Hamlet Martirosyan

MISSIONAL HISTORY OF ARMENIANS

Part IV

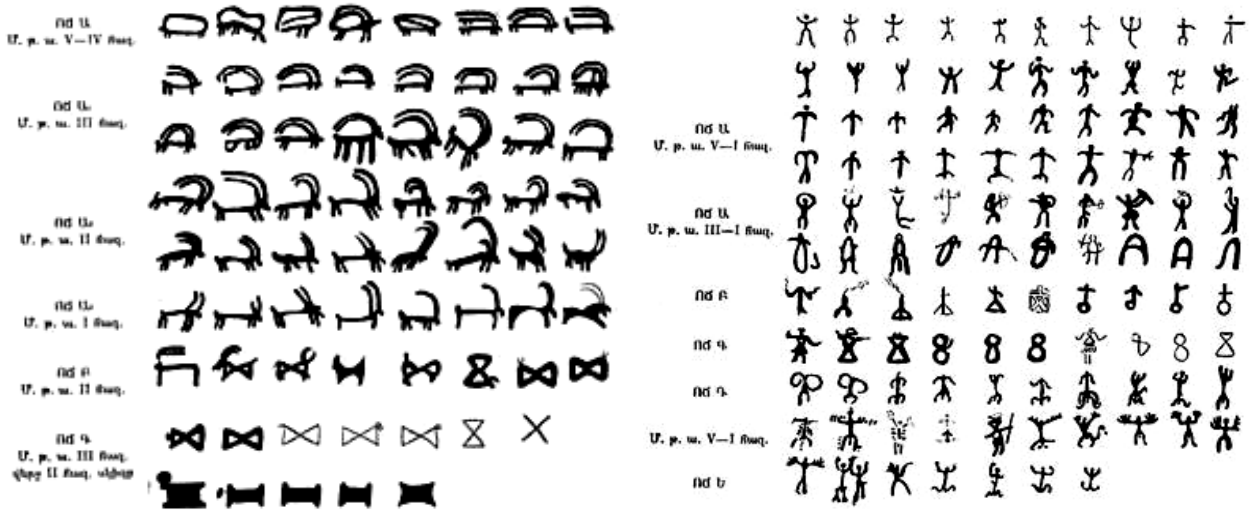
THE DATING OF SYUNIK PETROGLYPHS

The fact of similarities of Syunik's rock engraved symbols to the symbols of world's ancient writing systems, already shows that they too were hieroglyphs. We will reflect on this problem in the next section, however, already with certainty, we may utilize the name "*Itsagir*s of Syunik" instead of "Petroglyphs of Syunik" name. In the popular tongue, uninterrupted for centuries, these petroglyphs were called *itsagir*s (goat-writings), of which the majority of the symbols are goat figures. In other words, national memory has preserved the event which occurred in ancient times, attesting that the symbols engraved on the rock fragments are scripts.

The archaeological information that was presented in part 1, concerning the descent of new knowledge from the cradle of civilization, Armenia, testify that among the other values of civilization, writing was also exported from Armenia. That is to say, the *Itsagir*s of Syunik is the more ancient writing system, from which the rest of the ancient writing systems (Sumerian, Egyptian, Vinča, Harappan, etc.) descended. However, this is the comparative estimate of the age of *itsagir*s, while in the following, we will attempt to determine their explicit age.

One of the primary problems in the exploration of petroglyphs is the determination of their age. However, there are no clear and precise methods yet for the determination of the age of petroglyphs that spread throughout the world. We will apply a method developed by us, which, by means of the information that is present in the *itsagir*s, it becomes possible to decide their age.

The time period brought by various authors for the engraving of Syunik's *itsagir*s, include VIII-I millennia B.C. However, all their dating are provided without even hypothetical founding and bear subjective character. Perhaps outstanding among them is, the approach of the acclaimed author in the field of petroglyph exploration, Harutyun Martirosyan. Who classified the petroglyphs based on their creation style and technic (André Leroi-Gourhan method), and for each of these style groups, specific creation time period (Հարություն Մարտիրոսյան, Գեղամա լեռների ժայռապատկերները, Երևան, 1981). For 6 identified styles, the author set their dating to V-I millennia B.C.



Harutyun Martirosyan's separated styles of the goat and human pictograms.

In fact, in the author's separation, the figures, in many cases, are not different drawing styles of the same pictogram in various time periods, but simply, different symbols created with different drawings of the same animal figure. Often, the figure referred by the author to the V millennium B.C. exhibits itself on the same petroglyph with figures attributed to I millennium B.C., or sometimes we

also see representatives of all the 6 styles on the same petroglyph, while no evident traces exist of the application of figures' carving at different time periods. Harutyun Martirosyan has the great merit, specially, in revealing the essence of worship in petroglyphs. It is surprising that the author did not use his findings for the petroglyph's dating problem, which would have led to more objective and reliable results.

The dating method applied by Harutyun Martirosyan on Syunik's petroglyphs were developed in 60-s by E. Anati and A. Leroi-Gourhan. E. Anati was exploring petroglyphs of Sinai Peninsula and Negev desert (Israel). Before him, H. Rotert's exploration in these areas, singled out three groups of petroglyphs, the first of which was attributed to the stone age, the second to the beginning of the Bronze Age, and the third to Nabataean era. Later on, E. Anati singled out seven engraving styles of the petroglyphs, to which he attributed the following ages:

I - end of Late Paleolithic (14-10 thousand years ago),
II - time of animal breeding establishment in Palestine (~B.C. VIII mill.),
III - end of B.C. IV mill. – beginning of III mill.,
IV - B.C. II mill. – A.D. 200,
V - A.D. 200 - 600,
VI - Middle Ages,
VII - modern times.

(E. Anati, Palestine before the Hebrews, London: Jonathan Cape, 1963; E. Anati, The Rock engravings of Dahthami wells in Central Arabia, Bolletino del Centro Camuno di Studi Preistorici, v. 5, 1970, pp. 99-158)

In the following, we will reflect further on Negev and Sinai petroglyphs and their dating.

Subjecting to comparative examination the small sized artifact samples (mainly various figurines) that have correct dating to belong to the Late Paleolithic and a series of archaeologically dated monumental artifacts (cave rock paintings, petroglyphs), A. Leroi-Gourhan found therein a variety of artistic styles and accounted these style differences the result of belonging to different time periods. (A. Leroi-Gourhan, Les religions de la préhistoire; Paléolithique, Paris, 1964; A. Leroi-Gourhan, Préhistoire de l'art occidental, Paris, 1965)

A. Leroi-Gourhan had examined the data of 63 out of 110 rock painted caves known at his time (1964) and singled out four styles belonging to four different time periods. The obtained results had allowed A. Leroi-Gourhan, to also conclude, that the sole ideological basis for the pictography that was widespread during the whole Late Paleolithic has been mythology. That is the same factor, which forced Syunik natives to invent their writing system, about which we discussed above. Later on N. Klyagin, using A. Leroi-Gourhan's method, analyzed the data of 222 monumental sites in France, Spain, Italy and Russia (Н. Клягин, Происхождение цивилизации, Москва, 1996).

According to the author, the result of the analysis confirmed all theses of A. Leroi-Gourhan, of which, for the dating of the four styles, he brings the following corrected data:

I - 34,000-31,000 years
II - 25,000-20,100 years
III - 20,100-15,500 years
IV - 15,500-10,200 years.

We will reflect on these dating in a while, as for now, we only note that, based on comparison of anthropological and archaeological data, it follows that A. Leroi-Gourhan's singled out first oldest style's age corresponds to the time period of the appearance of modern man (Cro-Magnon) in Europe. Afterwards, genetic research results were added to these evidences and scientists collectively confirmed that the culture of the Late Paleolithic brought the modern man with it into Europe.

The archaeological monuments of certain locations in Asia, Africa and Europe, which have ages belong to the 45 – 35 thousands year time range, are observed to have new features of appearing suddenly and all at once, which sharply distinguish their culture from previous cultures of the same location. Of these distinctive features of the new culture, the following are notable and archaeologically accurately distinguished and determined:

- In the stone tools area, mass production of blades are revealed. Stone tools collection is dominated by tools made from blades of different geometric shapes, which previously were not encountered.
- Bone and horn tools that demonstrate new preparation technology (cutting, drilling, polishing), which were not used during the stone processing era.
- A completely new field of human creation is discovered, the invention and utilization of symbols and figures. First symbols are depicted on artifacts.

(Л. Вишняцкий, Верхнепалеолитическая революция; география, хронология, причины, STARTUM plus, Петербургский археологический вестник, №1, 2000)

These innovations mark the passing from the Middle Paleolithic to Upper Paleolithic, and are often characterized by the "Upper Paleolithic Revolution" expression. The traces of this cultural revolution that took place 45-35 thousand years ago, are observed in north Africa, Europe, south Siberia and Southwest Asia. That is to say, they duplicate the spreading paths of domestic goats and petroglyphs (see previous section). On other locations, this transition is either not detected or detected at a much later time.

From the point of view of our problem, the important thing in the new findings born out of the Upper Paleolithic revolution, is the evidence regarding the ability of drawing symbols and pictures by humans. Part of these abilities of the modern man are the rock art (cave painting, petroglyph), sign marked statuettes and tools, etc. The perspective of our examination also gives great importance to the following scientifically widespread two viewpoints:

a. The Upper Paleolithic transition was conditioned by the appearance of the modern man type.

b. The Upper Paleolithic culture emerged in the original dwelling place of the modern man, and then spread with it throughout the world (monocentric emergence of the civilization).

Having these two basic theses in front of us, along with the fact, that we see the Syunik symbols on the 30-40 thousands year old handcrafted artifacts of European culture, necessity arises to examine, what the Armenian territory has to do with the Upper Paleolithic cultural revolution.

The petroglyphs of Gobustan (Azerbaijan), which in terms of style, creation technique and content symbols are duplicates of that of Syunik petroglyphs, and by their volume incomparably much less than Syunik's petroglyphs, are attributed to 30 thousand years old (E. Anati, Gobustan, Azerbaijan, Capo di Ponte (Edizioni del Centro), 96 pp., 69 ill., in reference to E. Anati's previous article). Also in correlation to Syunik petroglyphs are the Karkom (Israel, south Negev) petroglyphs, which are also regards as Upper Paleolithic creations. These facts make us ponder, that the age of Syunik petroglyphs must at least be comparable to the age of Gobustan and Karkom petroglyphs.

However, since petroglyphs are the creation of the modern man type, to make an objective comparison of the age of the rock art samples found on various locations of the world, it is necessary to determine the modern man's development location and period, in parallel with the time period of the appearance of the rock art of the given location center.

Today's theory of the origins of the modern man affirms that around 80-70 thousand years ago, the ancestors of the modern man came out of Africa. However, the man that arrived to the Mediterranean shores (i.e. Palestine, Syria) from Africa, by behavioral characteristics was yet far different than the modern man type. Also anatomically, the ancestors of the modern man, 80-50 thou-

sand years ago were considerably different from the modern man type, as is evident from the skeletons found in the Africa-Palestine-Syria area (R. G. Klein, The Human Career: Human Biological and Cultural Origins, Chicago University Press, 1989, New edition 1999, pp. 358-360). Whereas, the man that entered Europe already possessed the anatomically and behaviorally unique characteristics of the modern man. Therefore, during 80-50 thousands year time segment, the modern man type must have finally formed at another location (between Palestine and Europe).

Today, known facts of various science disciplines show that the probable location, where the modern man got developed and produced into Europe the Upper Paleolithic culture, is Armenia. Let us briefly reflect on the data that constitutes the foundation of this viewpoint, extracting it from the "Out of Eden - The peopling of the world" work of the famous American anthropologist Stephen Oppenheimer (S. Oppenheimer, Out of Eden - The peopling of the world, Constable and Robinson, 2004, Russian translation: С. Оппенгеймер, Изгнание из Едема, Москва, Эксмо, 2004), where it is brought together facts from various science disciplines (archaeology, anthropology, genetics, etc.)

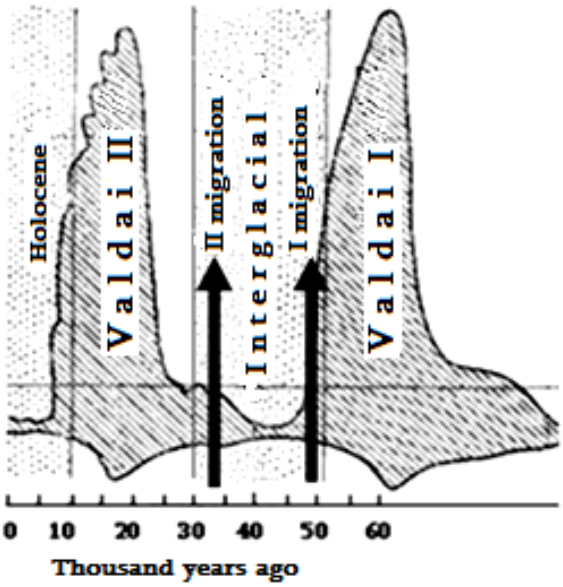
The archaeological and genetic information show that the population of Europe by the modern man has proceeded in several phases. Of these, the first phase began approximately 50-46 thousand years ago. Based on the archaeological data, during this first phase the Upper Paleolithic culture entered into Europe in two waves. During the first of these waves (46 thousand years ago), the so called, Aurignacian culture appeared in Europe (based on the name of Aurignac village, located in south France, where the first artifacts belonging to this culture were found).

