the pelvic bones, pubic symphysitis

Traces of considerable functional load are fixed on the symphysis, on the pelvic bones. Traces of enthesopathy were formed at the attachment points of the superior pubic ligament (*ligamentum pubicum superious*) and the arcuate ligament of pubis (*ligamentum arcuatum pubis*). Bone lysis sectors are seen in the form of round holes with a diameter of 1-2 mm on the articular surfaces of the pubic bones (*simphysis pubica*), on the left one in particular (Figure 6). The reason for their appearance may be the pubic symphysitis which is part of the multicomponent ARS-syndrome (adductor, rectus, symphis) - a pathological condition of the tendon muscle complex that developed as a result of prolonged and similar loads associated with the asymmetric adductor brevis muscle of the thigh (*musculus adductor longus et* (or) brevis) and the distal part of the *abdominis rectus* muscle (*musculus rectus abdomonis*). The gait,

requiring the body to tilt forward when fixing the tibia in a straight or bent position, may lead to trauma.

Table 5. The recording system for musculoskeletal stress

	Right	**Left**	**Right and left in total**
Humerus			
Crista tuberculi minoris, crista tubercu majoris	2.5	2	2.25
Tuberositas deltoidea	2	2	2
Tuberculum majus, tuberculum minus	2	1.5	1.75
Margi lateralis, medialis et anterior Epicondili lateralis et medialis	1.5	2	1.75
In total	2	1.88	1.94
Radius			
Tuberositas radii	1.5	1.5	1.5
Margo unterossea	1.5	1.5	1.5
Sulcus musculi flexoris halluces	1	1.5	1.25
Processus styloideus	2	2	2
In total	1.5	1.62	1.56
Ulna			
Margo interossea, margo posterior	1	1	1
Crista musculi supinatoris	2.5	2	2.25
Tuberositas ulnae	2	2	2
In total	1.84	1.67	1.75
Femur			
Trochanter major	2	2	2
Trochanter minor	2	2	2
Tuberositas glutea	1.5	2	1.75
Linea aspera	1.5	1	1.25
Epicondili	2	2	2
In total	1.8	1.8	1.8
Tibia			
Tuberositas tibiae	1	1	1
Margo anterior, margo interossea	1	1	1
Linea m. solei, m. soleus	1	1	1
Sulcus musculi flexoris halluces	1.5	1.5	1.5
In total	1.13	1.13	1.13
Fibula			
The edges development	2	2	2

The intertrochanteric line, having the shape of a crest and strongly protruding above the bone shaft, is well developed on the dwarf's femoral bones. This is the attachment site of the iliofemoral ligament that suppresses the extension of hip joint and takes part in keeping the torso in a vertical position.[37] The role of the ligament increases with the displacement of the hip-joint back, a thing which is highlighted as to the present individual. Poirier's facet is fixed on the proximal articular surface of the anterior femoral neck. The gluteal rough is sufficiently developed on the thigh bones and, consequently, on the *gluteus maximus* of both legs. On the neck of the left thigh there are the so-called "facets of the rider"- structures, developed as a consequence of many years of horse-riding (Figure 7). The posterior surface of tibia corresponding to the soleal line of tibia (the third head of triceps muscle of calf) is moderately (not weakly) developed. The relief on the posterior surface of both tibias corresponding to the soleus line (third head of the triceps tibia muscle) is moderately (but not weakly) developed. It doesn't protrude much above the body level but it is quite long.

Figure 7.Facets of the rider

Pathology

Plagiocephaly (*plagiocephalia*, greek. Πλάγιος «oblique», slanting and κεφαλή «head») of varying severity is revealed in both men (Figures 1 and 2). The asymmetry is right-sided without craniosynostosis.

Healed symmetrical cuts made with a sharp object (symbolic trepanation) were found on the parietal bones of the individuals under study (Figure 8).

