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VIOLENCE AND RITUAL: BIOARCHAEOLOGICAL PERSPECTIVES ON HUMAN SACRIFICE AT THE FIRE TEMPLE (DVIN, ARMENIA)

The article is dedicated to the blessed memory of archaeologist A. C. Zhamkochyan
and F. S. Babayan

ABSTRACT: *This article examines the excavated fire temple in Dvin. Dvin, the capital of medieval Armenia, was located at the crossroads of numerous external trade routes as well as internal commercial networks. During the course of the excavations, the recovered skulls displayed clear evidence of violent trauma. Fractures of the occipital condyles and damage to the left mastoid region were observed at the base of the individuals' skulls. These injuries suggest that the victims were held by the hair, and their heads were struck with a sword. This study explores the potential causes of the observed violence and examines whether these acts may have been connected to ritual practices, specifically sacrificial offerings associated with the fire temple.*

KEY WORDS: *Armenia - Dvin temple - Early Middle Age - Fire temple - Trauma - Decapitations*

INTRODUCTION

By the Peace Treaty of 387 AD, Armenia was divided between the Roman empire and Sasanian Iran. By the Act of Nisibis, Eastern Armenia was included in the

sphere of Sasanian political, socio-economic, and cultural life, first with the status of a kingdom (until 428 AD), then with the status of a Marzpanate. Being located at the junction of strategic, transit, trade caravan routes stretching from East to West, connecting two opposing

dynasties (Byzantium and Sasanian Iran), as well as important cultural highways, Armenia and Armenian culture found themselves in a very difficult situation, when the task of the day became not only to resist, preserve the national identity and originality, but also to secure a stable place in the future competition. Early medieval Armenian religious thought and concept were formed in the competition between two opposing ideologies: Sasanian Zoroastrianism and Armenian Christian thought, when the former often forcibly dictated its approaches and norms. The Sasanian state-religious elite, unlike its predecessors, the Achaemenids and the Parthian Arsakunis (Boyce 1987: 95–96, 102), imposed religious intolerance, the eloquent evidence of which is the behavior of the military commander Mihrnerseh and the king Hazkert. Armenian historian Elishe wrote: «He was the ruler and master of all the kingdom of Persia, and his name was Mihrnerseh; and there was no one who would dare to disobey him. And not only the nobles and the little ones, but also the king himself was counted with his commands» (Elishe 1957: 88). Being a fanatical Zoroastrian anti-Christian and anti-Armenian, he gave the command: «All the peoples and languages that are under my power, let them abandon the laws of their false teachings, and let all of them, to the last one, come to worship the sun, bringing sacrifices to it, and calling it a god, and performing the service of fire. And besides all this, let them fulfill the laws of the teachings of the Mogs, without making any omissions» (Elishe 1957: 17–18), and «if you accept our faith of your own free will, you will receive gifts and honors from him [the king], and you will receive taxes from the treasury, but if you do not agree of your own free will, then we have an order to erect shrines in villages and cities and light the fire of Vram in them, and to appoint Mogs and Mogpets as servants of the faith throughout your entire country» (Elishe 1957: 70–71). Such obligation was also a manifestation of the establishment of fire temples in the capitals of Armenia, Artashat and Dvin. The Sasanian shahs were always strict regarding matters of faith, and their magi lit fires in Georgia as well: the Nekresi fire temple is located in eastern Georgia, in Kakheti, the Atashgah fire temple is situated in the historic area of Old Tbilisi.

In 531, Khosrov Anushirvan ascended the throne in Sasanian Iran (531–578 AD). He not only carried out military-economic reforms, but also began to implement a pronounced religious policy – the forced imposition of Zoroastrianism on the peoples of the conquered countries.

Fire temples were built in villages and cities, while in remote locations in the high mountains, sacred rocks,

caves, and holy springs were revered. Mythological and archaeological evidence shows that these mountain places were pagan sanctuaries long before the development of Zoroastrianism. The Greek historian Herodotus, writing in the 5th century BCE, commented on the early Zoroastrian use of their mountain shrines: they have no custom of creating and setting up statues, temples, and altars, but they make sacrifices on the highest peaks of the mountains. However, over the centuries of using these natural sacred sites, simple temples were developed and built. These mountain sanctuaries, more than the fire temples of cities and villages, became the center of the tradition of Zoroastrian pilgrimage.

The Zoroastrian cult led to the establishment of a chain of fire temples along the entire Silk Road, from Iran and Armenia to Ordos in China, some of which are archaeologically documented. The Silk Road had a profound impact on the spiritual life of the peoples living along the route, pulling them out of isolation and fundamentally changing their worldview. The place of pagan cults was gradually taken by canonical Zoroastrianism, and the burial customs of the population underwent significant deformation. Zoroastrian burial rites became predominant throughout the Silk Road.

In the 5th–7th centuries, during the peak of trade, castles and other civil buildings were hastily converted into fire temples. The architecture of roadside fire temples was characterized by simplicity in layout and design. They were usually located next to caravanserais – hotel complexes – and were very convenient for travelers.

Zoroastrian traditions in Armenia have a long history. The burials of dismembered bodies found in cemeteries from the Late Iron Age (Lori Berd, Nor Armavir) relate to pre-Zoroastrian beliefs (Khudaverdyan *et al.* 2013, 2021). Osteological material from the Lori Berd site shows postmortem changes (Khudaverdyan *et al.* 2013: 86). Two men (burials 105: 18–20 years old; 107: 50–55 years old) had their heads cut off in the middle; only the right parts of the skulls were buried. Neatly arranged chopped fragments of the postcranial skeleton were found under the right part of the skull (burial 105) (Khudaverdyan *et al.* 2013; *Figures 1–3*). Marks of pitting, scratching, and defects on articular surfaces were identified on the bones. «Scratches» and «gnawing» sometimes affected the entire circumference of long bones. There is no doubt that these destructions are the result of small animals' activities during the complete or partial consumption of soft tissues. The bodies of the deceased were possibly

left on elevated ground for the soft tissues to decay and be consumed by scavenging birds before being buried in the cemetery.

Sacrifices are an important part of the religious rituals of any traditional society. The main idea of

traditional sacrificial ritual actions is to appease a particular lower or higher deity in order to free the family or clan from various misfortunes. As is known, local sacred practices allowed for human sacrifices in certain cases. However, this information pertains to