The Aurignacian culture first appeared in Europe in the area of nowadays Bulgaria. Archaeological data also attest that the bearers of that culture came out of Armenia, and passed to Bulgaria via Asia Minor. Some authors, including S. Oppenheimer, use the "Turkey" geographical name, but in actuality western Turkey (i.e. Asia Minor) is the intermediate passage, through which that culture should have passed to Bulgaria from eastern Turkey (i.e. Western Armenia). These are attested by the archaeological data regarding the stone tools that belong to the Aurignacian culture. According to the archaeologists, a possible homeland of the Aurignacian culture can be considered a location that must be outside the European boundary, where Aurignacian type stone tools are discovered that have ages exceeding 46 thousand years. Based on current established archaeological information, today's only region over the world, which can assume such conditions, is the location next to Urmia lake of Zagros. This is where the well-known Shanidar cave resides, which is known by so called Baradostian culture center. In writing about this, S. Oppenheimer refers to the results of the exploration carried out by the Belgian archaeologist, Marcel Otte.

The Baradostian culture pertaining to the Early Upper Paleolithic, which was first discovered by Ralph Solecki in Shanidar cave (R. Solecki, Shanidar cave, a Paleolithic site in northern Iraq, Smithsonian Institute Annual Reports, 1955, pp. 389), later on was also revealed in five other caves of the region. The Baradostian culture has so much in common with the European Aurignacian culture, that some authors named it "Zagrosian Aurignac" (D. I. Olszewski, H. L. Dibble, The Zagros Aurignacian, Current Anthropology, 1994, v. 35, №1, p. 68). The Baradostian culture exhibits two phases of development, the earlier phase of which, according to radio-carbon dating of 60's (F. Hole, K. Flannery, The Prehistory of Southwestern Iran; A Preliminary Report, Proceedings of the Prehistoric Society, 1967, v. 33, p. 147), is attributed to approximately 38 thousand years old and is considered older than the Palestinian Aurignac. Based on the fact that in the carbon dating of 60's incomplete methods have been applied, it is assumed today, that the age of Shanidar has been misrepresented to be younger, and in actuality it is much older. On the other hand, the age of the European Aurignac is also being reviewed, but in this case, towards younger age, and the Baradostian culture is observed as the world's oldest Aurignac (J. Zilhro, F. d'Errico, The Chronology and Tafonomy of the earliest Aurignacian and its implications for the understanding of Neandertal extinction, Journal of World Prehistory, v. 13, №1, p. 1; D. I. Olszewski, H. L. Dibble, The Zagros Aurignacian, Current Anthropology, 1994, v. 35, №1, p. 68).

From the point of view of dating of the Syunik petroglyphs, particular importance is given to the archaeological evidence that relates to the successor of the European Aurignac, the Gravettian culture:

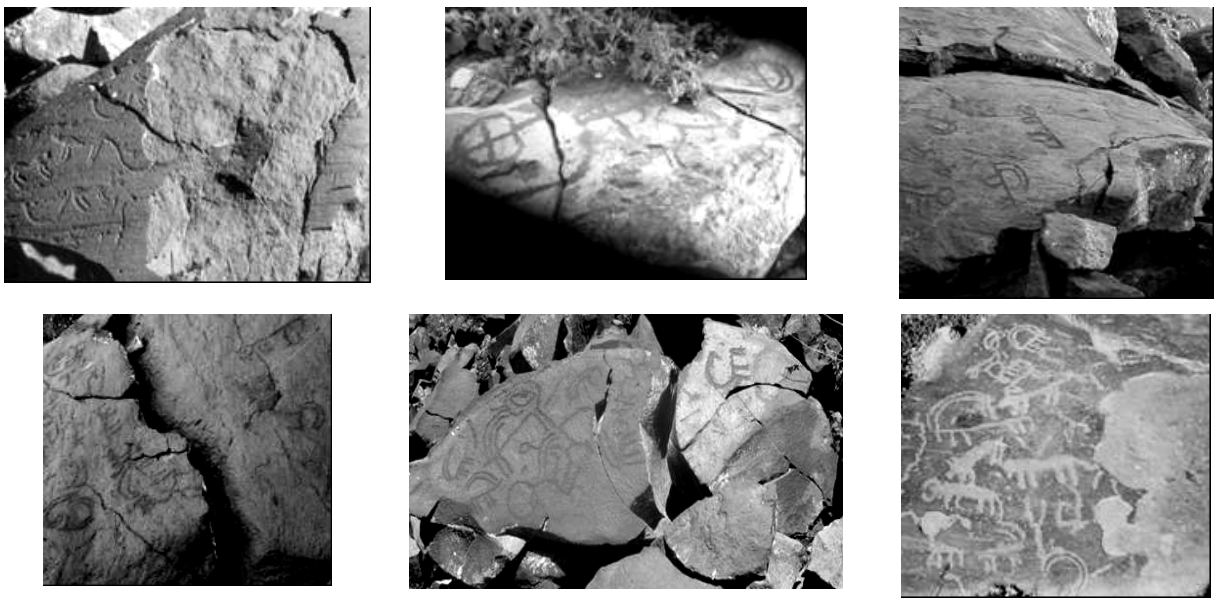
a. The bearers of the European Upper Paleolithic Gravettian culture migrated from Armenia approximately 32 thousand years ago.
b. Symbols of Syunik petroglyphs are present on archaeological samples belonging to Gravettian culture. As hieroglyphics, these symbols were created based on the homonyms of a certain language.
c. Around 50 thousand years ago, the bearers of the Aurignacian culture migrated from Armenian to Europe, who were the first modern man in Europe. No symbols have been found on the Archaeological samples belonging to early Aurignacian culture.



Migration periods from Armenia of the bearers of the Aurignacian and Gravettian cultures, shown between the two maximums of Valdaian (Würmian) glaciation.

These facts give sufficient basis to assume that the oldest samples of Syunik petroglyphs, in all probability, were engraved during the time interval that falls between the first and second migration (i.e. 50-33 thousand years ago). This corresponds to the interglacial period that falls between the last two maximums of Valdaian (Würmian) glaciation (see figure), during which Armenia was under hot and humid, subtropical climate. (Ю. Саядян, Новейшая геоло-гическая история Армении, Ереван, 2009, ст. 292), During these migrations, the modern man began populating the world, carrying with him Syunik symbols.

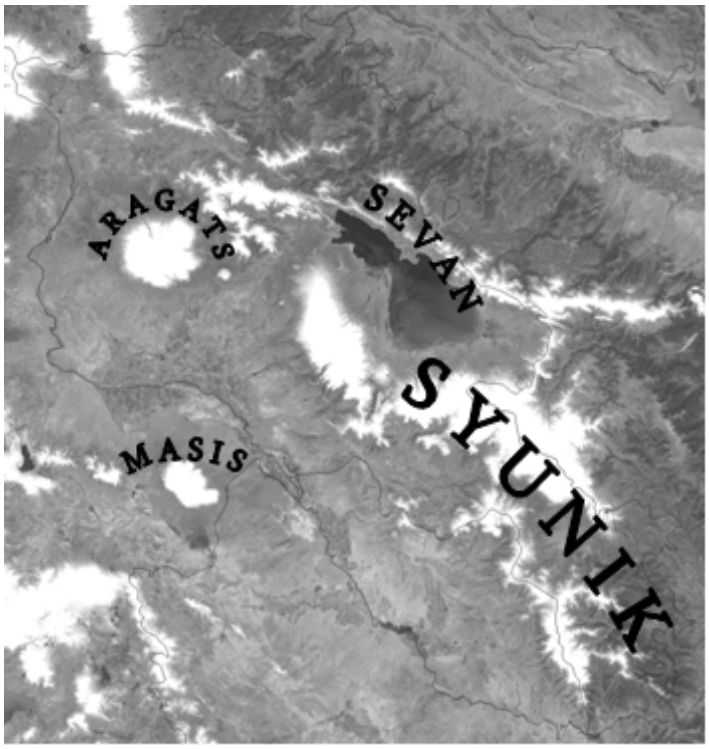
And, what evidence can the petroglyphs give about their existence 33 – 50 thousand years ago. Since currently there are no direct methods for dating petroglyphs, and there are no accompanying archaeological alternate material, therefore we are forced to search for indirect evidence.



Syunik petroglyphs endangered by climate forces

A. The rock art samples found in Europe, Asia and Africa, and which have interglacial period dating, are preserved in caves, while the archaeological material (statuettes) under earth. Over time, they were not exposed to various harsh climate forces. In contrast to these samples, the open air rock fragments of Syunik, during thousands of years, have been exposed to these forces. The most effective of which, may have been the fluctuations of the temperature of rocks during the night-day time interval, which at Syunik may reach to more than 60° C. The temperature fluctuations of rocks were accompanied with contraction and expansion processes, which have caused cracks in the rocks. The cracks have expanded year by year and eroded by winds. As a result of these, either the whole rock got destroyed into pieces, or the outer thin layer facing the sun, which was exposed to largest temperature fluctuations, and on which the petroglyphs were engraved, broke off the rock and crumbled (see figure above).

It is possible, that temperature fluctuation along with wind and water forces (gale, rain, hail, mudflows, etc.) managed to eliminate petroglyphs created during the interglacial period. This assumption is based on the current condition of certain petroglyphs, however we are not able to clarify, when the degradation process of the rocks began, how intensive it occurred at various time periods.



Approximate picture of Syunik and surroundings during apical glacial period (glacial fields are in white color).

Of course, the physiochemical composition of a given rock also plays an important role, and it is possible, that in the case of the cracking and fracturing rocks the main reason is their physiochemical characteristics and not time. Finally, we may assume simply, that the disintegrating petroglyphs are the oldest and created during interglacial time period.

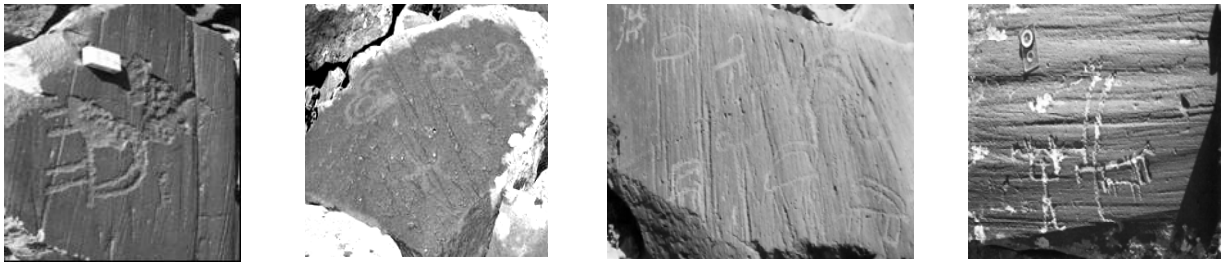
Since each of these explanations is equally probable, thus, although the existence of disintegrating petroglyphs cannot establish, it cannot also deny, that they were created during interglacial times.

B. In early Neopleistocene period (800-10 thousand years ago), the altitudes of Armenian mountains were not yet reached to the snow-capped climate limit. Their current look with above 3000 m peaks, formed during the middle Neopleistocene, 200-300 thousand years ago (Ю. Саядян, Новейшая геологическая история Армении, Ереван, 2009, ст. 290-291). That is the reason, that no glacial traces of early Neopleistocene are observed on Armenian mountains. According to geologists, in Armenia, the late Pleistocene glaciation (Valdai/Würm) revealed itself by mountain apical glaciations, it had two phases, which have corresponded to Caucasian Bezenginyan first and Bezenginyan second glaciations (Ю. Саядян, Новейшая геологическая история Армении, Ереван, 2009, ст. 292).

During the aforementioned apical glaciations, ice fields descended from place to place down to 2500-2700 m altitude. Consequently, a significant part of the territories of Syunik, where currently petroglyphs are found (2000-3500 m altitudes), must have mostly been under ice fields. Thus, the

petroglyphs must have been engraved either during the interglacial period that fell between the two apical glaciation phases, or after the maximum of the second phase (~20 thousand years ago).

After glacial maximums, when the melting time came, the ice fields started to slide down the hill from the mountain peak. During this movement, the stones immersed in the ice fields left groove shaped marks of various depth and width upon the large rocks. Today, such groove shaped marking exist on many of the petroglyph bearing rocks (see figure below). In almost all cases, petroglyphs are engraved over the groove shape marks, which means, that the groove markings are older than the petroglyphs.



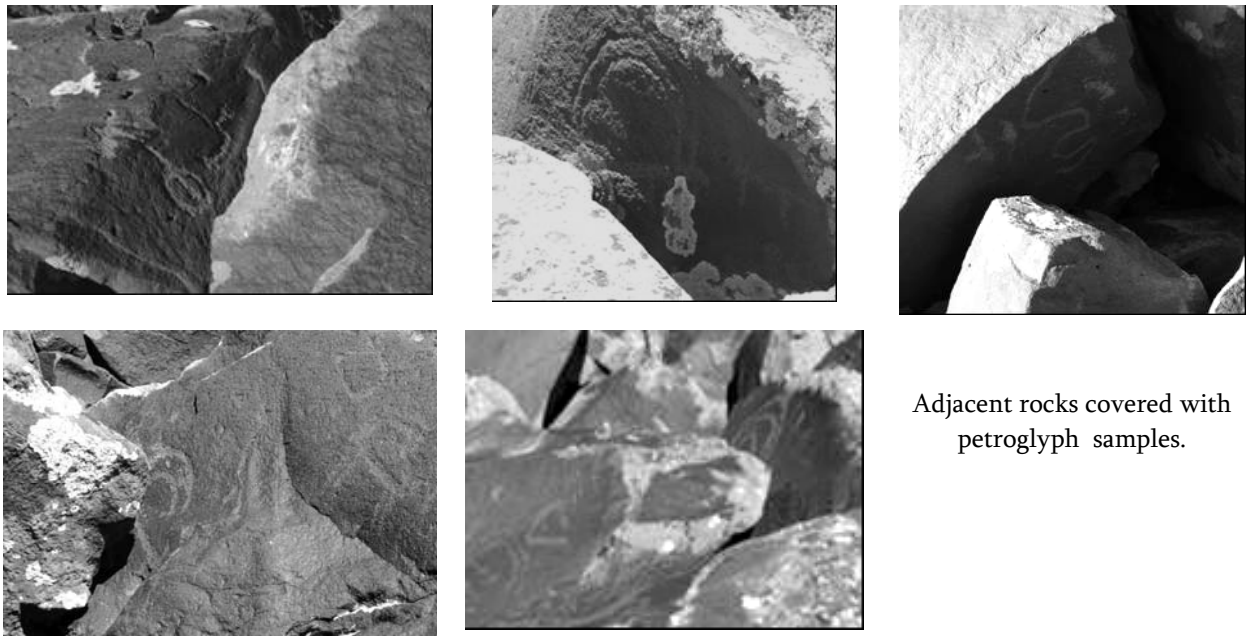
Groove shaped markings on rocks and petroglyphs engraved over them.