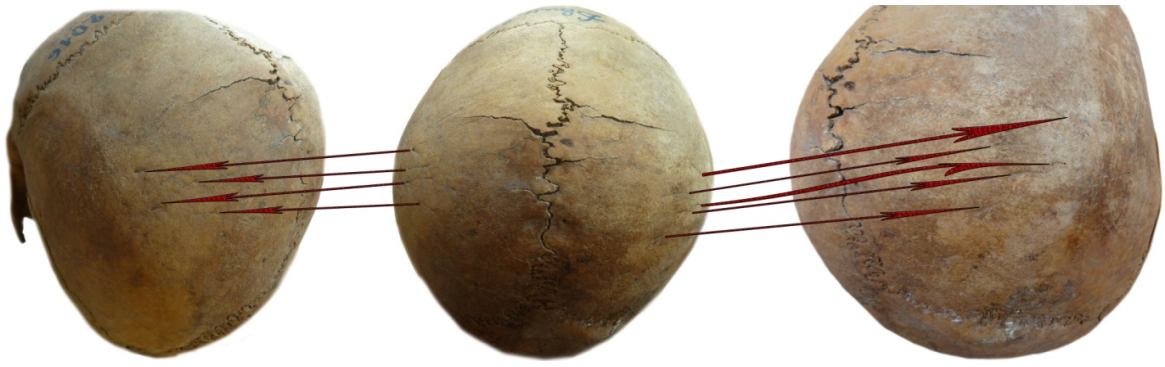

Figure 8. Symbolic trepanation. Individual №2

[37] Kishsh, Sentagogotai 1967: 126.

Poresis (cribra) is observed on the skulls, above the external auditory canal. This is probably associated with the exposure of the body to cold winds, causing increased growth of the blood cappillaries of calvarial bones for additional warming. Poresis is accompanied by the osteophyte formation in the ear canals.

Dental calculus is fixed on the teeth of both mandibular bones. The formation of dental calculus has a complex etiology and to a large extent depends on the nature of the consumed food.

Individual 1.

Porotic hyperostosis (*cribra orbitalia*) on the upper wall of the left orbit are barely discernible (point 1). The symptom is formed in childhood and is most often associated with iron deficiency anemia which develops in the chronic course of infectious and parasitic diseases.[38] However, slight symptoms of *cribra orbitalia* don't always serve as a manifestation of the adaptive reaction to anemia, but they may emerge in the local inflammatory processes.[39]

A strong form of the linear enamel hypoplasia is localized on all the incisors, canines, premolars, molars at approximately the same distance from the enamen-cementum junction. Such a position of defects excludes the possibility of their simultaneous occurrence as a result of a severe episodic stress and testifies to the presence of a buried physiological malfunction in the body, resulting in systemic violations of calcification processes.

A dental chipping associated with the characteristics of dietary intake was on the right side of the maxillary first molar and mandibular first premolar. No traces of caries were observed.

Individual 2.

On the right side of the frontal bone (closer to the temporal line), a trauma from an impact with a blunt object was revealed (length 8.2 mm, width 1.5 mm). This trauma is accunted for by a direct hit on the part of an attacker, standing face to face with the victim. The trauma was received long before the individual's death.

Quite many pathological changes were detected in the individual's dental system. Dental invagination ("tooth within tooth")(Figure 9) is fixed on the skull. The macroscopic analysis clearly demonstrates the 3A form of this developmental anomaly in the second left premolar. This anomaly is one-sided. Enamel and dentin are visible and have the shape of a drop or a bulb.

[38] Stuart-Macadam 1992: 167.

[39] Wapler, Crubézy, Schultz 2004: 336.