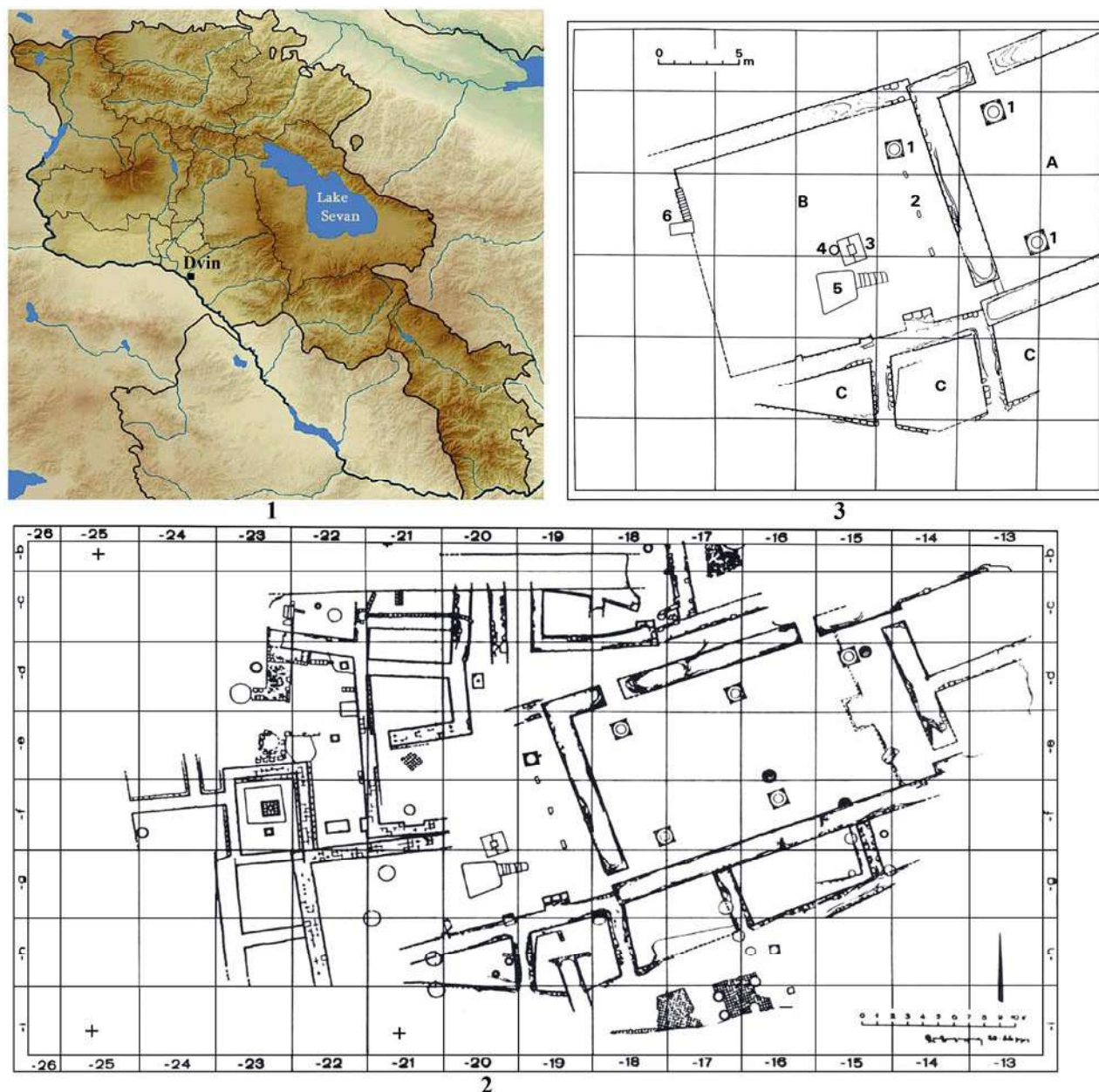


FIGURE 1: 1 - Location map of the Dvin cemetery; 2 - Dvin, city center, overall plan of the excavation in the area of the old Catholikos Palace; 3 - Excavation plan for the reconstruction of the Catholikos' Palace: A - The Column Hall of the Catholic Palace, probably used as a prayer hall; B - Sassanidishcher Anbao, vakhrschennlikh Feuertepel; C - Adjoining rooms; 1 - column bases *in situ*; 2 - upright stone blocks; 3 - stone podium, probably altar base; 4 - clay vessel with ashes; 5 - underground room with stairs; 6 - underground room with stairs.

events from quite some time ago (Khudaverdyan *et al.* 2013). Materials from the Shirakavan cemetery indicate that the local population practiced sacrifices. In one case, a woman was laid in a curled position, with the skull of a man found near her head; in another case, the skull of a younger woman was found alongside the skeleton of a man; in a third case, the skull of a younger woman was found with the skeleton of a mature woman. It is important to note that the skulls of the victims were located near household items in the graves (animal bones were found in the vessels). It is likely that sacrifices were performed during ritual memorial ceremonies. Anthropological analysis indicates that the individuals were first rendered unconscious, after which their heads were severed. Blunt force trauma is observed on the cranial bones in the temporal region or on the parietal bones. This conclusion is based on the combination of anthropological indicators: the presence of blunt force trauma to the cranial bones, consistent with perimortem injuries, and the evidence of deliberate decapitation marks. The pattern suggests that individuals were first incapacitated and subsequently beheaded (Khudaverdyan 2017).

The severed human head held significant symbolic value in the cultic systems and magical rituals of the Greeks, Etruscans, Scythians, Carthaginians, Celts, Thracians, Taurians, and other ancient peoples, as noted by ancient writers (Strabo IV, Herodotus IV). An explanation for the ritual of decapitation can be found in numerous mythological narratives associated with the veneration of chthonic deities, particularly Dionysus. The tradition of collecting heads is known from prehistoric times to the present day. Attempts to turn to ethnology in search of an explanation for this custom have led to the emergence of many different theories. Some authors believe it relates to ancestor worship, while others see these individuals as cannibals who buried the skulls of their victims for ritual purposes. A third perspective is that the skulls are military trophies buried as treasure. Neolithic skulls from Çatalhöyük have been found in unexpected locations, such as open spaces between structures or under the floors of houses. The prevailing view links these skulls to ritual ancestor veneration (Mellaart 1967). During the excavations at the Areni 1 cave, a series of clay structures and vessels were discovered buried in the cave's deposits at the back of the first gallery. Three of these contained skulls of individuals that, based on radiocarbon analysis results, date to the chronological framework of the last quarter of the 5th millennium BC (4300–4000 BC, calibrated – Early to Late Eneolithic) (Khudaverdyan *et al.* 2017).

Each method of handling the body and the place where a person was buried likely held its own significance. This may have depended on who the deceased was or who performed the ritual.

Dvin, capital of Armenia from 5th to 9th century

The vestiges of the capital city of Armenia, Dvin, the one time centre of trade, crafts and culture, lie some 35 kms. to the south of Yerevan. The city was founded in the thirties of the fourth century by the Armenian King Khosrov II Kotak, a descendant of the Arshakuny dynasty (332–338AD). Valuable information on the foundation of the city is available from the historians Pavstos of Byzand (4th c.) and Movses Khorenatsi (5th c.). They attest that King Khosrov undertook construction work on a hill called Dvin where he transferred the court from Artashat and afforested in the vicinity of the new capital. Dvin developed and thrived till it grew into a hub of international transit trade. Feudal relations were dominant all over Armenia throughout the 4th–5th centuries. Armenian feudal culture began to take shape, with strong Hellenistic traditions. Dvin was in the focus of those complicated historical-political, social and cultural events since it was virtually the only city in medieval Armenia of major economic and cultural consequence.

The archaeological investigation of this famed city was begun at the close of the past century but it was only in 1937 that regular, long-term excavations were launched that have been going on to date. The diggings resulted in rich findings that relate to all the domains of Armenian material culture and are of great scientific value. The discoveries were made in the citadel and living quarters of the city: palatial and church structures, buildings meant for economic and communal facilities, invaluable specimens in profusion betokening the various products of medieval Armenian craftsmanship, imported goods, coins, etc. Archaeological work revealed that the origins of life on the hill of Dvin go back to eneolithic period, its duration prolongs up to the 13th century. Dvin, that important city rich in medieval Armenian fine-arts products that played a key role under "marzpan" (medieval governor) rule and continued its economic significance under Arab sway, is a unique landmark the excavations of which make it possible to draw a picture of Armenian 5th–8th century culture, of its evolutionary stages and to get an insight into the salient changes in medieval culture as a whole.