We are dealing with the two maximums of apical glaciation, the maximum of the first glacial phase occurred around 65-70 thousand years ago, while the second occurred ~20 thousand years ago. However, the study of the existing grooves on the rocks show that they are marked only on one face of the rocks, mainly parallel to each other and no intersection or superposition of grooves are noticed. In other words, the today's visible groove shaped marks of the rocks were made during only one of the glaciations.

Therefore, if the grooves are indeed the traces left by the glaciation, then:

1. Probably, during only one of the two apical glaciations, ice cover of such thickness emerged that could have the force to carry rocks, move them and cause grooves of such depth. Which glacial phase has been more powerful, first or second? This question has not been yet discussed by geologists.

2. Given the deterioration state of the surface layer of rocks and the considerably large time period between the maximums of the first and second glacial phases (more than 40 thousand years), we may assume, that grooves caused by the ice fields of the first glacial phase have deteriorated, while the grooves we see today are the result of the ice fields of the second glacial phase.



Adjacent rocks covered with petroglyph samples.

We consider the second case more likely and assume, that the petroglyphs engraved on top of the grooves, were created after the maximum of the second glacial phases.

C. Petroglyphs were usually engraved on flat and well visible sides of rocks. However, some rocks that bear petroglyphs exhibit strangeness, which opposes this universal principle. On such rocks, the petroglyphs are engraved on the side that faces towards very closely positioned neighboring rock. In this case, first of all the petroglyph is covered by the neighboring rock and becomes meaningless, and secondly, if the respective positions of these two rocks were like that at the time of the petroglyph engraving, then in some cases, it would be practically impossible to engrave it, because even a human hand cannot fit through the space between the rocks (see figure above). Photographing some of these petroglyphs was even impossible. In such situation, it remains to assume, that the rocks were displaced after the engraving of the petroglyphs.

The petroglyphs that are partially or entirely covered by neighboring rocks are contained in the moraine, which got collected, accumulated by the melting and sliding down the peaks ice fields. It is these moraines that present the physical evidence of the existence of the Upper Neopleistocene apical glaciation (see figure below).

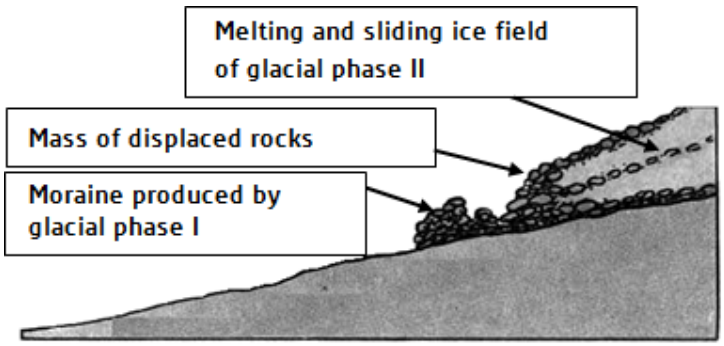
Moraines on Syunik mountains, at 3300 m altitude. Front plain are rocks with petroglyphs.

We believe that, if the covered petroglyphs were engraved after the second phase of glaciation, then no subsequent process (for example, tectonic) could have rolled and rearranged the interior deformed rocks of the moraine.

Since Syunik's mountains apical glaciation had two phases, it is natural that the existing moraines must have also emerged as the sum of those two phases of ice field activities. It is also natural, that today's visible landscape formed after the second glacial phase. Consequently, it may be assumed, that the covering of the petroglyphs is the result of this second phase of ice field activities. However, if moraine rocks produced by the ice field of the second glacial phase have covered a given petroglyph, then that petroglyph must have existed prior to the second glacial phase.

Therefore, we may represent the petroglyph covering process in the following approximate scenario. At the end of the first phase of apical glaciation, the melting ice field sliding down the peaks

produces its moraine, in which, one face of the included rocks, by friction are smoothed and marked by shallow grooves. On the smoothed faces of these rocks petroglyphs are engraved during the interglacial time period (33-50 thousand years ago). The melting of the second glacial phase ice field brings a new group of rocks (see figure below), which in particular, covers the moraine that was produced by the first phase ice field, while exerting pressure on some rocks to roll over.



Schematic picture of reposition of the moraines introduced by the ice fields of the glacial I and II phases.

As a result, we can conclude that because of the repositioning of two moraines, some of the petroglyphs engraved during the interglacial period are covered by rocks brought by the ice field of the second phase. In other words, petroglyphs that are covered by other rocks were engraved during the interglacial period (33-50 thousand years ago).

B. Under the effects of temperature fluctuations and other forces, resisting rock decomposition process, some rocks nevertheless, were able in isolation to preserve some sections of their decomposed layers and offer us the opportunity to give reliable assessment on the upper bound of petroglyphs' age. In other words, there are figure bearing rocks, with only one part of petroglyph holding face decomposed, while the other part remained, preserving the figures engraved on it. And there are some among these rocks, which during time have their decomposed parts smoothed back by winds and other long-term effects, and subsequently, new figures have been engraved upon them.

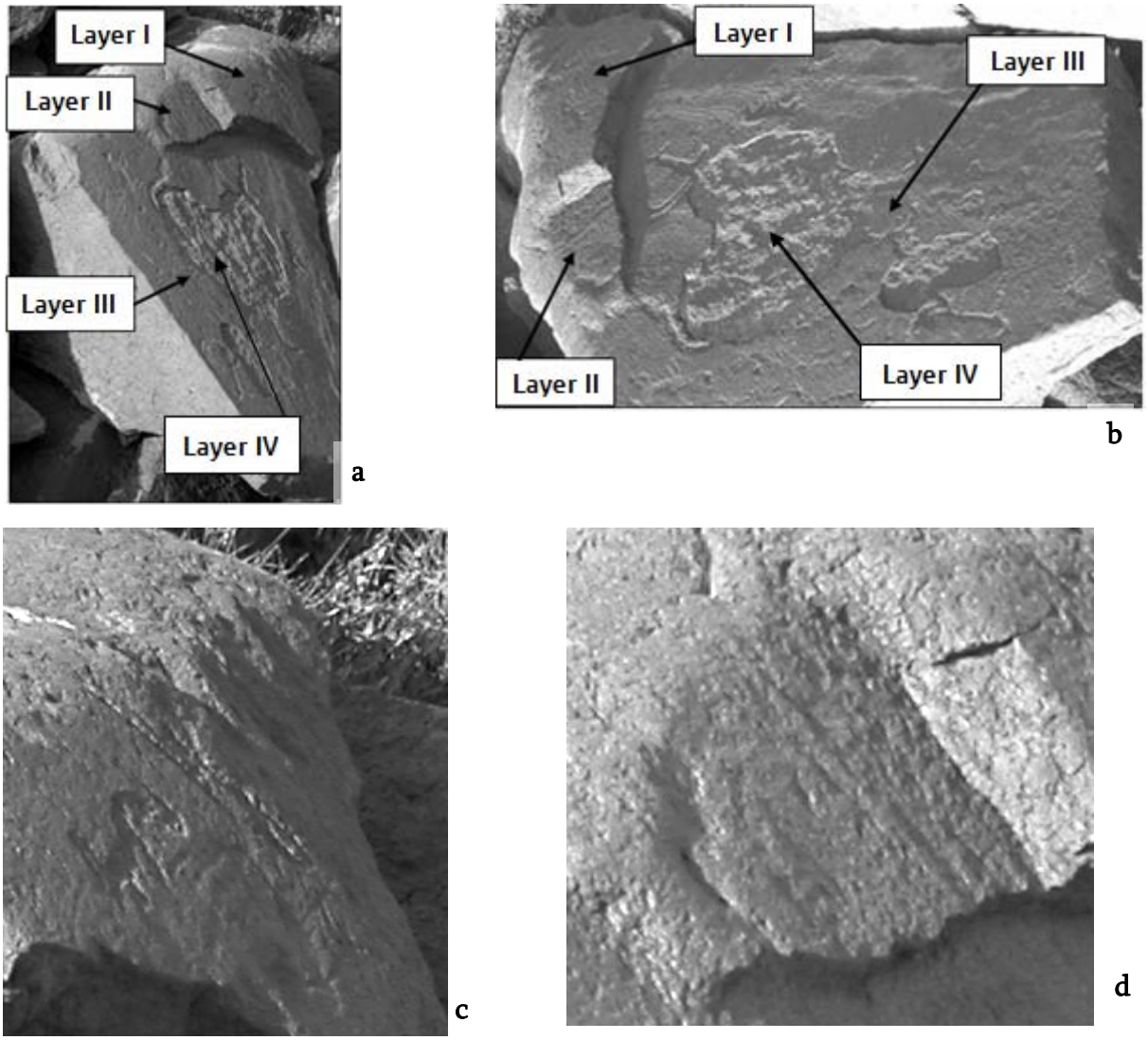
In the following, we will examine a rock, on which we see succession of four layers, each of which, bears its time mark. Listed below are the photographs of the rock taken from two different views (see figure below). Let us see now, what information can we extract from each of the layers:

First Layer – This is the topmost layer, of which a small piece bearing the figures has been preserved (see picture **c**). Since the figures near the broken edge are cut, it may be assumed that originally the figures of the layer extended all over the surface. On the preserved section of the first or the top layer, the traces left by ice field, grooves, are also visible. The grooves are of two types, the first is deeper and wider and has more smooth side figure, while the second type, less depth and narrower. The second type grooves are etched over the first and cross the grooves of the first type, parallel to the grooves of the second layer.

Second Layer – From the second layer, a smaller piece remained, on which grooves left by ice field are also noticeable (picture **d**). These grooves by their depth and width belong to groove types that resulted after the second glacial maximum (see the figure on page 9).

Third Layer – The third layer occupies most of the rock's surface, on its well smoothed surface figures are engraved, but ice field traces, grooves, are absent.

Fourth Layer – These are the decomposed parts of the figure covered third layer, and have not yet smoothed, rough surface.



Different views of the rock that exhibits succession of four layers.

This data permits us to reconstruct the events in the following reverse order. The fourth layer is the rock decomposition event examined above, which chronologically emerged the latest, after the decomposition of the engraved figure layer (third layer). The second layer decomposed after the maximum of the second glacial phase, because on its preserved part there are traces of the ice fields of that glacial phase. After the decomposition of the second layer, the third layer emerged, and upon which chronologically the last figures were engraved. These most probably, were engraved much later than the second glacial maximum (after a few thousand years), because the surface of that layer managed to become well smoothed.

Finally, the preserved section of the first layer bears on itself the superposed traces of the first and second glacial phases, the grooves and the engraved and decomposition resulted cut figures. These figures chronologically can only fit in the interglacial time interval. Consequently, we can verify that this rock bears on itself the tracks done by nature and man during the last 50 thousand years.

Completing the examination of the petroglyph bearing rock's characteristics, as a summary, we can state, that the oldest samples of petroglyphs, most probably, were engraved during interglacial times (50-33 thousand years ago) and a few instances of them have been preserved. Consequently, we can assume, the upper bound for the age of Syunik *Itsagirs* (petroglyphs) as ~50 thousand years.

The study of the regional petroglyphs and their distribution shows that the tradition of the petroglyph engraving after a certain time came to an end at upland locations. Now, we will attempt to evaluate the time period, when *Itsagir* engraving on rocks came to an end on Syunik mountains,

i.e. which determines the lower bound of the age of *Itsagirs*. If we can determine this time period, then, it will also be possible to outline their causes, based on the characteristics of that period.

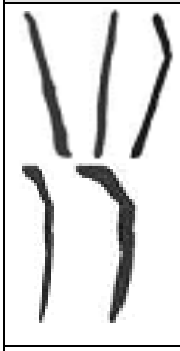
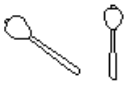
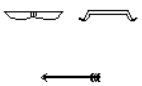
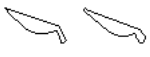
For the solution of this problem, not having archeological material accompanying petroglyphs in hand (engraving tools, ash residues[1], tombs next to petroglyphs, pottery, dwellings, etc.), we chose a different path, not yet utilized by others. The essence of our chosen method lays in that the petroglyphs can be dated by the pictures of the elements (tools, weapons, pottery, animals, plants, worship symbols, etc.), which can be compared and identified with elements excavated from other locations that are reliably dated or their dates of origin and disappearance are known. Let us now try to separate the elements into the groups that may serve as means for dating, then based on known facts for given group of elements, evaluate the lower bound of the creation of Syunik *Itsagirs*.