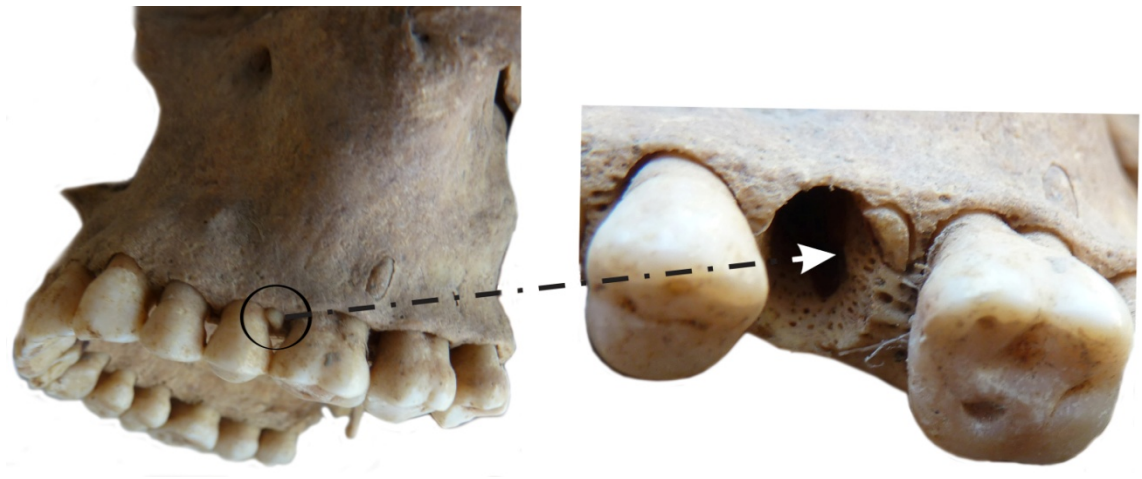

Figure 9. Dental invagination

A small dental chipping (1.5 mm) with smooth edges on the cutting edge, was detected on the upper right medial incisor. The appearance of the chip might be accounted for by the necessity of biting off threads. A weak form of the linear enamel hypoplasia was detected on some teeth (I1, I2, P2, I1, C, M2, M3/ right) which is a sign of abstemious diet (during the growth of these teeth). No caries is detected.

The shape of the individual's thorax is conical, i.e. its lower part is wider than the upper one, the ribs are slightly inclined. No decrease in the height of the bodies was detected in the vertebral region. However, the thoracic vertebrae are damaged (T 2, 4-6, 10-11) – the initial stage of the formation of vertebral hernias or Schmorl's nodes (Figure 10). A central location of the intervertebral hernias is observed. The symptom is formed because of considerable compressive load on the backbone mainly during the growth period.

Incipience tuberculosis was also detected on the thoracic vertebra (Figure 10). The disease develops as a result of tuberculosis infection mycobacterium falling into the lungs and bones through the lymphatic and blood vessels. The lytic lesions are localized on the lateral surfaces of vertebral bodies. The inner surface of the handle displays a wide-meshed trabecularism.

Figure 10.The initial stage of the formation of vertebral hernias or Schmorl's nodes and tuberculosis

Weakly developed osteophytes are revealed along the body edges and on the tops of the spinous processes (Figure 11). Multiple exostoses are fixed on the tooth-like process of the second cervical vertebra. Changes in the bone tissue of the individual under study are accounted for by a severe physical exertion. The fixed diseases of the spine, coupled with the degree of the muscular relief development, enables us to assume that the individual was systematically subjected to an intense physical exertion.

Figure 11. Osteophytes on the tops of the spinous processes

Almost all the bones of the postcranial skeleton are characterised by the presence of osteoporosis on the end sections of the long bones; porosis is also fixed on the pelvic bones, too. X-ray images also record many structural disorders in bone and cartilage tissues, a manifestation of osteoporosis in particular. It is probably connected with the lack of vitamins in food intake or with the shortage of calcium in the environment or with the iodine deficiency and consequently with the lack of thyroid gland function.

Figure 12. Periostitis appears of the tibia

It is of importance to highlight one more peculiarity of pathology spread in an individual. Periostitis appears in almost all the parts of the skeleton (sternum, long bones of the upper and lower limbs, on the pelvic bones and on the vertebrae) (Figure 12). The traces of periositis testify to an extensive inflammatory process in the body.

With the help of the tibia radiography several zones of stunting are outlined, among them-Harris lines (Figure 13), which are the consequences of impaired development of cartilage, caused by stunting in childhood and adolescence under the influence of unfavorable factors of exogenous and endogenous nature.