The forced establishment of the Sasanian fire temple in Dvin by Chihor-Vshnasp Suren the Marzpan. Chihor-Vshnasp Suren the Marzpan seized the Patriarchal seat

from Hovhannes Gabeghenatsi, the Catholicos of Armenia (557–574 AD), and turned it into the residence of the Persian official. The Catholicos of Georgia and historian Arseni Sapareli wrote: «From this time on, the Persian marzspans occupied Armenia (Somkher) and the Christian order was neglected, and the church doctrine faded away... and the episcopates were turned into shrines» (Hakobyan 2020: 135). Khosrov Anushirvan ordered the demolition and destruction of monasteries and churches, and the construction of fortifications within the borders of the Sorea, in Persian Armenia, «first of all in Dvin».

In the 1970s, the Dvin archaeological expedition carried out excavations in the southern part of the Church of St. Gregory the Illuminator. During the excavations, one of the unique buildings of Armenian secular architecture was discovered: the 5th–6th century palace complex, which most likely served as the residence of the Armenian Patriarchs (*Figure 1*). Archaeological works revealed that the palace had existed for about a century and then was subjected to fire and destruction in 527 AD during rebellion. A building was opened next to the columned hall of the palace, which is organically connected with the overall plan of the palace. In the center of the building was a square stone platform made of three large tuff slabs, and covered with a thick layer of ash, next to which a large pot filled with ash was placed in a vertical position. In the center the platform had a square base for a square pillar, on which a special vessel with a constantly burning sacred fire was placed. The Parthian term for a fire temple – *aturōsān* – has been preserved in the Armenian language as *atrushan*, meaning "place of the burning fire." The presence of refuse from later periods may suggest the existence of specific sacrificial rites, during which, in the course of regular purifications of the sanctuary, the remains of animal offerings and altar ash were deposited in the subterranean chamber.

The excavated area of the building was covered with gravel and bone-mixed soil, which is most likely associated with the existence of the pagan shrine. During the ceremonies, sacrifices, burning and washing were performed there. The remains of sacrifices, as sacred relics, were not thrown away, but were buried in the surrounding area. The same applied to the ashes from the sacred fire. According to the Zoroastrian belief, the sacred area was consecrated and cleansed with holy water several times a day, in the morning, afternoon and evening (Boyce 1987: 10, 12, 76, 79, 135, Rak 1998: 16).

For this purpose, special water jars with lids were kept. One such lid, covered with red glaze and bearing a unique design, was found in the area of the prayer hall (Hakobyan 2020: 138, Kalantaryan 1986: 87–88). The jars filled with water were placed on both sides of the platform.

The pagan temple of Dvin by its layout is comparable to the forms of similar Sasanian fire temples. However, the pagan temple was destroyed in 572 AD by Armenian rebels during the rebellion of Karmir Vardan, and it is difficult to accurately restore its layout. After the palace complex was destroyed and burned down together with its "fire house", it was never restored as it was considered desecrated.

MATERIAL AND METHODS

The human skulls analyzed for this article were excavated by archaeologists Nyura Akopyan (excavations in 1978), Frina Babayan (excavations in 2011) and Akhavni Dzamkochyan (excavations in 2013) in Dvina. No post-cranial bones have been buried. The skulls were in a satisfactory state of preservation, allowing for the determination of sex, age, and pathological conditions, which constitute the main focus of this study. Among the analyzed skulls, two belonged to females and one to a male. The materials were recovered from a stratigraphic context attributable to the Early Medieval period (4–7AD).

International standard procedures (AlQahtani *et al.* 2010, Buikstra, Ubelaker 1994, Lovejoy *et al.* 1985, Meindl *et al.* 1985) were used to morphologically determine the age and sex of individual. Gross observations of abnormal changes appearing in ancient skeletons principally provides the basic information for paleopathological diagnosis. Particular attention has been paid to traumatic lesions that may be associated with violence.

Traumatic injuries to the skeleton can manifest in a variety of patterns depending on the force of impact, its direction, and the structural integrity of the affected bone (Galloway 1999, Lovell 1997). Several individuals in the assemblage exhibited evidence of possible perimortem cranial trauma. Perimortem injuries are defined as those sustained while the bone was still fresh and malleable. Specific diagnostic features can be used to distinguish perimortem from postmortem damage. Due to the plastic nature of fresh bone, perimortem fractures frequently exhibit outward beveling in the direction of the applied force, particularly on the thin

laminar bones of the cranial vault. These may present as linear, comminuted, or puncture fractures with corresponding beveling (Lovell 1997). The fracture edges are typically irregular, as fresh bone flexes and fragments remain partially attached (Sauer 1998). Cranial vault fractures, depending on the force of impact, may also demonstrate radiating and, in some cases, concentric fracture lines, which terminate upon reaching an open suture or an existing fracture (Berryman, Haun 1996). Fractures of the skull base are generally classified into bending and bursting types. Bending fractures result from direct, localized trauma, producing depression at the impact site and typically leading to comminuted or perforating fractures. Bursting fractures, by contrast, are caused by objects with a broad surface area or indirect trauma. The force is transmitted through the

cranial bones, and in thinner areas with limited elasticity, the bone fails, producing bursting fractures. In cases of decapitation, a detailed description was recorded, including the specific bones affected, the direction of the blow, indications of the type of weapon used, and the morphology of associated cut marks. These observations were supplemented with schematic drawings of the trauma distribution and a photographic record. Diagnostic skeletal markers of decapitation include damage to the upper cervical vertebrae (and occasionally C7 or T1), mastoid processes, occipital regions, posterior mandibles, and first ribs (Anderson 2001, Ardagna *et al.* 2005, Aufderheide, Rodriguez-Martin 1998, Buckberry, Hadley 2007, Khudaverdyan 2015, 2017). Beheading-related injuries may also affect the odontoid peg (McKinley 1993) and transverse



1



2



3



4

FIGURE 2: 1 – Column of the Catholic Palace; 2 – in front, Sasanian extension, probably fire temple with superstructure of the 9th century, behind it columned hall of the Catholicos Palace, from the west; 3 – Pithos lid, ceramic, ca. 6th century AD, from Sasanian addition to palace hall; 4 – View from the east into the Sasanian annex, probably a fire temple; on the right, door to the columned hall of the former Catholicos Palace; in the center of the picture, a stone base, probably for a fire altar.

processes of the vertebrae, particularly when an axe rather than a sword was employed (Waldron 1996). Even in the absence of skeletal evidence, contextual indicators may suggest decapitation, such as the absence of the skull (though this may also result from post-depositional processes including intrusive burials, animal activity, or environmental factors) (Okumura, Eggers 2008), the recovery of an isolated cranium without associated postcranial elements (Nagaoka, Abe 2007), or the placement of a skull in a non-anatomical position (Boylston *et al.* 2000).

The presence of antemortem fractures was determined by macroscopic (Buikstra, Ubelaker 1994, Ortner, Putschar 1985). In the present study, bearing in mind the various diseases, pathological changes were completely described and given tentative diagnosis

RESULTS

Individual 1

Excavations of 1978. The columned hall bears resemblance to the Armenian *glkhatun* with its tent-shaped roofing, a type of dwelling widely attested in civil architecture and preserved as a vernacular housing tradition in many rural regions of Armenia to the present day. The stone bases of the wooden columns are of simple workmanship, consisting of a square lower section with a rounded socket designed to support the posts. In the second excavation sector, at a depth of 1.5–2 m (*Figure 2*), archaeologist N. G. Akopyan recovered the skull of a female individual aged approximately 20–25 years. The skull is incomplete, and the facial skeleton is poorly preserved. Nevertheless, it was possible to record several traits of the cranial vault and the orbits. The following measurements (mm) were recorded from the skull: cranial length, 180; cranial breadth 136, cranial height, 131?; minimal frontal breadth, 94; occipital breadth, 112; orbital breadth, 38,5; orbital height; 30. The following traits were presence: os wormii suturae squamosum, os wormii suturae lambdoidea, foramina mastoidea, canalis craniopharyngeus, canalis condyloideus, auditory exostosis. The absence of most of the facial skeleton may indicate a deliberate attempt to mutilate the deceased's facial features – possibly aimed at obliterating recognizable traits – or it may represent the result of pathological processes, such as an infectious disease (for instance, leprosy).