Weaponry – Of the handmade elements the most widespread among the engraved figures on the rocks are the weapon types. When examining the weapon types depicted in the petroglyphs, we should bear in mind the fact that weapons consisting of entirely metal or containing metal parts in Southwest Asia began to spread during the early bronze age (second half of the IV millennium B.C. - III millennium B.C.).

(See Ա. Փիլիպոսյան, Հին արևելքի շրջանակավոր դաստակով դաշյուններն ու սրերը, Երևան, 1999, and the literature listed therein).

Presented below in a table form the type samples of weapons (first row) depicted in 802 petroglyphs, which we used for our statistical purpose. For comparison, we have also presented the Egyptian hieroglyphic corresponding to the given weapon type (second row), and the total count of the weapon type from 802 petroglyphs (third row).

Table 1. Weapon types in Syunik Petroglyphs

Cudgel, Club	Spear	Club	Bow and Arrow	Ax	Knife, Dagger	Shield
						
						
73	**9**	**8**	**58**	**5**	**6**	**29**

If we proceed based on the given statistics, then at the time of the petroglyph engraving the most customary weapon types were cudgel, then bow and arrow, and shield. We have to take in consideration, that in petroglyphs, the frequency of appearance of such and such weapon type, in actual-

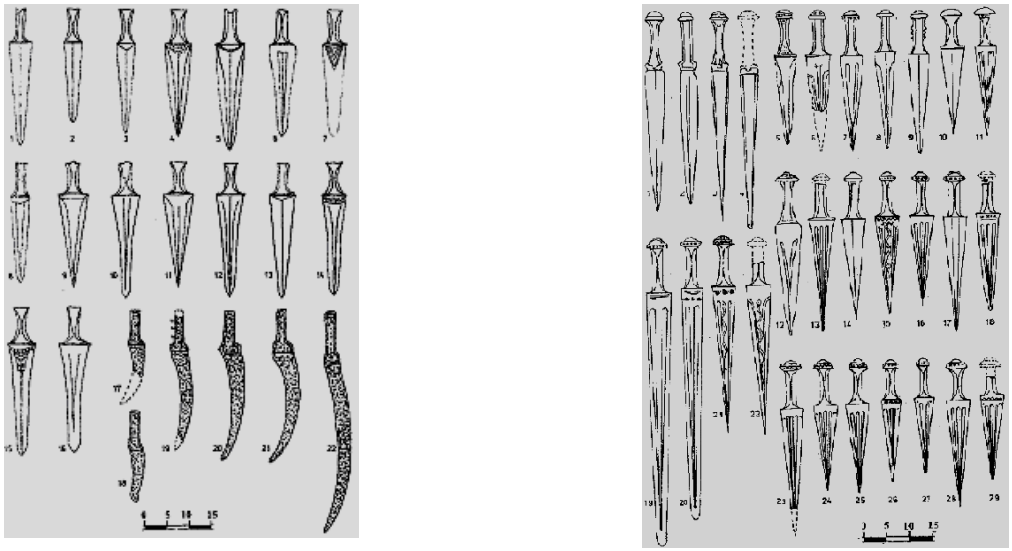
[1] Syunik Petroglyphs are engraved skillfully, with dynamic lines. We are strongly convinced that the carver first drew the figure with charcoal, then along the charcoal lines, using sharp edged stone beat and deepened them. Therefore, in accordance to excavations and corresponding research, possible charcoal residues may be found. In the case of discovery of such residues, it would be possible to directly date the petroglyphs.

ity may be depended on the usage frequency of ideographic meaning derived by the principle of homonym, and not the actual widespread use of the weapon at the given period.

Detailed examination of the piercing and cutting parts (spearhead, arrowhead, knife blade, axe) of the weapon types present in the petroglyphs, their comparison with the Upper Paleolithic and Bronze Age metal samples show that these parts are not metallic. Of course, there is some subjectivity in this approach, however, based on the fact that the drawing style of the petroglyphs is strictly realistic, we believe that our conclusion made on the pictures of these elements is correct.

Another fact bears evidence in favor of our conclusion. From the 58 figures of bow and arrow only in 6 cases the arrow is depicted with styloid arrowhead. This fact further must correspond to the Upper Paleolithic period, when elliptical or styloid stone headed arrows came to replace pointed wooden or reed arrows. Even if we assume that these arrowheads were metallic, this would have corresponded to the beginning period of early Bronze age, when metallic weapons were expensive.

Also, there are no similarities between dagger/knifes of the petroglyphs and daggers of the Bronze age (see figure below). Moreover, during the Bronze age swords were widespread, pictures of which are lacking among the petroglyphs.



Bronze age (B.C. III-II mill.) daggers and swords from various regions of Armenia.
(Ա. Փիլիպոսյան, Հին արևելքի շրջանակավոր դաստակով դաշույններն ու սրերը,
Երևան, 1999, Tables 4, 11)

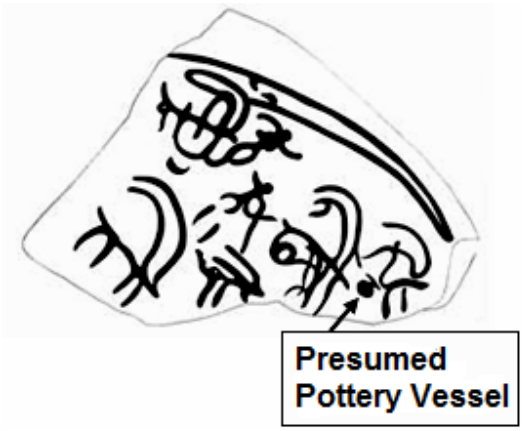
Therefore, in this case, we may only affirm, that the petroglyphs were created prior to the set out of the Bronze age, 3500 B.C.

Pottery – The point of view that the weapon types depicted in Itsagirs are made of stone is further confirmed and its creation period moved further, when we study the existence of pottery in Syunik petroglyphs. In the ancient hieroglyphic writing systems of the Southwest Asia, pottery figures have been used as symbols. For example, in Egyptian hieroglyphic system, there are 26 fundamental hieroglyphs representing various kind of stone or clay pots, which have more than hundred drawing versions. The same phenomenon exists in Sumerian, Hittite, Urartian hieroglyphics, as well as, in the rock engraved symbols of Metzamor (see figure below).

Since the system of symbols in Syunik petroglyphs is also hieroglyphic writing system, it was expected, that it also includes various images of pottery. In fact, pottery figures are absent in Syunik petroglyphs. There is only one figure that resembles pottery, which is included in the petroglyphs of Geghama mountains (see figure below). If this is a vessel, then by its look it reminds us more of the Egyptian stone pots.

Pottery figure as symbols, in IV-I millennium B.C. hieroglyphic writing systems.

In this case, it remains to conclude, that Syunik petroglyphs were created prior to the set out of the Pottery Neolithic era (which, based on current findings, began ~7000 B.C.)

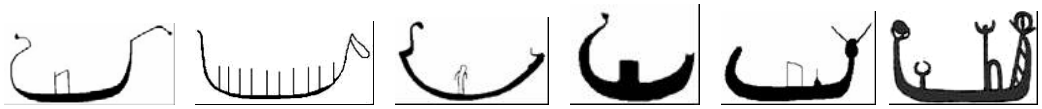


The only (presumed) pottery figure in Syunik petroglyphs.

Ships, Boats - In dating the Syunik Itsagirs, our next chosen characteristic is the presence of ships and boats in the petroglyphs. In the 802 petroglyphs that serves as basis for our statistics, there are figures of more than ten ship and boat types (see figure below). As observed in the figure below, Syunik Petroglyphs carvers, also, discovered and applied the means to utilize wind force, the sails. A characteristic having to do with mythology is also depicted in the last picture (in the figure), a sail-boat drawn inside the goat's "tablet", which means, probably, already at that time, the concept of "divine vessel" or "heavenly ship" was developed, as means of transport for heavenly bodies (gods).

Figures of ships and boats in Syunik Petroglyphs.

In the visible historic period, the geographic condition of Syunik (shallow fast running rivers, small lakes in volcanic craters), of course, are not fit for navigation, while lake Sevan is quite far from the location of the main aggregations of petroglyphs (in direct line: 20-100km). Moreover, the ship figures seem to depict, that they are wooden ships, having high noses and deep hulls, with which navigation may be possible only in large and deep bodies of water (sea or large lake). Incidentally, we note that the figures of the high-nosed ships of Syunik petroglyphs are also duplicated in the petroglyphs discovered in the area between Nile and Red Sea (see figures below).



Figures of ships in Egyptian petroglyphs.

It is with such ships that the founders of Egyptian civilization crossed the Red sea and penetrated into the valley of Nile.

Since historic Syunik did not have navigable bodies of water, while it is obvious that its inhabitant at a certain time had built and navigated with ships, consequently, the possibility of navigability must be searched in the prehistoric times, when such a possibility existed in Syunik.

According to available geological data, millennia ago, Syunik mountain-island was an aquatic island or peninsula. According to the data, in the Armenian highland, particularly in Syunik, the main mountain formation processes were completed in middle Neopleistocene, when mountain ranges formed with 3000-5000m altitude peaks.
(Ю. Саядян, Новейшая геологическая история Армении, Ереван, 2009: Ю. Саядян, Геология, стратиграфия и палеогеография верхнего миоцена, плиоцена и четвертичного периода Армении, Автореферат докторской дисертации, Москва, 2006; Ա. Վեհունի, Հայկական լեռնաշխարհի երկրաբանությունը և ընդերքի հարստությունները, Երևան, 2001; Геология Армянской ССР, т. 1, Геоморфология, Ереван, 1966):

According to geologists, the system of Chirac, Ararat plane and Angeghagot lakes emerged, also, during the middle Neopleistocene. The Kars-Chirac plateau, Ararat and Nakhichevan meadows water-covered Neopleistocene large lakes, had flooded Syunik from west and south. The lake of Angeghagot fell between Karabagh upland and Zangezur mountain range, and formed an interior lake, around which, large aggregates of petroglyphs (Dzghuk, Dzhermatzor, Ukhtasar) are scattered today.

Approximate geography of Eastern Armenia during Upper Paleolithic period.

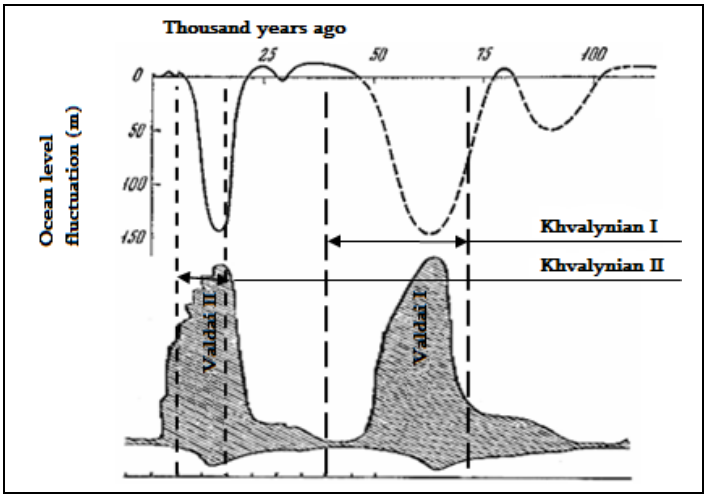
These large lakes started to dry up at the beginning of Holocene (B.C. X millennium).[2] Ararat and Nakhichevan meadows lower regions probably completely dried up in B.C. VIII millennium, because it is during that period that the first settlements of Ararat valley appear.
(Ս. Սարդարյան, Նախնադարյան հասարակությունը Հայաստանում, Երևան, 1967; Ս. Սարդարյան, Հայաստանը քաղաքակրթության օրրան, Երևան, 2004):

Consequently, it may be assumed, that in B.C. XII-XI millennia, these lakes were still navigable. And from this fact, it follows that Syunik petroglyphs may have been created since the drying up of the Upper Neopleistocene lakes, i.e. prior to B.C. XII-XI millennia. In other words, the *Itsagirs* age is more than 14,000 years old.

And it is appropriate to add, that around 70-40 thousand years ago, the Caspian Sea's most major transgression took place, the rising of the shores (Khvalynian I), during which the sea levels of Caspian Sea reached the heights of mountainous Artsakh.
(С.И. Варущенко, А.Н. Варущенко, Р.К. Клиге, Изменение режима Каспийского моря и безсточных водоемов в палеовремени, Москва, 1987. E. Badyukova, Age of Khvalynian transgressions in the Caspian Sea region, Oceanology, Vol. 47, № 3, 2007, p. 400, H. J. Dumont, The Caspian Lake: History, biota, structure, Limnology and Oceanography, 43(1), 1998, p. 44)

[2] The late emergence of pottery (B.C. VIII-VII millennium), probably, was conditioned by the fact that the originators of Neolithic civilization, the creators of agricultural and livestock farming culture, lived in high mountainous regions, where clay was practically absent. With the receding waters of the lakes, people descending from mountains, would have discovered in the dried up waterbed areas accumulated clay sediments and discovered the characteristic of clays and pottery.

During this transgression, the waters of Caspian Sea were more than 74m higher than the current level. This large transgression of Caspian Sea corresponds to the time period that falls after the first maximum of the first glacial phase, during the melting period, when Caspian Sea collected in itself the waters that emerged from the melting of East Europe ice fields. During this period, Lesser Caucasus (mountains Syunik through Javakhk) became an island cut by numerous bays (or peninsula, which was connected by a narrow strip to mainland, only at north-west)[3]. The main part of today's Azerbaijan area, the Kur-Arax valley, was submerged under water. This corresponds to the time period of the first migration wave of the modern man from Armenia (flood and migration).