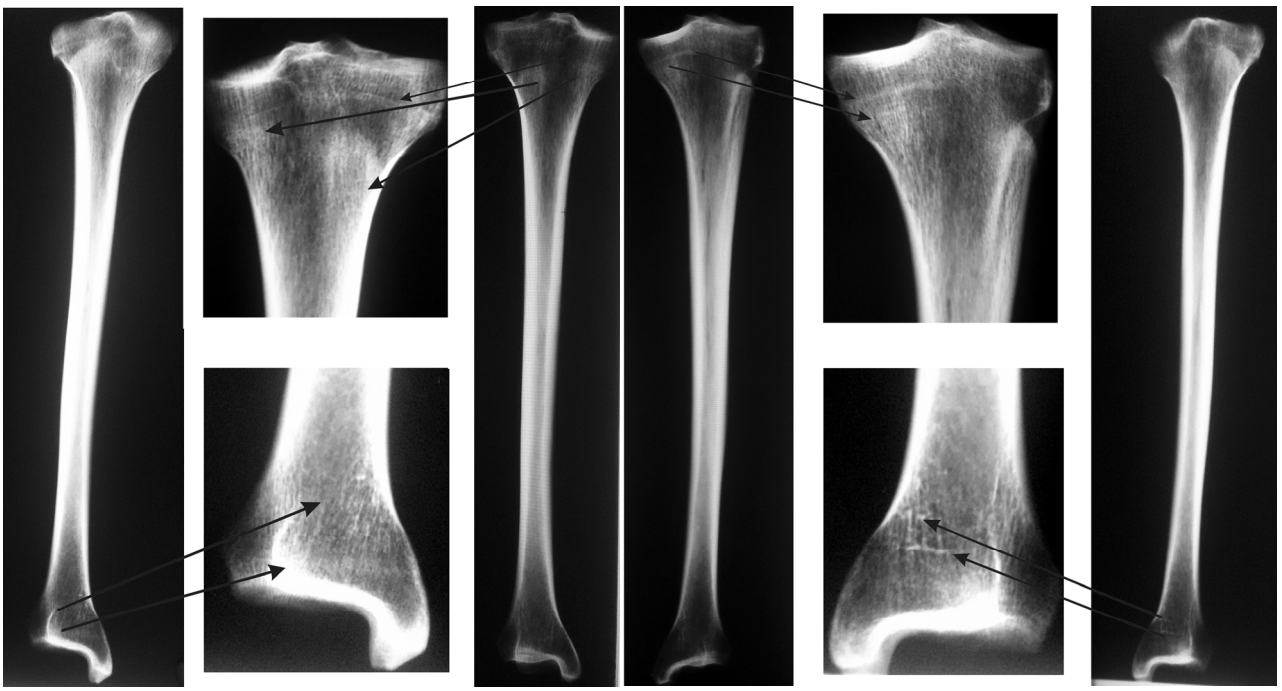

Figure 13.Harris lines

The femoral diaphysis is curved in the forward direction (arcuation begins in the upper third)(Figure 14). It testifies to rickets-a disease of a growing organism caused by metabolic disorder (first of all calcium-phosphorus metabolism), the main clinical syndrome of which is the lesion of the skeletal system (proper growth, bone mineralization, etc.) in the case of which the pathological process is localized, mainly around the epiphysial cartilage. Ractic changes of the skeletal system are very often observed by dwarfism.

Early images of dwarfs can be seen in Mohenjo-Daro (2600 BC) where they are presented in dancing poses.[40] Many images of dwarfs are recorded on the ornamental doorways of the cave temples of Agantha, Ellora, Aurangabad and etc. The images of dwarfs in sculpture are folk characters performing a folklore function ("providing an outlet to ensure that it cannot be spoken".[41] By their origin they are associated with animistic beliefs of nature beliefs. Located in the border spaces of temples, their images act as a talisman, the main function of which is to ensure prosperity. The role of court jesters and theatrical actors entertaining deities with their acting, playing music, dancing, juggling, grimacing passed on to them as well. It is rather difficult to carry out a historiographic review on the present topic using the materials discovered on the territory of Armenia, as historians and ethnographers (both domestic and foreign ones) have not practically touched upon the theme of dwarfs. I. Orbeli[42] narrates about a dwarf found during the excavations of Amberd (Armenia, XIIc.). The remains of a man of about 45 along with a cap like a cockscomb and bones of a rooster - an inseparable

[40] Mackey 1939: 279.

[41] Dandes 2003: 75.

[42] Orbeli 1938: 162.

companion of a jester of the East and the West, were discovered in an Amberd bath. Some part of the mandibular bone left side was missing which made the face curving and slanting. All the teeth of the individual's all the teeth were pulled out, probably intentionally. Moreover, the chin was operated on. Doctors, advising Orbeli, considered that a buffon couldn't keep his mouth closed during his lifetime as he always kept smiling. It is common knowledge, the trade of jesters and individuals having physical disabilities didn't occupy the last place in human trafficking which was carried out by European companies and their rights were related to human trafficking in XII-XIII centuries and they were introduced to the well-known framework of requirements and obligations imposed on the Venetian and Genoese merchants by the kings of Lesser Armenia.[43] The researcher admits that the man buried in the bath with his inseparable companion - the cock, was one of those wonders who had covered a long way from the Mediterranean to the slopes of Aragats in order to decorate the courtyard of the ruler of the unassailable castle of Amberd.

Figure 14.The femoral diaphysis is curved

Owing to the paleoanthropological research, we have learnt about the anthropological type, the peculiarities of physical development, and the pathologies of two individuals from Dvin. The distribution of some genetically determined (discretely varying) signs allows us to admit the presence of a certain kinship relations between the individuals. Unfortunately, because of the lack of bones of the postcranial skeleton of

[43] Orbeli 1938: 163.