An exostosis in the external auditory canal was identified in this individual. Auditory exostoses are bony outgrowths commonly associated with repeated exposure

to cold water, often linked to habitual aquatic activities such as diving (Kennedy 1986, Manzi *et al.* 1991). Prolonged exposure to cold air and water is known to stimulate the thickening of the bone surrounding the external acoustic meatus, leading to canal narrowing and, in some instances, complete occlusion. Alternative etiologies proposed in the literature include chronic otitis, genetic predisposition, and repetitive biomechanical stress associated with mastication (Aufderheide, Rodríguez-Martin 1998).

A small, circular button osteoma (also referred to as a "button" or "ivory" osteoma), measuring approximately 12 mm in diameter, was observed on the left parietal bone. This benign osteogenic lesion is composed of dense lamellar bone with vascular channels and displays minimal marrow space (Aufderheide, Rodríguez-Martin 1998, Ortner 2003).

In Individual 1 the region of the nasal bones (on the left side), antemortem trauma was observed, with depression extending into the cranial cavity (*Figures 3:2, 3:3*). The indentation is oval in shape (measuring approximately 22 mm in length). The integrity of the nasal bones was compromised by the impact of a blunt object, with the displaced fragment corresponding in shape and dimensions to the surface of the implement. The right side of the facial skeleton is largely absent, most likely due to a combination of postmortem damage or taphonomic processes.

Skeletal changes consistent with *facies leprosa* were also noted (*Figures 3:2, 3:3*). These include destructive lesions within the nasal cavity, along with atrophic changes and marginal pitting of the nasal bones. The nature and pattern of these nasal alterations strongly suggest leprosy as the underlying condition – more so (Larsen 2002, Khudaverdyan 2010) than any other known pathological process documented in medieval Armenia.

Excavation and analysis of the human remains revealed some evidence of dismemberment associated with this individual. On the inferior aspect of the occipital bone, there is a probable peri-mortem sharp-force weapon injury. Widespread damage was identified on the structures of the base of the skull, including the edge of the foramen magnum, the mastoid process, and the inferior surface of the occipital bone. In the base of this individual cranium mechanical breaks of occipital condyles and damage of the mastoidal were noted (*Figure 3:4*). This bone damage was inferred to have occurred around the moment of death. These injuries are extremely similar to other published cases: beheading of the person who is in a vertical position (Manchester

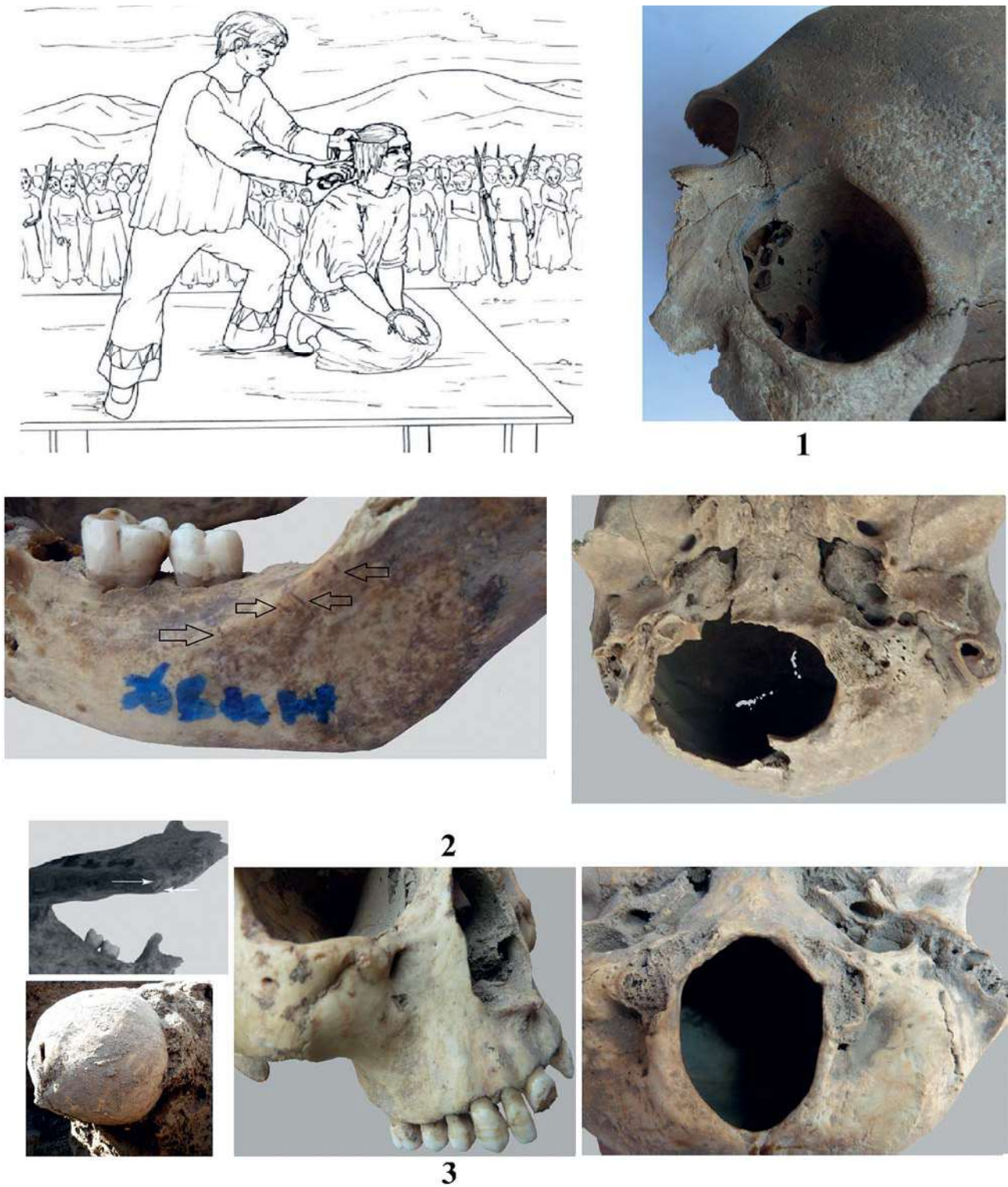


FIGURE 3: 1 - Reconstruction of the execution; 2 - Intravital trauma to the nasal bones. The dent is oval; 3 - Destruction and erosion of the nasal bones (*facies leprosa*); 4 - Damage to the bone tissue at the base of the skull associated with decapitation (Dvin, excavations 1978).

1983, Khudaverdyan 2017). The head is severed from the body with a sharp blow from the chopping implement. Holding the victim by his hair, the head was cut off with a sword (*Figure 3:4*). The blow was delivered from behind, evidently by a right-handed individual. All of the above circumstances suggest a criminal context for the event. However, a ritual aspect cannot be entirely ruled out – for example, the possible existence of fire-worship sanctuaries.