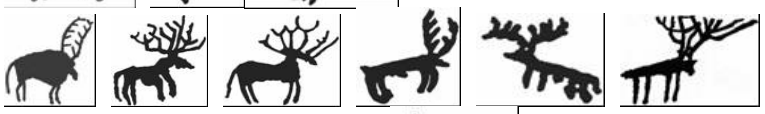
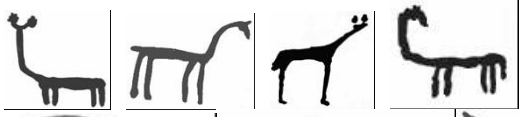
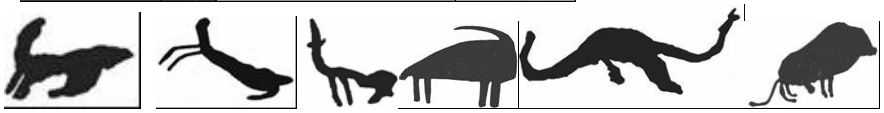
The next large transgression of Caspian Sea (Khvalynian II) took place after the maximum of the second glacial phase, 20-10 thousand years ago, during which the waters of Caspian Sea were 27m above the current level. The second large migration wave of modern man from Armenia corresponds to the beginning of glacial second phase, while the third, with the Khvalynian II transgression of Caspian Sea. This wave of migration from the territory of Armenia, came out 11-12 thousand years ago, and spread through the world, the livestock-agriculture farming, as well as, the *Itsagirs*.

The geological situation of Syunik described above may have a role in the guidance for the search of petroglyph carvers' settlements and archaeological research. The level of Chirac and Ararat lakes reached up to 1300-1500m altitude. Therefore, the search efforts should be performed within the area extended between 1500m altitude (Upper Neopleistocene seashore area) till ~3000m altitude (main altitude of aggregation of the petroglyphs).

Animal World – The next fact that gives us an opportunity for dating the petroglyphs, is the occurrence among the petroglyphs, figures belonging to the geological Quaternary Period fossil mammals. From the area of Republic of Armenia, fossils of elephant, mammoth, rhino, horse, camel, buffalo and deer have been found.
(Л. Авакян, Четвертичные ископаемые млекопитающие Армении, Ереван, 1959; М. Абрамян, Л. Авакян, Н. Азарян и др., Атлас ископаемой фауны Армянской ССР, Ереван, 1974)

According to paleobiologists, the last world-wide scaled global ecological crisis occurred at the head-points of Pleistocene and Holocene boundaries (12-13 thousand years ago)
(Палеолит СССР, Москва, 1984; Громов В.И. Палеонтологическое и археологическое обоснование стратиграфии континентальных отложений четвертичного периода на территории СССР, Москва, 1948)

[3] Most likely, it is during this times that in reference to Armenia, "Land of the East", "Land of Sunrise" and other such identifiers were developed. The sea surrounded Lesser Caucasus may have also been the mythological Dilmun land of Sumerian inscriptions, where lived Siusudra, the survivor of floods and who was honored by the grace of gods. In the cuneiform inscriptions Dilmun is written NI-TUK^{KI}, where NI read symbol has also IA$_3$ reading (as previously ^{d}HA-NI read deity name afterwards was read ^{d}HA-IA$_3$ = "god Haya" form). In this case, instead of NI-TUK^{KI} reading, we get IA$_3$-TUK^{KI} = hatuk (Յատուկ) land. The word "Յատուկ", in Armenian has this "separated, islanded" meaning. It is likely that the toponym Khaghkhagh (currently Ghazakh) is also a testament coming from these times, which means "sea reef, sea protruding rock-island".

Animal Name	Animal Figure on Petroglyphs
Camel	
Elephant, Mammoth	
(?)	
Ram-Bull (?)	
Cave Bear	
Rhino	
(?)	
Deer, Goats	
Giraffe	
(?)	
(???)	

Representatives of the animal world of the petroglyph carvers, which are absent from the Holocene period fauna of Armenia.

During this crisis, mainly, the large mammals were exterminated, the representatives of which, we see in Syunik petroglyphs (see figure above). For example, it is well known that the cave bear was extinct 15 thousand years ago. In the Eurasian continent, the oldest (~300 thousand years old) bones of the cave bear were discovered in Karabagh's Azokh cave, in which with them, man has lived continuously for thousand years. The latter has collected bear skulls in a cavity, after etching marks on the skulls using stone tools.

Therefore, if the petroglyph carvers drew an animal, which completely disappeared later on, naturally, the carving of the figure had to take place prior to that animal's disappearance (B.C. XII-XI millennium). As a result, this fact also gives the lower bound of B.C. XII-XI for the time period of creation of Syunik petroglyphs.

Around 40 years ago, discovering mammoth figures among the petroglyphs, archeologist S. Sardaryan had expressed similar viewpoint, which however, did not meet the proper attention.

Wild Sheep (Mouflon) – In the ancient historic Armenia, including Syunik, the mouflon type of the wild sheep was very common in the area. Armenian old scripts attest about this also, ever since medieval times, naming them "arn" (male) and "ardi" (female). Today, in the region of the Republic of Armenia, there are only small herds of mouflons in Syunik (see figure). This species is currently on the verge of extinction and have been registered into the Red Book. Genetic examinations have shown that mouflon and the modern domestic sheep share the same set of chromosomes. And this means that the modern domestic sheep originated from mouflons. Concerning the domestication of the wild sheep, archaeological materials verify that it took place during the early Neolithic age (B.C. XI-X millennium), in the Armenian mountainous areas, the central region of the primeval habitat of the wild sheep (Cypress-Asia Minor-Armenia-Iran).

Herd of wild sheep on today's Syunik mountains

(P. J. Crabtree, D. V. Campana, K. Ryan, Early animal domestication and its cultural context, University of Pennsylvania, 1989; G. Ilgezdi, The Domestication Process in Southeastern Turkey: The Evidence of Mezraa-Teleilat, Dissertation zur Erlangung des Grades eines Doktors der Naturwissenschaften, Berlin, 2008):

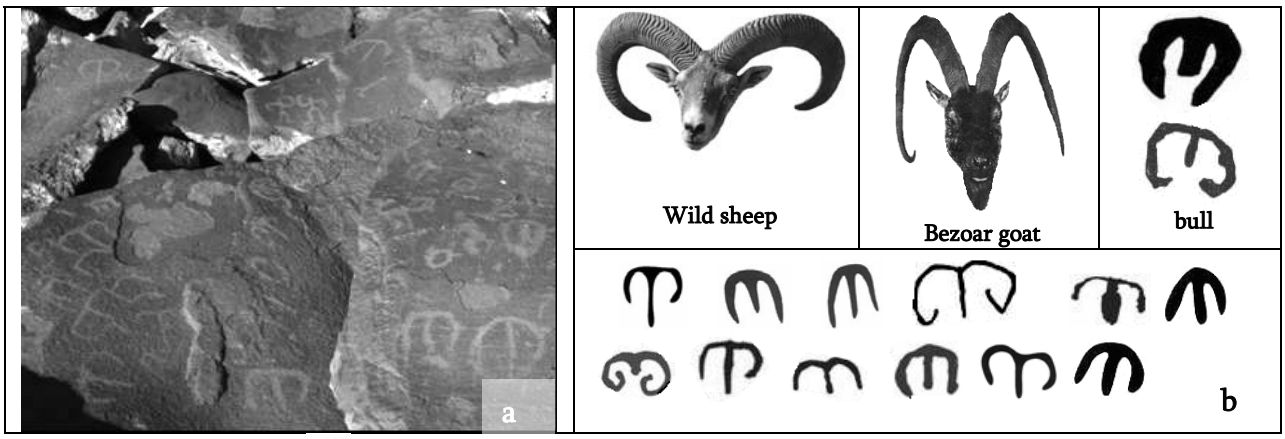
The content of Syunik petroglyphs would meet direct contradiction with these facts, were we to follow the logic of scientists, who date the Syunik petroglyphs to B.C. V-I millennia or B.C. VIII-I millennia. This contradiction arises by the simple fact, that among thousands of figures of Bezoar goats in Syunik petroglyphs, there are no figures of mouflon, that is to say, the carver of the petroglyphs was not familiar with mouflon. Among the lines of real figures of goats, bull, lions, jaguars, dears, dogs, donkeys and other animals, the animal figure of mouflon is absent.

Schematic figure of ram's head, according to Har. Martirosyan.

Har. Martirosyan has identified some existing symbols of petroglyphs with schematic figures of ram's head (see figure).
(Հար. Մարտիրոսյան, Գիտությունն սկսվում է նախնադարում, Երևան, 1978, page 148, table XXXIIա, բ; Հար. Մարտիրոսյան, Հայաստանի նախնադարյան նշանագրերը, Երևան, 1973, page 30, table VIII):

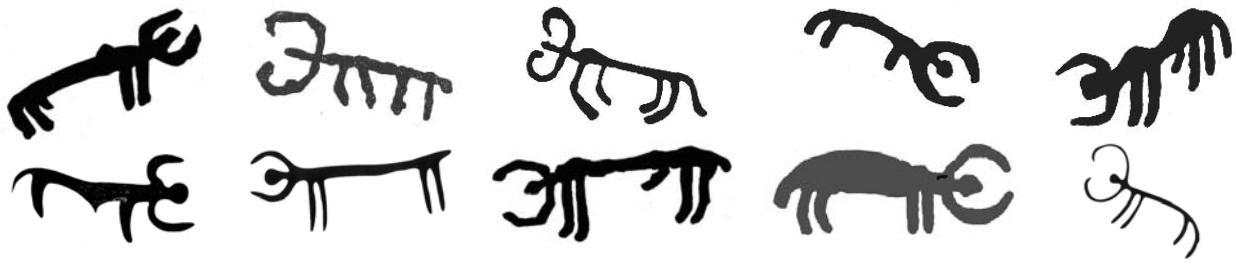
If Har. Martirosyan's identification is true, then the question arises, why the figure of whole ram is absent. Har. Martirosyan identifies the above mentioned carved symbols also with the «խոյ» ( ) symbol of Medieval scripts Knowledge Signs ("Նշանագիր Իմաստնոց"), figures that, in fact, have no similarities.

In actuality, the ram head figure assumed by Har. Martirosyan, may be interpreted with same success as bezoar goat head (for comparison see the figure below). However, between the two horns of both ram and goat there is deep concavity, which is not observed in the case of rock carved symbols. On the other hand, there are rocks that are entirely covered with this symbols, which attests the fact that if our symbol is schematic of an animal head, then that animal's drawing must also be very customary to the petroglyphs carvers.



a) "Bull head" symbols ( ) on a rock; (b) Heads of mouflon, bezoar goat and bull (first line on the right) in comparison with the "bull head" symbols (second line).

Based on the statistics of animal figures currently known to us, ordered by their quantity the goat figures are followed by that of the lion and then that of the bull. Since the lion has no horns, therefore, it remains to assume that the symbol under investigation is the schematic picture of the head of the bull. For comparison, listed in the figure above are two pictures of bull head, which we cut and separated from the first and second bull pictures listed in the figure below. It is obvious, that these are exactly the same as the investigated symbols and that we already may rightfully name these symbols as "bull's head".



Bull figures from Syunik petroglyphs, with head drawing similar to "bull's head" symbol ( ).

As a result, in parallel to the popular and well-known bull's head schematic picture ( ), we have, by its drawing, a completely different schematic picture of bull's head ( ). From this perspective, the study of Syunik petroglyphs shows that among its content, it distinguishes a few different bull types.

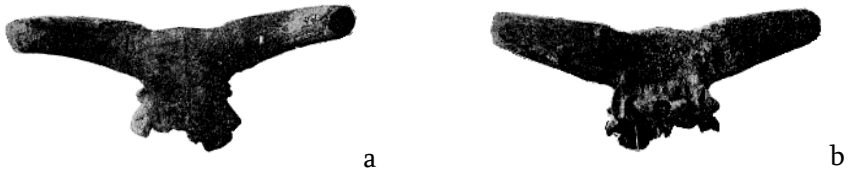
Pictures of different types of bulls in Syunik petroglyphs.

Along with that, the "bull's head" symbol pictured head bearing bulls dominate the bull figures of Syunik. Archeozoological data confirms these diversity of bull figures of the petroglyphs. According to this data, in the area of Republic of Armenia, four types of fossilized bull remains have been discovered belonging to the Upper Pleistocene period.
(Л. Авакян, Четвертичные ископаемые млекопитающие Армении, Ереван, 1959, ст. 58)

Bos primigenius Boj - Gyumri
Bison bonasus - Sevan
Bos trochoceros Meyer - Eylas,

Bos minutus Malsb (prehistoric dwarf bull) – Sarikaya.

Based on the presented description, Bos trochoceros Meyer fossilize bull, had a head corresponding to the "bull's head" symbol. According to the skull found in Elyas, the bull had strictly down, towards the chin pointing and curved horns (see figure below).
(М. Абрамян, Л. Авакян, Н. Азарян и др., Атлас ископаемой фауны Армянской ССР, Ереван, 1974, ст. 401 и Л. Авакян, Четвертичные ископаемые млекопитающие Армении, Ереван, 1959, Таблица XII, рис. 29, 30)



a b

Fossilized bull skull found in Elyas. a) front view, b) rear view.