Individual 1, we can only state microcephaly, as was the case with the isolated skull of a man found during the excavations of 2013.[44] Microcephaly is a disease in case of which the head is small, and it directly depends on the small size of the brain. The rain develops up to a certain point, however, because of the small size of the skull, its development slows down. The disease may be accounted for by the infections with measles, chickenpox or cytomegavirus; genetic disorders are not excluded.

Individual 2 is characterised by pituitary dwarfism. The most probable diagnosis in the light of the obtained data is the dwarfism of Laron (or Laron syndrome). The disease is typical of children born from closely related marriages; growth inhibition occurs in the postnatal period. In the case of a normal torso length, the body build of a dwarf is disproportionate (shortening of the humerus, radus, ulnar bone and femur prevails). This is a kind of dwarfism caused by a congenital defect of the somatotropic hormone receptor (STH) gene.[45] STH of the anterior pituitary gland, more precisely its somatomedins, affect the production of an insulin-like factor in the liver, promoting the growth of the chondroplastic and periosteous bone and an increase of the skeleton size. Most individuals having the syndrome of Laron descend from the Semitic Middle East, the Mediterranean, as well as from South Asia[46].

Performances with the participation of acrobats, dancers, musicians and singers are clearly and convincingly demonstrated in the Armenian medieval handwritten miniatures.[47] In the Early Middle Age performances of histrions, equilibrists, jesters, both in courtyards and in private houses, were also popular. Individuals, in particular dwarfs, with various physical disabilities were among them. All the types of spectacular arts (dancing, singing, gymnastics, etc.) were sometimes embodied in one person. Their program included the most complicated acrobatic and juggler performances, displaying their strength and dexterity.

One of the Byzantine writers[48] of the Early Middle Age refers to a group of people from Egypt who put on performances in Arabia, Persia, Armenia and Georgia. «At that time people who mastered a wonderful art came to Constantinople. They descended from Egypt and displaced their art on their way to Arabia, Persia, Armenia and Georgia. Everything they did was extraordinary and wonderful; however, it wasn't a devilish obsession, but a natural activity that was the result of a long-lasting exercise. We will represent some of their actions without going into details. For example, taking two or three masts and placing them vertically into the ground, acrobats strengthened them with thin ropes. Climbing on them, one stood on the very top of the mast either on one leg, or on the other, then lifted both legs up, leaning his head against the top of the mast; afterwards, making an unexpected jump, he tightly grabbed the rope with one

[44] Khudaverdyan, Babayan, Hakobyan, Zhamkochyan 2014: 98.

[45] Riggs, Milton 2000: 226; Bykov 2001: 347.

[46] Rosenfeld, Rosenbloom, Guevara-Aguirre1994: 376; Rosenbloom, Guevara-Aguirre 1998: 278; Galli- Tsinopoulou et al. 2003: 122; Besson et al. 2004: 636; Laron 2004: 1038.

[47] Petrosyan 2014: 31-34.

[48] The name of the Byzantine writer is not mentioned by the author.

hand and clung to it, after which he quickly and continuously began to spin like a wheel. Another acrobat, having saddled a horse, urged it at a full trot and stood erect either on its neck or on the mane, constantly and boldly pawed the ground, posing like a flying bird. He suddenly jumped off the running horse, caught its tail and suddenly appeared on the saddle again. Or he descended the saddle from one side, easily got on it from the other side and rode the horse again. Showing such tricks, he kept on whipping the horse. Such tricks didn't always have a happy end, they ended up with harmful consequences; quite often these people dropped off and this ended up with death. More than 40 people left their motherland and only fewer than twenty acrobats in good health reached Byzantium».[49]

Figure 15. Graphic illustration of a dwarf (artist Ani Sahakyan)

We assume that despite his small stature, the young man had regularly been carrying out actions associated with a great physical exertion. Probably he had constantly been lifting a long tree pole with a partner (up to a certain period of time until there arose problems with spine and pelvis), whereas the other partner (in the middle) displayed various tricks on the perch. However, he could have performed certain tricks, too. He was a horseman as well. The pelvic fracture of bones prevented him from keeping his back erect while walking. There also arose problems with the shin-bone. As far as the individual is young, such vividly expressed pathologies testify to an excessive and intensive load on the skeleton. Lameness, stiffness are the distinctive features of a person, being restored according to the skeleton under study (Figure 15).

[49] Petrosyan 2014: 84-85.

Thus, having carried out a possibly thorough study of the remains of two individuals detected in the ruins of St. Gregory Cathedral, we assume that they could have been touring histrionics[50] at the royal, princely and ducal courts of Dvin.

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[50] They had different names in different countries: Russian call them *skomorokhs* (= English minstrel, German Spielmann).

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