Individual 2

Excavations of 2011. At a depth of 40 cm, the archaeologist F. S. Babayan uncovered the cranial vault and mandible of a female individual aged 18–20 years. Animal bones were also recovered. The cranial vault exhibits a generally gracile morphology, with a weakly expressed supraorbital relief. The braincase shows a small anteroposterior and a large transverse diameter. The skull is brachycranial, with the minimum frontal width being average and the maximum width being large. The following discrete morphological traits were recorded on the skull: sutura mendosa, foramina supra-orbitalia, os wormii at sutura squamosum, foramina parietalia, and os Incae completus. A continuous mendosal suture (extending from one asterion to the other) was not observed in this individual. According to V. V. Bunak (1927), a pronounced tendency toward incomplete suture closure is characteristic of Armenoid-type features. Eastern morphological traits observed include the presence of the Inca bone, spatulate shapes of the upper medial and lateral incisors, and a distal trigone ridge. Carabelli's cusps were identified on the upper first molars.

The individual exhibits specific changes on the superior inner surface of the orbits (*cribra orbitalia*). This trait develops during childhood and is most commonly associated with iron-deficiency anemia, which arises from the chronic course of infectious and parasitic diseases. According to P. Stuart-Macadam (1989, 1992 a, b), iron deficiency in the blood represents an adaptive response of the organism under conditions of chronic pathogenic stress. In this context, porotic hyperostosis should be considered an indicator of increased pathogenic load in a specific living environment. The female individual presents with plagiocephaly without cranial suture synostosis (*Figure 4:1*). The asymmetry is more pronounced on the right side of the skull. Porotic hyperostosis was observed on the occipital and parietal bones. A small focus of periosteal changes was also recorded on the left parietal bone. Traces of periostitis on cranial bones are

considered nonspecific markers of inflammatory disease.

Multiple small healed cuts caused by a sharp object were recorded on the frontal and parietal bones (*Figure 4–3*). On the midline of the frontal bone, 16 superficial scars were identified, ranging from 2 to 4 mm in length. On the right parietal bone, there were more scars (56) than on the left (32), with lesion sizes varying from 2 to 8 mm. In some cases, the defects were symmetrically arranged. Some cuts were deep, while others only slightly affected the cranial surface. Traditionally, these injuries have been interpreted as trauma-related. However, considering that multiple linear incisions on the parietal bones are localized at the same horizontal level on both sides, they can be attributed to symbolic trepanation. Symbolic trepanations are defined as non-penetrating (superficial) manipulations of the cranial vault. The trepanation procedure affected not only the skin but also extended into the periosteal layer of the upper compact bone.

The location of scars on the parietal bones, in our view, indicates not a violent nature of the injuries but the deliberate application of cuts to strictly defined areas of the skull. The damage observed on the parietal bones of the female individual from Dvin can be interpreted as a case of symbolic trepanation. The ritual component of superficial trepanation should be emphasized, as it often served as a test or symbol of transition from one social category to another (e.g., initiation of adolescents, marriage, childbirth for women, mourning, membership in male societies, etc.). According to M. Eliade (2002: 331), the phenomenon of "initiation" constantly coexists with a person's real life. Life is full of deep crises, anxiety, loss, and self-discovery – "death and resurrection." In moments of crisis, humanity turns to means of renewal capable of transforming life. All truly religious practices culminate in such "renewal."

During restoration, the absence of the facial skeleton and the cranial base was noted; the partially preserved left mastoid process remained undamaged. In addition to small healed and superficial cuts on the frontal bone, four shallow incisions (1–3 mm in length) caused by a sharp object were recorded on the right ramus of the mandible (*Figure 4:2*). Another defect was located on the left half of the basal surface of the mandible, representing a shallow cut 4.5 mm long. These incisions were inflicted at the time of the individual's death. Since no signs of bone healing or suppuration were observed, it can be concluded that the woman died as a result of this act of violence.

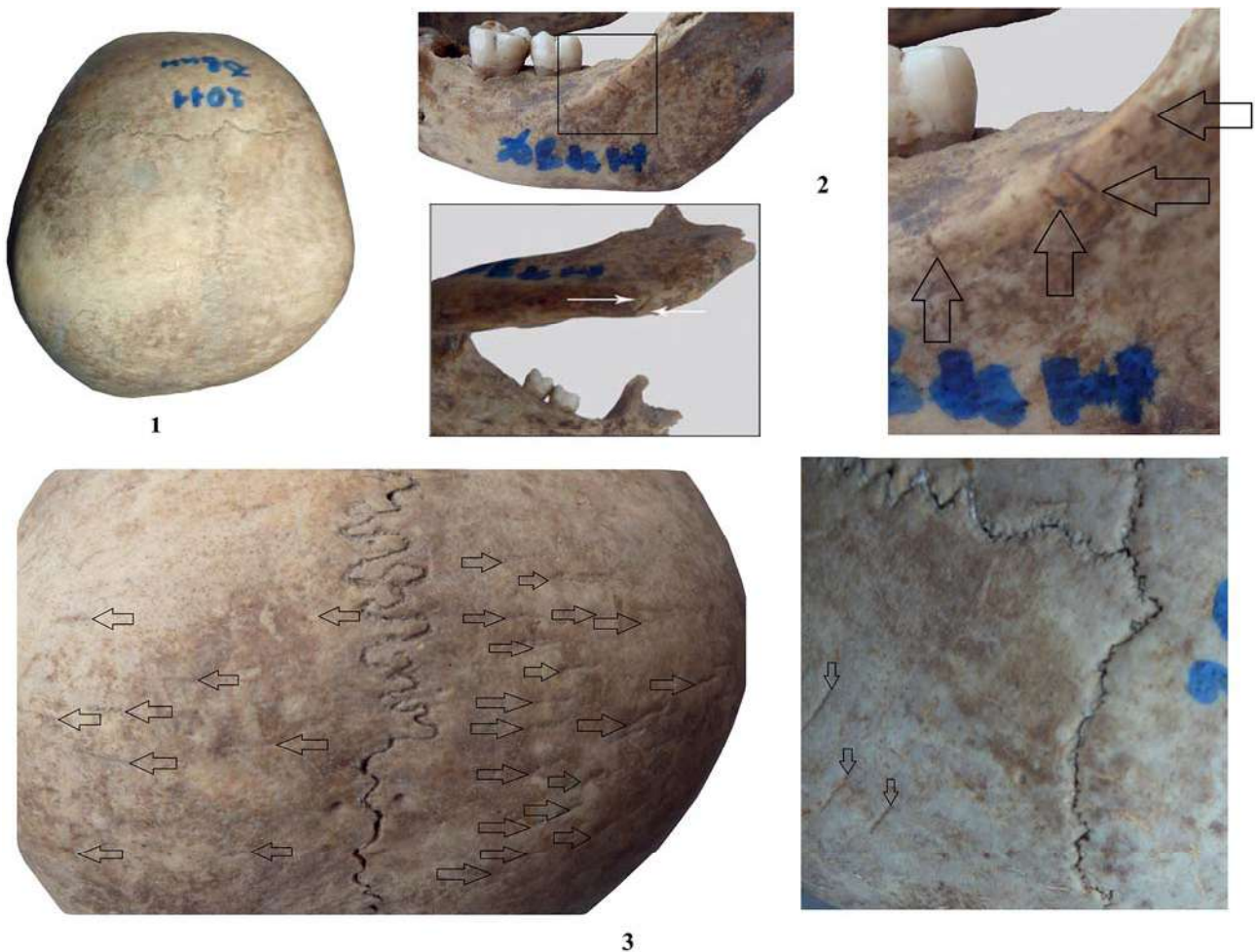


FIGURE 4: 1 - Plagiocephaly without synostosis of the cranial sutures; 2 - Cuts with a sharp instrument on the right branch and basal surface of the lower jaw; 3 - Symbolic trepanation. Non-through (superficial) manipulations on the parietal bones (Dvin, excavations 2011)

Individual 3

Excavations of 2013. During the clearing of the inner wall of a large building, archaeologist A. S. Zhamkochyan (with the participation of A. Yu. Khudaverdyan) uncovered, in layers dating to the 11th-13th centuries, large deep pits (tonir – circular hearths dug into the floor and coated internally, primarily used for baking bread [lavash]) with brick linings, ceramic drainage pipes, and scattered fragments of plain and glazed pottery (Figure 5:1). At a depth of 1.63 m, near one of these pits, an isolated male skull was discovered, accompanied by animal bones. The pit itself contained the skeleton of a large bovine individual.