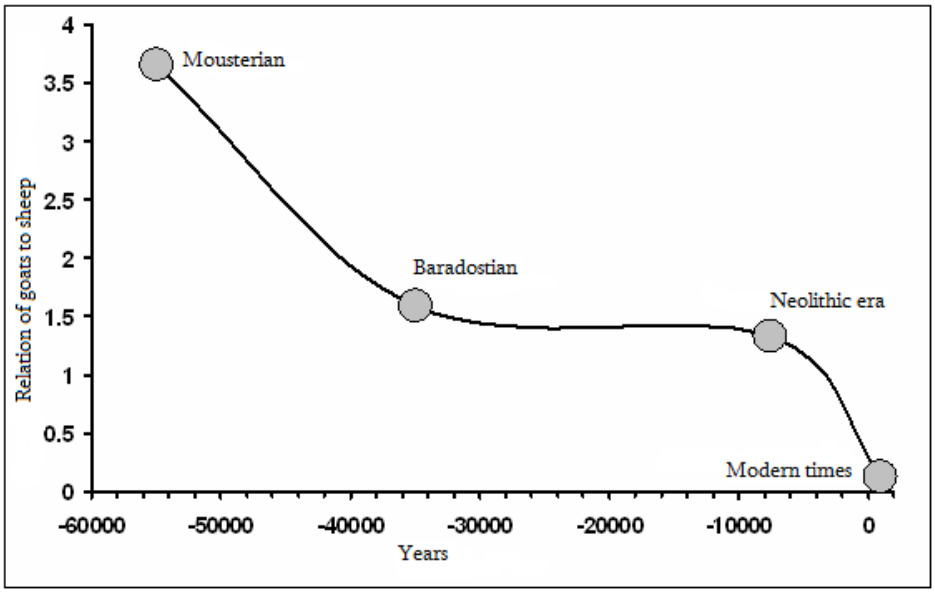
Based on the skull's data (forehead width is 34 cm, horn length 78 cm, at the base, diameter of the horns 15 cm), the bull of Elyas has been large and strong. This bull has also become extinct during the transition phase from Pleistocene to Holocene and yet another evidence, that Syunik petroglyphs were carved prior to B.C. XII-XI millennia.

Let us return to the wild sheep already convinced, that during the time of the carving of the petroglyphs, there were no wild sheep in Syunik yet. But in order to find out when the wild sheep appeared in Armenia, we will resort back to the aid of the Archeozoological data. According to this data, the wild sheep appeared in the region of Armenia during the transition phase from Pleistocene to Holocene after the extinction of large mammals, i.e. early Holocene period.
(Н.В. Насонов, Географич. распространение диких баранов Старого Света, Петроград: Изд-во АН, 1923, reference according to, U. Սարդարյան, Նախնադարյան հասարակությունը Հայաստանում, Երևան, 1967, p. 130).

The wild sheep migrated from Europe along the coastal mountains of Mediterranean Sea to Asia Minor, and from there to mountainous steppe regions that fall south to Taurus. In this region, the oldest trace of wild sheep have been found in the valleys of mid Zagros, particularly in Shanidar cave and in Zawi Chemi Shanidar residence located nearby. It is from this area also, that the oldest bones of domestic sheep have been found, with ages forming 10870±300 years.
(D. Jr. Perkins, Prehistoric fauna from Shanidar, Iraq. Science, 144, 1964, p. 1565).

The correlation of sheep and goats found in Shanidar shows, that during the Upper Paleolithic age the number of goats were a few times more than the number of sheep (see figure below).
(In forming the graphic presentation we took the necessary data from the following work: Ch. A. Reed, Archeozoological studies in the Near East a short history (1960-1980), in «Prehistoric archaeology along the Zagros flanks», Ed. L. S. Braidwood, R. J. Braidwood et al, Oriental Institute Publications, vol. 105, Chicago, 1983, p. 521):

At the beginning of the Neolithic period the number of goats and sheep were approximately equal. After that, the picture completely reversed, the number of sheep became a few time more than the number of goats. In the Neolithic age, this drastic change of correlation to the advantage of the sheep, of course, was conditioned by the demand of wool of the already domesticated sheep.



Relation between goats and sheep bases on Shanidar data.

In the region of Armenia and particularly Syunik, favorable conditions were created for wild sheep, when after the second apical glacial phase the forest-cover gets restored, practically, when volcanic activity stops. This has taken place during the beginning of Holocene period (B.C. XI-IX mill.). During this time, and probably along the Shanidar-Salmast-Khoy-Julfa line, the wild sheep crosses to Syunik from Zagros mountains, and this is the reason, that in the petroglyphs carved during and before B.C. XII-XI millennia, the figure of wild sheep is absent.

In pictography, the figure of ram began to appear at the outset of Bronze Age (B.C. 4th mill.) and spread with Bronze Age culture throughout the world.

Schematic picture of ram's head on early Bronze Age pottery, from Armenia.

In Sumerian pictogram $^{d}E_2.A$ = Haya god's one of the names hieroglyph was the ram-headed cane.

Clay head of ram from Sumerian Uruk (B.C. 4-th mill. second half).

The Egyptian Khnum God the Creator, was portrait with ram's head along with horns of goat. The God Amon was represented by ram's figure.

Clay statuette of ram with writing symbols (Vinča culture, B.C. 4-th mill., second half)

Furthermore, in the ancient world, the pictography of ram streams more during the period, when at the Vernal equinox point transitions from Taurus constellation to Aries constellation.

Thus, the lower bound for the age of Syunik petroglyphs based on examined data from dating point of view, attest that, in the mountainous region of Syunik, the carving of *Itsagirs* stopped during B.C. XI-X millennia. This is probably due to the fact that at that time the waters of the Caspian Sea retreated, while the waters of the Ararat and Nakhijevan lakes began to fall, and the 1500m-3000m altitude dwellers, people who already mastered agriculture and cattle raising, descend and establish settlements at fertile and lowland valleys and fields. The carving of petroglyphs is continued in the new settlement locations, evidence of which are, for example, the petroglyphs found around the outskirts of Aragats (Voskevaz, Aghavnattoon, etc.). At the time of the carving of Syunik petroglyphs, these regions were under the waters of Ararat lake.

Let us summarize what have been said above in the following brief form:

The Itsagir inscriptions of Syunik were carved during the Upper Paleolithic period, B.C. 12-50 thousand years ago.

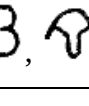
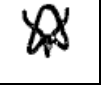
We arrived to this conclusion as a result of examining only the data contained in Syunik petroglyphs. There are independent archaeological and written evidences as well, that confirm this conclusion. Let us consider them by the examination of a few examples.

Archaeological Evidences

a) As the first evidence, let us consider the archaeological data of Portasar (Göbekli Tepe), which is located around 12km northwest of the historic Armenian city Urha (Armenian Mesopotamia). The archaeological site is a hill with approximately 15m (approximately 760m above the ocean level) altitude, the excavation of which, starting in 1995, was realized by the German archaeological expedition lead by K. Schmidt. At the hill slopes, around 20 temple structure were discovered, of which currently four have been entirely excavated. These temples, considered to be the world's oldest, have 10-30m diameter and are surrounded by 10-20 ton **T**-shaped columns. On most of the columns, figures of animals (lion, bull, boar, snake, etc.), birds and geometric shapes have been carved. Applied radio carbon dating examination has revealed, that the age of the temple complex of Portasar is 10-12 thousand years old. (K. Schmidt: *Sie bauten die ersten Tempel. Das rätselhafte Heiligtum der Steinzeitjäger*. Verlag C.H. Beck, München 2006, Russ. translation Шмидт К.,Они строили первые храмы, СПб, Алетейя, 2011).

In other words, the time of the foundation of the temple complex of Portasar coincides with the initial time period of the spread of agricultural and cattle raising culture from Armenia. The examination of animal figures and abstract symbols of Portasar show that they were also hieroglyphs (see H. Martirosyan, "Lion" Character in the Petroglyphs of Syunik and the Ancient World, Yerevan, 2012).

The table below lists 10 symbols from Portasar, in comparison to Itsagirs of Syunik and Medieval characters ideograms.

Itsagir (Syunik)										
Portasar										
Medieval Characters										

The symbols of Portasar and Syunik are obviously identical. To this comparative series it is worth to also add all the animal figures found in Portasar. It is obvious also, that the temple complex of Portasar was dedicated to the worship of definite deities, where only definite ideograms arising from ritual-liturgical needs have been used and Portasar cannot be the origin for the creation of ideograms. In contrast to Portasar, in Syunik there are *Itsagir* inscriptions on tens of thousands rocks, among which hundreds of characters have been used. Conseuently, these symbols along with other cultural values must have arrived Portasar from Syunik. And if the temple complex of Portasar was founded 12,000 years ago, then the *Itsagir* inscriptions of Syunik, certainly, must have been carved much earlier than that.

b) As a second archaeological independent evidence, we present the mammoth tusk displayed in the State Museum of History of Armenia, which is represented as trogontherian elephant tusk (steppe mammoth, Mammuthus trogontherii). On this tusk, there are handmade marks of three symbols. The tusk was discovered in 1920's in sand mines of Gyumri.

Trogontherian elephant skeleton, RA-NAS, Institute of Geology Museum.

First, let us note, that in the sand mines of Gyumri, the entire skeleton of trogontherian elephant has also been discovered, which currently is displayed in RA National Academy of Sciences Institute of Geological Museum (see figure). By Archeozoologists' estimates the trogontherian elephant (steppe mammoth) lived 300-600 thousand years ago. Woolly mammoth bones have been discovered, as well. The Woolly mammoth descended from the trogontherian elephant around 200 thousand years ago and during the last glacial period, it became the largest animal in Eurasia.

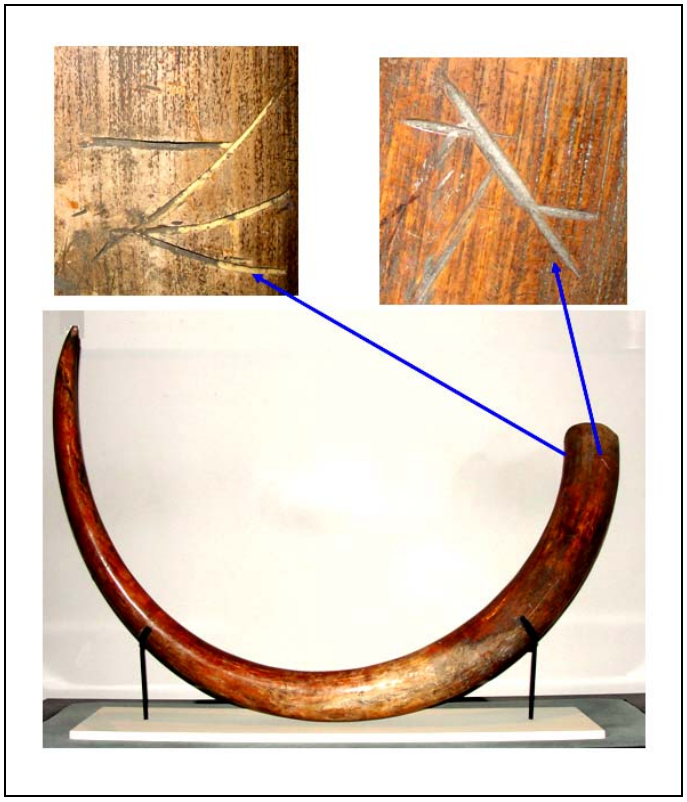
We believe, that the tusk displayed in the State Museum of History of Armenia, does not belong to the trogontherian elephant, but by its size and form matches the tusk of the woolly mammoth (see table).

Mammoth type	Height	Tusk length	Tusk shape	Tusk diameter
Mammuthus trogontherii Trogontherian elephant	~4-5m	~3-5m	Slightly curved	~25cm
Mammuthus primigenius Woolly mammoth	~2.8-3.5m	~2.5m	Severely curved	~10-15cm

Based on the data of this table and the listed photograph, it obviously follows that, the tusk displayed in the State Museum of History of Armenia, by its curvature and thickness corresponds to the woolly mammoth, born around 200 thousand years ago.

This is also evidenced by the fact that, tens of tusks discovered in the mainland of Eurasia, on which there are handmade marking made by the Upper Paleolithic period man, belong to the woolly mammoth.

During the Upper Paleolithic period, when man started marking symbols, trogontherian elephant was long extinct.



Handmade marking on woolly mammoth tusk

At the base of the woolly mammoth's tusk and on the opposite sides, there are three handmade marks carved by man. On one side, the  and  symbols are carved.

Probably, it is from these two symbols that the Sumerian cuneiforms IDIM=  and AŠ=  respectively originated (A.Falkenstein, Archaische Texte aus Uruk I, Berlin, 1936; Labat R., Manuel d'épigraphie akkadienne, Paris, 1988).

From these the IDIM character has the meaning of "spring, underground fresh water" (akkad. *nagbu*), and with this cuneiform, one of the God name ^{d}E$_2$.A=Haya is written (H. Martirosyan, "Lion" Character in the Petroglyphs of Syunik and the Ancient World, Yerevan, 2012, pp. 138, 181-182).

The AŠ cuneiform has the "strong, powerful, forceful" (akkad. *dannu*) and "perfection, nobility, kin" (akkad. *gitmalu*) meanings. The Sumerian words that represent these meanings have their parallels in Armenian. Probably, it should be assumed that, this void tusk in relation to water worship had ritual significance and was utilized as shedding vessel.

On the opposite side of the tusk, the  character is carved. This character is present in the ancient world writing systems, but its meaning is unknown. In Armenia, this character being used since Syunik Itsagirs times attained till Medieval scripts Knowledge Signs, in which it is represented in the following shapes:  ,  ,  ,  . Of these, the last one is the Zodiac's Pisces (pair of fish) constellation's contemporary schematic figuration. **In the Medieval scripts this character is listed having the "Fish" (ձուկն) reading.** Mesopotamian pictogram data shows that, the fish figure (often in pair), as hieroglyphic, similarly has been one of the characteristics of the God ^{d}E$_2$.A=Haya, the maker of Tigris and Euphrates rivers (see listed Mesopotamian seals listed below).

In the Ararat kingdom also, fish pair figure was used as hieroglyph, about which is attested by the seals with pair of fish figure () excavated from Arinberd: We also know from Sumerian cuneiform sources that, the sacred abode of the God ^{d}E$_2$.A=Haya is in the sea of Earth's underground fresh waters, and in the heavens, in the Pisces constellation (Հ. Մարտիրոսյան, Հայոց հնագույն պատմության էջեր, Երևան, 2011, see «Եղեմ երկրային և երկնային» section).

We clarified that, the symbols on Gyumries mammoth tusk are hieroglyphs, and represent the embodying God, $^{d}E_2$.A=Haya, of the underground fresh waters. Furthermore, that all three characters of the tusk exist in the ancient world writing systems, starting from Syunik Itsagirs to medieval scripts of Knowledge Signs (see table below).

Table. The symbols of Gyumries woolly mammoth tusk in the ancient world hieroglyphic writing systems.

Syunik	Sumer	Egypt	Harappan	Vinča	Kur-Arax	Middle Bronze	Ararat Kingdom	Knowledge Signs
								
							–	
								

Let us return to our main problem: when were the marks carved on woolly mammoth tusk found in Gyumri? For the lower bound of the carving date, we have two important facts:

a) **Woolly mammoths became extinct at the end of the Upper Paleolithic period, around 12-13 thousand years ago. Consequently, the tusk must have been carved before the extinction of the mammoths.**

b) **The tusk of the mammoth has been found in the sand mines of Gyumri, which was caused by the Quaternary Period's lake (Shirak lake) sediments. It is not known from which layer of these sediments the tusk was extracted. If it was found in the top layer of the sediments (least age), then we may affirm that, the tusk fell in the lake at least 12 thousand years ago, because it was during that period, that the process of water level quick dropping and lake disappearance began. Consequently, the age of the carving of the tusk is more than 12 thousand years.**

From both facts it follows that, the age of the carving of the tusk is more than 12 thousand years.

Gyumri's carved tusks is not unique in the world. In the Eurasian main continent, many tusks of the woolly mammoth were discovered bearing marks, the age of many of which is known with sufficiently high accuracy. A few examples are listed below.

Malta station, Irkutsk, Russia
23-19 thousand years ago
Figure of three snakes carved on mammoth tusk, compare with that of Syunik and Portasar figures listed above.

This carved mammoth tusk is known as Venus of Předmostí
29-25 thousand years ago
Předmostí, Czech Republic

27-24 thousand years ago

Předmostí, Czech Republic

Carved mammoth tusk

31-30 thousand years ago

Mammoth Cave, Russia

Lion statuette carved from mammoth bone

36-30 thousand years ago

Vogelherd Cave, Swabia, Germany

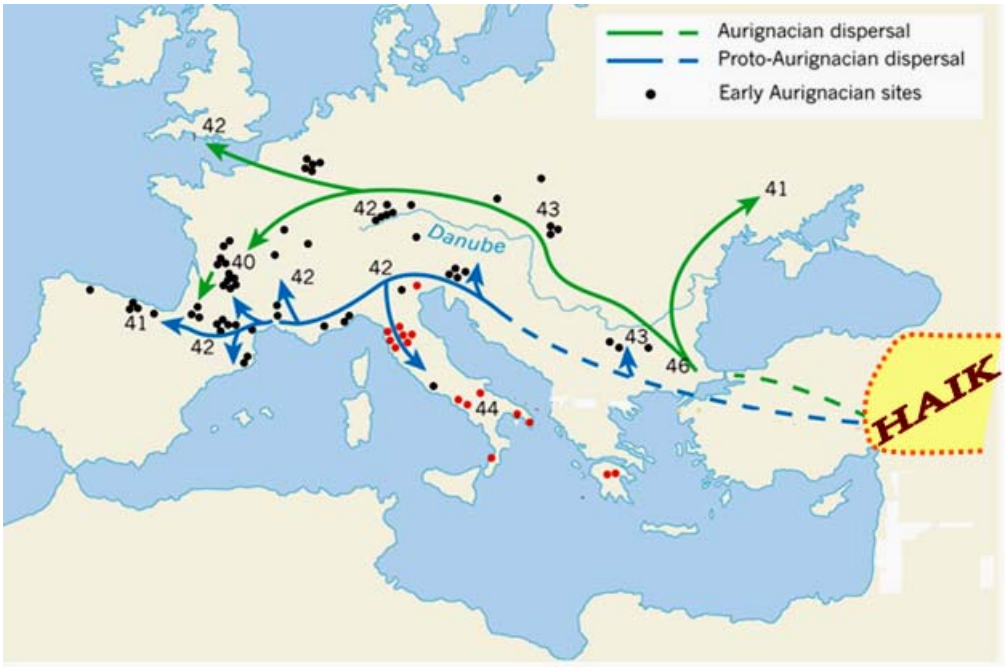
Animal statuette carved from mammoth bone

36-30 thousand years ago

Vogelherd Cave, Swabia, Germany

The age of the listed samples corresponds to Europe's Aurignacian (45,000-33,000 years ago) and Gravettian (32,000-22,000 years ago) cultures. The Aurignacian culture, in its turn, is tied up with the appearance of modern man in Europe (P. Mellars, Archaeology and the Dispersal of Modern Humans in Europe: Deconstructing the Aurignacian, Evolutionary Anthropology, vol. 15, 2006):

The synthesis of the geographical location and dating of archaeological sites that belong to Europe's Aurignacian culture show that, the Aurignacian culture bearer modern man, as we noted above, entered Europe via Asia Minor. The oldest settlements of Aurignacian culture bearer are in Bulgaria (46,000 years ago), whereas in western Europe the age of these settlements is smaller by 4-6 thousand years (40,000-42,000 year ago)
(P. Mellars, The earliest modern humans in Europe, Nature, 479, 2011, pp 483–485, see map below).



The Map according to P. Mellars, The earliest modern humans in Europe, Nature, 479, 2011, pp 483–485, on which we have drawn the area of Armenia.

The spread of the Aurignacian culture bearer modern man and the settlement route shows precisely those routes, via which, subsequently, the civilization values (agriculture, animal farming, metallurgy, etc.) would spread to Europe from Armenian Highland. After around 35 thousand years since the appearance of the Aurignacian culture in Europe (11 thousand years ago), the domestic goat would be taken along this route (Danube route) to Europe from Armenian Highland (see previous writing, https://independent.academia.edu/HamletMartirosyan, from «Missional History of Armenians» series).

We remarked above, that outside Europe's boundaries, the Zagros mountains west of Urmia lake, was the oldest Aurignacian culture center. S. Sardaryan rightly considers, along with Shanidar, also of Aurignacian culture, the cultures of the other late Upper Paleolithic settlements in Armenia (Satani-dar, Areguni, Arzni, Djeraber, etc.)
(Ս.Սարդարյան, Նախնադարյան հասարակությունը Հայաստանում, Երևան, 1967, p. 89).

Consequently, if the primary origin of pictograms is Syunik's Itsagirs, while the oldest Aurignacian culture regions outside Europe are observed in Armenia, then the symbols carved on Gyumri's tusk, if are not older at least, have the same age (36-23 thousand years) as that of the marked tusks of mammoths found in Europe.

And from these, it logically follows that, the system of Syunik's ideographic symbols arose during the interglacial time period (33-50 thousand years ago)

We only add, that the Upper Paleolithic culture of Zagros mountains, particularly Shanidar, belongs to the same ethno-cultural environment spread from Syunik, which are also evident by the petroglyphs spread in Zagros mountains (M. N. Fard, Rock Museums-Rock Arts (Iran Petroglyphs), 2007 (in Persian)), which are replicas of Syunik petroglyphs (see figure below).

Petroglyphs from Zagros mountains.

Written Evidences

We find the first occurrence about the existence of pre-Flood writings and the geographic exposition of their location in the so called "Book of Jubilees" old manuscript (Книга Юбилеев: Введ. и рус. пер. проф. прот. А. Смирнова: 2-й вып. апокрифов Ветхого Завета. Казань, 1895). This apocryphal manuscript of the book of Genesis is also called "Little Genesis", in which, the angle that appeared to the mythological Moses, on mount Sinai, by God's order tells him about all events that took place from creation till that moment. In the Book of Jubilees, special attention is given to detailed chronology of the events, and in this regards, it differs significantly from the Book of Genesis chronology. If the Book of Genesis quotes the time interval that occurred between only two successive events, the Book of Jubilees quotes the time of all significant events, counting from the moment of creation. The researchers found that the book's original language was Hebrew and it was recorded between B.C. 160-70.

In the Book of Jubilees, the section that interests us is quoted in the description of events immediately following the Flood. This source also, mentions as Noah's Ark's resting place, one of the mountains of the land of Ararat. However, unlike the book of Genesis, the book of Jubilees lists the name of the Ark mountain as Lûbâr, "Noah planted vines on the mountain on which the ark had rested, named Lûbâr, one of the Ararat mountains" (Book of Jubilees, VII). The Ark's mountain, is named Lûbâr (Lwbr twr') in yet another source, in Apocryphon of the book of Genesis (I Q Genesis Apocryphon), which was discovered in the year 1947 in Qumran cave. On line 12 of chapter X of this source, it states that "… the ark came to rest on one of the Ararat mountain", while on line 13 of chapter XII it states that Noah says, "I with my sons cultivated land and planted a vineyard… on Lûbâr mountain, and after four years it gave me wine".

The inscriptions on Syunik rocks drawn by forefathers that were once observed by Keinan.

"And rested Noah with his fathers and was buried on mount Lûbâr, in the land of Ararat" (Book of Jubilees, X). This evidences also demonstrate that the ark mountain Lûbâr, was located in the land of Ararat, in Armenia.

According to the book of Jubilees, Noah's three sons for their settlement, built cities in the vicinity of mount Lûbâr, Shem on the eastern side of the mountain, Japheth on the western and Ham on the southern.[4] The generations of Shem, Japheth and Ham multiply, and found new settlement places for themselves. The Book of Jubilees goes into details on how the grandson of Shem, son of Arphaxad, Keinam (Keinan), searched for a location to build his city. During his search: "He finds an inscription, which the forefathers had drawn on rock. And he read what was written on it, translated and found that it was the knowledge taught by the Guardians about the Sun, Moon and the chariots of stars and signs of heavens".

From the description quoted in this small part of the Book of Jubilees, we understand that the rock inscriptions found by Keinan are the Syunik petroglyphs that fall east of Masis, among which there are figures of Sun, Moon, star chariots. The fact that Keinan read and translated, and comprehended the meaning, implies that they were meaningful characters. And since according to Keinan's comprehension, the text referred to the movements of celestial bodies and heavenly signs, then the text should have had mythological formulations. Regarding this problem and the question about who the Guardians were, we will reflect in the section devoted to mythology.

We have no reason to disbelieve the testimony of this ancient written source, since our analysis also suggests the idea that, the Armenian petroglyphs are pictographic text built on mythological little subjects. The expression "he reads and translates" of the Book of Jubilees, testifies the fact that Keinan reads the pictographs and turns them into words, he translates them.

[4] It seemed that the place of settlement of one of the brothers should have been mentioned as the fertile field of Ararat, northern part of mount Lûbâr. However, we believe that this is direct indication of the fact that the valley of Ararat in these times was still flooded. According to geological data, the sea of Ararat began to recede in B.C. X-VIII millennia.

Keinan in his search for his future city place should have surely started from the city built by his grandfather, Shem, which was at the eastern side of mount Lûbâr = Masis. The southern side of the mountain was occupied by Ham's generations, while the western side by Japheth's. The northern side of the mountain is not mentioned, because it probably was still covered by lakes and marshes left from Ararat sea. Consequently, Keinan should have spread towards east, where in front of mount Lûbâr = Masis/Masik, the petroglyph mountains Geghama, Vardenis and Zangezur range stretch from north to south, i.e. Syunik. And in fact, Keinan had seen and read the petroglyphs, which has now become the subject of our investigation.

The book of Genesis of the Old Testament states: "And the ark rested … upon the mountains of Ararat" (Genesis 8:4), however, unlike the book of Jubilees, it does not mention the name of the mountain. The book of Jubilees also describes in quite details on how Noah divides the world among his three sons by drawing lots. The details of the book of Genesis are poor, in this aspect also. If some details are informed about the area occupied by descendants of Ham, whereas of the descendants of Shem, it is mentioned the area occupied by only Eber's two sons, Joktan and his 13 sons. Listing the names of Joktan's sons, the book of Genesis thereafter states (Genesis 10:30. See Գիրք Ծննդոց, քննական բնագիր, authored by A. Zeytounyan, Erevan, 1985).