The biological age of the male individual is estimated at 20-25 years. The skull is brachycranial, with very small

anteroposterior and small transverse diameters. The frontal bone is narrow and moderately sloped; the face is small in width and height, vertically projecting straight; the nasal bones are very narrow and of medium height; the orbits are very low and narrow. In addition to its small overall size, the skull is characterized by a sloping forehead and a flat occiput. The length of the foramen magnum is very large, while its width is small. A rotation of the upper left lateral incisor was observed (score 2). Among eastern dental traits, spatulate forms of the upper medial and lateral incisors were recorded. Genetically inherited cranial markers identified in this individual include: *foramina infraorbitalia*, *foramina zygomaticofacialia*, *spina processus frontalis ossis zygomatici* (prominent on the left side, as a process on the right), *stenocrotaphia* (X-shaped),

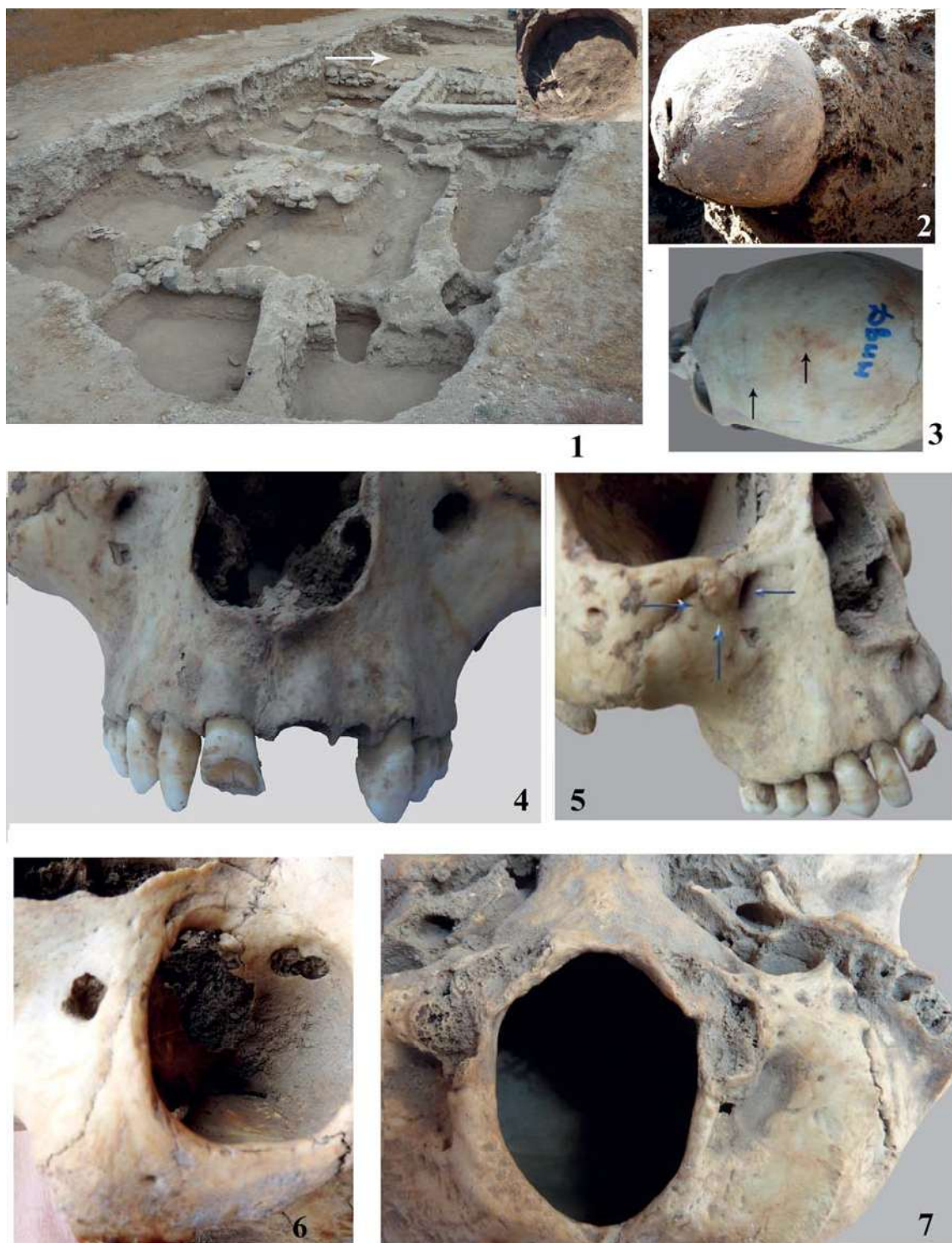


FIGURE 5: 1 – Excavations in Dvina 2013. The site of the find of the skull, a round hearth with animal bones dug into the floor; 2 – Microcephalic skull; 3 – Cuts on the frontal bone; 4 – Unusual wear of the left medial incisor; 5 – Trauma in the area of the right infraorbital foramen, osseophyte formation and enamel hypoplasia; 6 – Enlargement of the left infraorbital foramen, spread of infection to the eye socket; 7 – Damage to bone tissue at the base of the skull associated with decapitation.

processus temporalis ossis frontalis (incomplete), *os wormii* at *sutura squamosum*, *os postsquamosum*, *foramina parietalia*, *sutura palatina transversa* (U-shaped), *sutura incisiva*, absence of *foramina spinosum*, *canalis condyloideus*, *foramina mentalia*, and the presence of a *torus palatinus* (1).

Torus palatinus are considered as structural buttresses that develop in response to significant mechanical stress on the tooth roots. It is believed that, in individuals with a genetic predisposition, palatal exostoses appear only when environmental stress reaches a certain threshold. Primary environmental factors stimulating the growth of jaw exostoses include masticatory hyper function.

An unusual wear pattern was also observed on the left medial incisor (*Figure 5:4*). The degree of attrition indicates a high intensity of the individual's economic activity.

Microcephaly is a condition in which the head is abnormally small, directly reflecting a reduced brain size. While the brain develops up to a certain point, its growth is constrained by the small cranial volume. Causes may include infections such as measles, chickenpox, or cytomegalovirus, and genetic disorders cannot be excluded. The male individual exhibits plagiocephaly without cranial suture synostosis, asymmetry of the facial region, and asymmetry of the atlanto-occipital articulation. Facial tilting toward the left side is noted. It cannot be concluded that this pathology is related to muscular torticollis, as the cervical vertebrae and mandible are absent. Cranial asymmetry is more pronounced on the right side of the skull.

Multiple manifestations of enamel hypoplasia were observed (*Figure 5:5*). Hypoplasia arises from interruptions in growth processes or trauma and is also associated with a range of genetic factors (Goodman, Rose 1990). However, the most common causes are malnutrition and disease. Inflammation of the maxillary sinus was also noted. The primary cause of acute sinusitis is an acute respiratory infection. Obstruction of the maxillary sinus ostium leads to inflammation and accumulation of pus within the sinus. Such obstruction can occur, for example, during upper respiratory tract infections, when the nasal mucosa becomes edematous and inflamed. Chronic rhinitis, which causes thickening of the nasal mucosa, may also contribute to sinusitis. An enlargement of the left infraorbital foramen (7×6 mm) and the spread of infection to the orbit were recorded (*Figure 5:4, 5:6*). The latter condition induces inflammation of the eyeball and its surrounding tissues

(ophthalmitis). Complications of sinusitis arise in the absence of proper treatment.

A perimortem trauma was observed in the region of the right infraorbital foramen (*Figure 5:5*). As a result of this injury, an osseous growth developed at the site of the right infraorbital foramen. The growth appears as an additional bony protuberance on a broad base, integrated with the surrounding bone structure, with distinct, irregular contours. The size of the bony outgrowth is 7×6.5 mm.

Small perimortem cuts caused by a sharp object were identified on the frontal bone (*Figure 5:3*). Six superficial scars (3–6 mm in length) were observed on the frontal bone, and two on the left parietal bone. Lesion sizes ranged from 2.5 to 3 mm. No signs of post-traumatic osteomyelitis were recorded.

Mechanical fractures of the occipital condyles and damage to the left mastoid process were observed at the base of the skull. These fractures correspond to the time of the individual's death (*Figure 5:5*). As previously noted, injuries of this type have a single interpretation: decapitation of a person in an upright position (Manchester 1983, Khudaverdyan 2017). The linear fracture of the left mastoid process on the external side, together with the specific destruction of the occipital condyles, indicates that the blow was delivered from behind, presumably by a right-handed assailant. Analysis of the reconstructed trauma allowed for the reconstruction of the circumstances of the individual's killing. It is likely that the blow was delivered by a person standing behind the victim, holding the victim by the hair, and severing the head with a sword in a sharp left-to-right stroke.

DISCUSSION

Zoroastrianism is a religion with a history spanning over 2,500 years – and possibly even older (Boyce 1987). It continues to be practiced today, primarily in the Indian state of Gujarat and in certain regions of Iran, notably in the provinces of Kerman, Yazd, and the capital city of Tehran.

Fire holds a central and multifaceted role in Zoroastrianism. It serves two primary functions:

A. The eternal fire (atash) is sacred and must never be extinguished. It is to be meticulously protected – not only from being put out, but also from direct sunlight and exposure to the open air. Even within the temple, the fire is kept in a sheltered area, tended exclusively by a priest who maintains it by adding fuel. High flames

are not required; maintaining glowing embers is sufficient.

B. Fire also functions as a medium for conveying prayers to the divine, much like in other religious traditions. It receives ritual offerings – such as water, milk, incense, and fragrant or precious woods. Ceremonies may be conducted directly at the eternal flame, at a secondary flame kindled from it, or in an adjacent room where lay worshippers can participate.

This brief and schematic overview is intended to highlight the distinctions within Zoroastrian fire worship – namely, the existence of different types of sacred fire and the corresponding architectural accommodations within temples.

Offerings to fire and water formed the foundation of daily worship rituals, known to the Indo-Aryans as *yajña* and to the Iranians as *yasna* (from the root *yaz-* meaning "to sacrifice, to worship"). These rituals involved libations to fire, often derived from blood sacrifices, which were evidently performed on a regular basis. The Indo-Iranians approached the act of taking animal life with reverent awe and solemnity. They never killed without an accompanying consecratory prayer, which, according to their beliefs, ensured the continuation of the animal's soul.

The awareness of a kinship between humans and animals is reflected in ancient sections of the *Yasna* liturgy: «We pray to our souls and to the souls of domestic animals who nourish us... and to the souls of beneficial wild creatures» (*Yasna* 39: 1–2). At times, this cult assumed ominous forms. Human sacrifices were offered to the royal sacred fire of the Sasanians in the temple of Anahita at Istakhr. During the Parthian period, a child was reportedly sacrificed once a year to the fire deity in a Zoroastrian temple in Adiabene (Lelekov 1991).

Armenia was under Achaemenid rule and, as an Achaemenid satrapy, was significantly influenced by Persian culture – including, naturally, the impact of Zoroastrianism. During the Seleucid period, the country was divided into several independent principalities whose rulers bore Persian names and paid tribute. Following the Roman victory over the Seleucid army in 190 BCE, Roman influence extended throughout Asia Minor. From that point onward, Armenia functioned as a buffer state between Parthia and Rome, periodically allying itself with one or the other.

In the year 572, dissatisfied with Persian policies, the Armenian nobility and clergy initiated an uprising. The struggle was led by the Armenian nakharar houses of the time, under the leadership of the Mamikonian family

and with the support of the Armenian Apostolic Church. The national liberation movement was headed by Vardan Mamikonian the Younger (also known as Vardan the Red) and the Catholicos of All Armenians, Hovhannes II, who gathered an army of 10,000 warriors. In 572, the marzpan Suren (builder of the Sassanid fire temple in Dvin) traveled to Ctesiphon to report the events to the Sasanian authorities, and subsequently returned to Dvin, the capital of Marzpanate Armenia, with a force of 15,000 troops. By that time, the number of Armenian rebels had doubled, and they succeeded in defeating the Persian army. Marzpan Suren was killed in his own residence in Dvin, and his severed head was sent to the Byzantine patricius Justinian, who resided in the city of Theodosiopolis (Theophylact Simocatta 1996).

The motif of the severed head frequently appears in battle scenes described in the History of Taron (Mamikonyan 1989: 76–78). For instance, Tigran Kamsarakan beheads the Persian Vardukhri and, throwing the head to his servant, says: «Hide it; when we reach Matravan, we shall play ball in front of Surb Karapet» (The Monastery of Surb Karapet was a major religious and cultural center in the regions of Taron and Sasun. – Author's note) (Mamikonyan 1989: 107). In another episode, Prince Vahan mocks Persian prisoners by tossing the head of the Persian general Mihran into a sieve, declaring: «When this man entered our land, the armies faced one another and wished to compete. They searched for a ball and could not find one. They did not dare ask the Greeks, for they were mortal enemies. When we looked at our own army, we saw that we, too, had no ball. So we cut off this head and played. But we heard that you have arrived in the city of Bustr from Shahastan, where the land is flat and smooth. We know that you will be skilled at the game. Take your cousin's head, and let it be our ball from generation to generation» (Mamikonyan 1989: 81).

The severed heads found in Dvin are more likely linked to criminal or socio-political events rather than Zoroastrian religious practices. Ritual beheadings were not part of canonical Zoroastrian rites. However, during periods of religious conflict, executions motivated by faith could have taken place. It is quite possible that beheading was used as a means of demonstrating power or instilling fear – not as a religious act, but as a political or religiously-justified action. Beheading could also have been the result of mass executions following uprisings, interethnic clashes, criminal activity, or public punishments. Thus, these findings more likely reflect the complex socio-political environment of the time rather than a religious tradition.