Armenian version - «**Եւ եղեւ բնակութիւն նոցա ի Մասեաց մինչեւ ի գալ ի Սովփերա լեառնն Արևւելեայց**»:
Hebrew version - **vyhy mvsbm mmsa bakh sprh hr hqdm**
Greek version - **καί έγένετο ή κατοίκησιζ αύτών άπό Μασση έωζ έλθείν είζ Σωφηρα, öροζ άνατολών.**
Latin version - **et facta est habitato eorum de Messa pergentibus usque Sephar montem orientalem.**
Russian version - **их земли простираются от Меши на восток, до Сефарских гор.**

From this short quote of the book of Genesis, the subject of our investigation are the place names "Մասեաց" and "Սովփերա", which are not quoted elsewhere. Researchers had difficulty identifying these place names and their exact location were unknown until now (Ecyclopedia Biblica, ed. T.K. Cheyne, London, 1903; В. Вихлянцев, Библейский словарь, Москва, 1994):[5]

First, let us consider the place name: Մասեաց, msa, Μασση, Messa, Меша. Interpreters derive this biblical place name from Hebrew meša = "freedom, salvation" word (Ф.Ринекер, Г.Майер, Библейская Энциклопедия Брокгауза, 1994). Because the place name in the Old Testament is used only in this section, in the post Flood context, and is formed with root that bears the meaning "salvation", then we have every reason to believe, that as place name, it represents the name of salvation mountain, the mountain upon which the ark rested. This place name's popularity is evidenced also by the fact that the place name is mentioned without geographical indicator (mountain, land, field, etc.). Off course, relying on further other evidences available to them, we believe that St. Mesrop Mashtots and St. Sahak Parthev have expressed the same approach, when during the translation of the book of Genesis, they put "Մասեաց" for Greek "Μασση" place name. According to Armenian grammar and Armenian tradition, "ի Մասեաց" means "from Masis-s", i.e. the (Major and Minor) Masis place name's plural ablative case. In addition, in some manuscripts, as well as, later modern Armenian translations, it is written "Մասեայ" (of Masé) form (see for example, The Bible, the Eastern Arme-

[5] There is also the view point, that these place names surrounding the settlement area of Joktan's sons are located in the west-south region of the Arabian Peninsula. For example, J. Gill (J. Gill, 1697-1771) thought that "Mesha is Muza of Ptolomeos and Plinios, which is a harbor on the Red Sea, where traders from Egypt and Utopia often visited. Nearly the same opinion is expressed by W. Smith (W. Smith, A Dictionary of the Bible, 1868-1870), E. Newstrem (Э. Нюстрем, Библейский энциклопедический словарь, 1868г), A. Lopukhin (А. Лопухин, Толковая Библия, 1904-1913гг). However, this viewpoint has no basis, because, firstly, Arabian Peninsula is the area of not Shem's, but Ham's descendants (see book of Jubilees, VIII-IX), and secondly, this viewpoint is based solely on the coincidental similarity of the place names, and has no other justification.

nian new translation, Mother See of Holy Etchmiadzin, 1994), in which, later period authors have conformed the written form of the place name to the Hebraic interpretive view point. Most probably, there is deep connection between the Armenian "Masis" place name and Hebrew "meša" (=salvation) word, the disclosure of which is currently outside the scope of our problem. Perhaps, it is necessary to note only, that the Ark mountain's Masis name was unknown to the foreign interpreters of the Old Testament, because since Early Christian periods the Ararat name was common and accepted, which in actuality, is the name of the land of the Ark mountain.

Thus we clarified, that the western boundary of Joktan's and his 13 sons' settlement area, was the salvation mountain, Masis. It remains to clarify the eastern boundary, in face of mount Soper, which in the Armenian manuscripts of Book of Genesis is recorded also in Սովփեր (Sovper), Սոփար (Sopar), Սոփոր (Sopor) forms. The Armenian ancient literature and traditions do not record such a place name.

As we have already noted, to the east of Masis's, in chain formation, stretch Geghama, Vardenis and Zangezour mountains. These mountain ranges are in fact, the primary accumulation centers of the petroglyphs, i.e. the mountains of rock scripts. According to the book of Jubilees, it was moving east from Masis (=Lûbâr), on these mountains, that Joktan's father's grandfather Keinan discovered the rock scripts. Therefore, certainly, in the times of Joktan, the location and name of the rock scripts were known. And hence our problem is solved when we set into comparison the "rock script mountain" and "Soper mountain" names.

The "rock script mountain" and "Soper mountain" names are absolutely identical by the sole reason, that the sematic origin word "soper" has the "letter, writing" meaning (Assyrian sefrā = "writing, book", sāfrā = "writer", Hebrew spr, sfr = "narrate, recount, write", sōfēr = "writer", Aramaic sāfrā = "writer", Arabic sifr = "book" etc.). In the Armenian ancient manuscripts, the "սոփեր" word borrowed from this, which is absolutely identical with the Soper mountain name, is used as "letter, character, syllabus, book, manuscript, writing" meanings (Հ. Աճառյան, Հայերէն արմատական բառարան, see "սոփեր" word's description). It is with this word that the "Սոփերք Հայկականք" (Armenian Sopers) collection, published by the Mekhitarist Congregation of Venice, is formed, in which they have collected medieval small, short writings. Such "Armenian Sopers" are the petroglyphs, scattered across the Syunik mountains, which opposed to the Mekhitarist Congregation's collection were created at least 14-15 thousand years ago.

Thus, the data of the book of Jubilees and the book of Genesis testify, that at least in Palestine and Middle East (it is known that the origin of the book of Genesis is Middle Eastern), the existence of the rock scripts of Armenia was known. Moreover, it was known that they were written by the pre-Flood patriarchs.

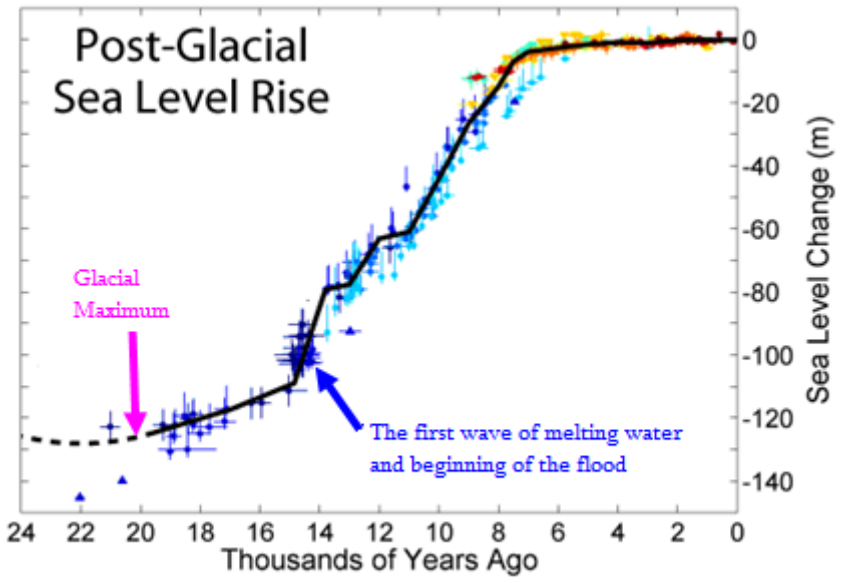
Place of the writing of the knowledge taught by the Guardians of Syunik, Script (Soper) mountain.

And when took place the worldwide flood, about which memories are preserved in almost all corners of the world.

Research done by geologists show that the catastrophic flood, about which memories are preserved by many people, took place after the last glaciation. At various points over the earth and for different times, they have performed measurements of the ocean levels, which are summarized in the picture listed below (N. L. Bindoff, J. Willebrand et al, Oceanic Climate Change and Sea Level, Cambridge, UK, Cambridge University Press, 2007; F. Kevin, P. Johnston, D. Zwartz et al, Refining the eustatic sea-level curve since the Last Glacial Maximum using far- and intermediate-field sites, Earth and Planetary Science Letters, 1998, 163 (1-4), p. 327).

The data of the presented graph shows that during the last glacial maximum (~20 thousand years ago), global ocean level was 120m below today's value. From the first wave of melting water that started after the glacial maxim (~14 thousand years ago), the ocean level rises more than 30m, which would be catastrophic to the inhabitants of Mediterranean Sea, Persian Gulf, India, China and other near coastal areas. This catastrophic process ends ~8000 years ago, as a result of which the ocean level, in general, rises to ~120m.

If the geologists are correct and the preserved legends about the flood are related with this process of global nature, then the pre-Flood period corresponds to times earlier than 14 thousand years. This means that, if we accept this viewpoint as basis, then it follows from the information given by the Old Testament and the book of Jubilees, that the pre-Flood patriarchs carved the petroglyphs of Syunik earlier than 14 thousand years.



The rise of ocean level after the Würmian glaciation. Ordinate axis shows the duration of time in thousands of years, while abscissa axis, the variation of ocean level in meters.

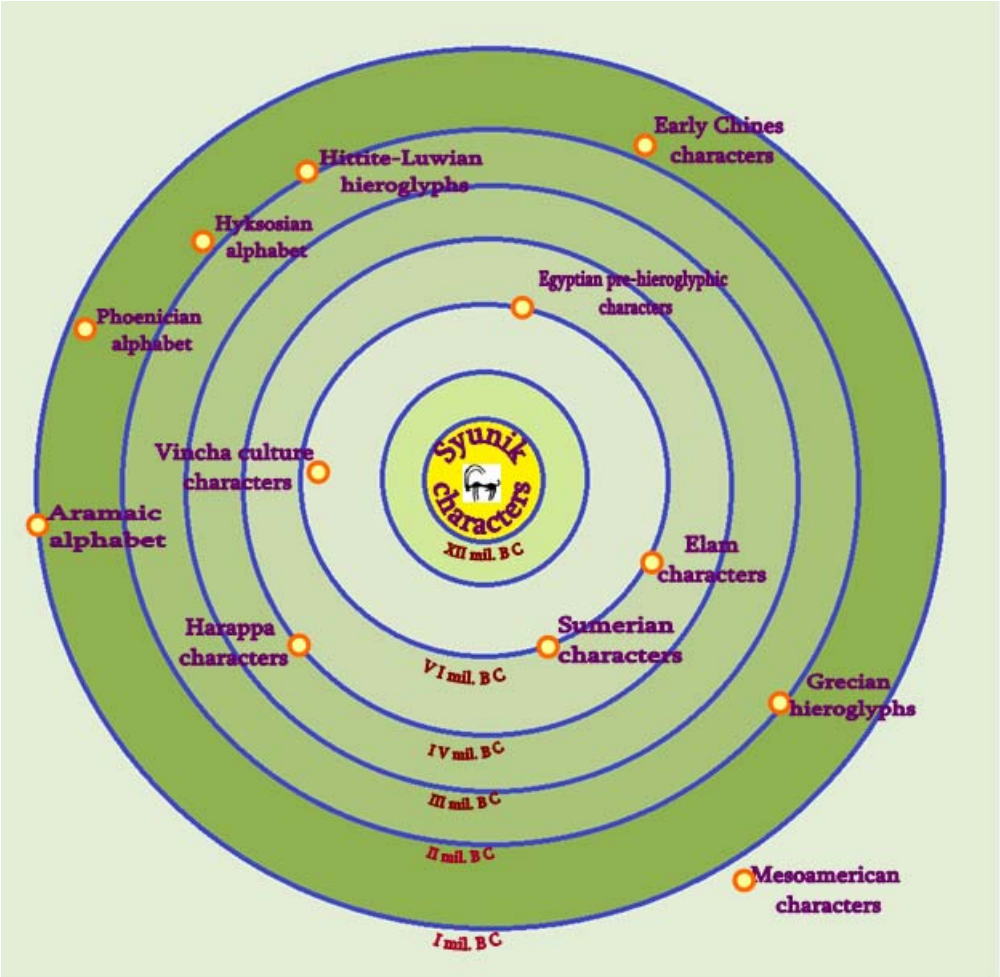
Thus, independent examination of the Syunik petroglyphs' data, archeological data and written testimonies, arrive to the same conclusion:

Syunik petroglyphs were carved earlier than 12-14 thousand years. On high mountainous regions of Syunik (on 2000-3500m altitude), the carving of petroglyphs has ended ~12 thousand years ago, when the waters of the Ararat, Nakhijevan and Angeghakot lakes began to recede. The natives of Syunik, who already had mastered agriculture, came down from the mountains following the receding waters and began the utilization of fertile flat lands.

The beginning of Syunik petroglyphs carving is tied with the appearance of modern man type (homo sapiens sapiens), which based on today's current scientific facts, has taken place 50-60 thousand years ago.

In the previous section, based on the generality of the symbols used in Syunik Itsagirs and ancient world hieroglyphic writing systems, we arrived at the conclusion, that all hieroglyphic writing systems of the ancient world originated from the same source. We also noted that of these attested writing systems, the writing system that is the oldest can serve the others as source of origin. Currently, we saw that if the origins of today's pictogram centers (Egypt, Middle East, Vinča), which are considered to be the oldest, are dated to B.C. 6-th millennium, then the youngest petroglyphs of Syunik are older than them by almost 10 thousand years. Consequently, we can affirm, that the origin of the creation of writing along with other civilizational values (agriculture, metallurgy, religion, etc.) were taken out from Armenia and spread to the entire world. The schematic picture of this fact is presented below.

Let us remember that, if the writing systems of the ancient world became extinct along with the civilizations that created them, the rock engraved Syunik's characters were used in Armenia without interruption, and as ideograms, have reached to our present days (medieval scripts of Knowledge Signs).



The dating of hieroglyphic and phonetic writing systems of the ancient world.

If we sum up together the material of the current "Missional History of Armenia" and previous sections (https://independent.academia.edu/HamletMartirosyan), then we have answered two of the four main questions regarding our problem:

a.	Where were the world's oldest characters created?	**Historic Armenia's Syunik state.**
b.	When were the world's oldest characters created?	**~50 thousand years ago.**
c.	Why was writing created?	**?**
d.	What was the language of the world's oldest characters?	**?**

It remains to answer the last two questions, which we will do in the next section.