Dvin's strategic location along the Silk Road made it easy for Zoroastrian traders to come in contact with the local population. This geographic and economic position facilitated continuous migratory movements, which can be considered a contributing factor in the transmission and spread of infectious diseases.

All of the individuals examined in this study exhibited pathological signs indicative of infectious conditions, including leprosy, and maxillary sinusitis. The individuals under investigation appear to have belonged to a lower social stratum that suffered from a lack of essential nutritional resources. Malnutrition and physical debilitation would have made them particularly vulnerable to disease. No evidence of formal burial practices was identified in relation to these individuals. Attention should also be drawn to the associated faunal remains. The nature and proximity of the animal bones to human crania are unlikely to be coincidental. In the case of the female individuals, the facial bones were either absent or severely damaged. This may reflect the deliberate destruction of facial features in an effort to obliterate individual identity, or alternatively, the result of pathological processes, such as those caused by advanced leprosy.

Throughout history, individuals with pronounced physical disabilities have often been regarded with prejudice – not only because their impairments limited their participation in social life, but also because they evoked a sense of mystical fear among the able-bodied. In medieval culture, the worldview closely intertwined the microcosm (the human being) with the macrocosm of universal existence. Within this rigid conceptual framework, there was little room for those perceived as physically «imperfect» from birth. It is reasonable to assume that disability was interpreted as a deviation from the divine order – that is, from the concept of the human as created in the image and likeness of God. Consequently, individuals with visible impairments were often viewed as incomplete beings, unworthy of attention or inclusion. They could not expect even a neutral attitude from society, as the dominant belief at the time held that blindness, congenital deformities, and other disabilities were either divine punishment for sin or the result of satanic intervention in a person's fate. Such individuals are frequently mentioned in historical documents, literary texts, and legal codes from both antiquity and the medieval period (Malofeev 2003).

During the early Christian period in Armenia, leprosaria (Classical Armenian: *borotanotsner*) were already in existence (Khorenatsi 1893). In 260 CE, Princess Agvida Salakhuni (wife of the noble Suren

Salakhuni) founded what is considered the world's first leprosarium, with a capacity of 35 beds (Vardanyan 2000: 29). Later, in 365 CE, the Council of Ashtishat decreed that leprosaria and hospitals (*bzhshkanotsner*, in Classical Armenian) be established throughout Armenia. It was also decided that pharmacies and healing institutions be exempt from taxation. Historical sources attest that monasteries began to build charitable hospitals and free "pharmacies for the poor" at an accelerated pace, providing care for the indigent (Buzand 1987: III, VIII). According to law, Armenian physicians were not permitted to refuse medical assistance – even to the destitute.

Given the presence of such institutions, a question arises: why was the woman from Dvin executed? Was her death connected to an infectious disease, such as leprosy? In contrast to Armenia's relatively progressive medical care, lepers in medieval Europe were typically banished from settlements – or, in more extreme cases, killed (Malofeev 2003). Moreover, institutional leprosaria did not appear in Europe until some 300 years later (Vardanyan 2000: 29). During this period, hundreds of thousands of individuals accused of witchcraft or satanic affiliation were executed. What explains this mass hysteria surrounding impurity, sorcery, and the demonic that swept across Europe during the 15th to 17th centuries? It is conceivable that leprosy was perceived not merely as a physical ailment, but as a mark of moral and spiritual corruption. The afflicted body of the leper was interpreted as evidence of inner sin and divine punishment. Notably, so-called «witches' marks» – lesions or discolorations of unknown origin – were commonly cited as proof of a pact with the devil. In his work *Medieval Witch Trials*, Ya. Kantorovich (1990) writes that individuals bearing such marks were often subjected to the «needle test». If a particular area of the skin failed to register pain, it was interpreted as insensitivity to divine judgment – a trait of the damned. Assuming that accounts of these "witches' marks" have a factual basis, one must ask: what were these marks in reality? It is plausible that a significant number of those accused of witchcraft suffered from a common disease. In leprosy, affected skin areas often develop white or reddish patches that become anesthetic – lacking sensitivity to heat, cold, or pain. In some cases, lepromatous nodules form in the dermis or subcutaneous tissue, which may coalesce into larger conglomerates. Whether inquisitors and judges genuinely believed they were condemning incarnations of evil rather than sick human beings, remains an open question. It is worth noting that medieval physicians

had a relatively accurate understanding of leprosy and its symptoms (Vardanyan 2000: 28–29).

The individual from Dvin presents with a microcephalic cranial structure and marked facial asymmetry, characterized by a leftward slant. And also vision problems. In the context of the Middle Ages, such physical anomalies were frequently met with societal stigma and harsh treatment. This response was largely rooted in prevailing religious doctrines, pervasive superstition, and the absence of medical knowledge regarding the etiology of disability. Individuals exhibiting visible physical differences were often perceived as portents of misfortune or ill omens, which frequently resulted in their social exclusion, marginalization, or even persecution.

In the medieval period, large numbers of visually impaired individuals, including those with leucomas or missing eyes as depicted in Bruegel's paintings, as well as hunchbacks, cripples, patients with Graves' disease, and paralyzed persons, were present in society. Formally, the first law prescribing rules regarding individuals with defects can be considered the Old Testament: "Do not curse the deaf, and place nothing before the blind, lest they stumble; fear your God" (Leviticus 19:14). However, the same book states: "No one with a defect in his body shall approach—neither blind, nor lame, nor deformed" (21:18). "No man from the seed of Aaron the priest who has a defect in his body shall approach to offer sacrifices to the Lord; a defect in him prevents him from approaching to offer the bread of his God..." (21:21).

It is unclear which of these biblical commandments was observed more strictly—the requirement to show tolerance toward the disabled or the prohibition against admitting them to sacred rites. Historical evidence suggests that religious prohibitions concerning individuals with disabilities were enforced more rigorously than recommendations to act mercifully toward them.

It remains unknown what traditions and beliefs were practiced by the inhabitants of Dvin—the largest cultural and trade-craft center, the capital of medieval Armenia—on an everyday, domestic level. It may be assumed that, in the medieval period, due to specific natural and demographic conditions (primarily the hostile environment), the local population maintained a somewhat different attitude toward a number of ancient customs and beliefs, including their perception of the value of human life itself, based on the principle of "one's own" versus "the outsider." It is also possible to assume external hostile influence or even the use of an "outsider" as a sacrificial victim.

Despite the scarcity of historical records, it is still possible to attempt a reconstruction of the circumstances surrounding the deaths of these individuals. Persons suffering from infectious diseases or physical disabilities were often regarded as a form of «scapegoat», upon whom society projected its fears, sins, and misfortunes. They were suppressed or eliminated because they were perceived as a threat, with society mystically transferring all evil onto them – evil that the collective sought to expel in order to restore order and purity.

CONCLUSIONS

A reconstruction of the events surrounding the lives and deaths of three individuals has been proposed. No burial rituals appear to have been performed with respect to the studied individuals. The skulls showed signs of bone damage associated with traumatic injuries. Cranial injuries that were not fatal may have occurred either in the context of military activities or during ordinary, nonviolent domestic interactions. Minor sharp-force cuts were identified on the frontal bones of skulls from the 2011 and 2013 excavations, a trauma near the right infraorbital foramen was recorded in an individual from the 2013 excavations, and a blunt-force nasal injury was observed on material from the 1978 excavation.

All of the individuals examined were found to have infectious diseases (leprosy, periostitis, sinusitis). The individuals studied belonged to a social class whose members experienced a shortage of necessary food products. People with physical disabilities and infectious diseases were perceived by society as inferior beings and therefore unworthy of attention.

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