

CORRELATIONS IN THE ORIGIN OF THE ARMENIAN PICTOGRAMS AND THE ANCIENT WORLD WRITING SYSTEMS

1. THE EGYPTIAN HIEROGLYPHS

I. INTRODUCTION

1. The written language is one of the most important inventions of the mankind. The non-written ways of communication (voice, movement, mimicry and other) are momentary and transitory, and they connote the degree of intimacy and relationship. The written language wiped all the barriers in the time and space and made the spoken word of the humanity long-lived, even longer, than the human's own life and allowed it to burst out of the man's living space dimensions. This in its turn allowed to collect and summarize the experience of the people living on an immense distance from each other and to create a common spiritual-cultural living space, which is an important pre-condition for the formation of a nation. In the scientific world nowadays prevails the idea, that the most ancient writing systems of the world are the Sumerian and the Egyptian hieroglyphs created in ca. 3300-3200 B.C.
2. On the other hand the basic and yet unsolved question of the ancient history is the origin of the Sumerian and Egyptian civilizations. The Sumerian civilization counts back till the middle of the 6th millennium B.C. (the Ubaid period), while the Egyptian one starts from the end of the 6th millennium B.C (Badari, Mermide, Fayum). The founders of these civilizations brought developed cattle-breeding and agriculture with them to the Mesopotamia and to the valley of the Nile, as well as architecture, handicraft, mythology and a writing language. Archeological evidence states that before the 6th millennium B.C. the development stages of that culture were not present in the Mesopotamia and the valley of the Nile. The questions formulated in the scientific world as "who were the initiators of that culture and where was their homeland?" are still open¹.
3. As early as in the end of the 19th and the beginning of the 20th centuries some opinions suggested that the founders of the Sumerian and the Egyptian civilizations had come from the Armenian Highland². This previously weakly supported point of view presently has got undeniable archeological bases. Archeological digs of the latest decades on the territory of historical Armenia provides for a developed united culture capable of building temples and using agriculture in the 12-7th millennia B.C. in the upper currents of the Tigris and the Euphrates³.
4. The most ancient by its origin and complete archeological material of the historical Armenia are the renowned pictograms. The pictograms of the Armenian Highland do not have a parallel in terms of their vast quantity, the technique applied, the variety of the signs and diversity of the images. At the same time, some peculiarities of the Armenian pictograms suggest that the pictogram signs were used as a written language, whereas complete compositions possessed spiritual and ceremonial meaning⁴. Unfortunately, the correlation between the Armenian pictograms and the ancient writing systems has not been studied thoroughly as of yet. This study is designed to partially fill that void.

802 pictograms of Ukhtasar and Djermadzor settlements which have been published in the "The Pictograms of Syunik" article are taken for study in this research work⁵.

II. THE ARMENIAN PICTOGRAMS AS A WRITING SYSTEM

1. Many of the scholars researching pictograms (Kh. Samuelyan, G. Ghapantsyan, L. Barseghyan and other) have expressed the opinion that pictograms are the initial variant of the written language. But the pictograms were initially and definitely perceived by the Armenian people as a writing system and according to that perception people called them a "goat-writing".

At first glance one might think that the term “goat-writing” occurred because of a huge number of goats among the pictograms and the overwhelming majority of scholars that studied them also reached that conclusion. However, the name of “goat-writing” in and of itself is actually much older and comes from the unmemorable times, when pictograms were being engraved and the writing system was being newly created. The basic reason of the name of “goat-writing” is that the concepts of “goat” and “writing” initially had had homonymous names. The pairs for those homonymous names are present in Armenian, Sumerian and Egyptian languages⁶. Thus,

Mašdara = “wild goat” and “registration” (Sumerian),

Sr, zr = “a ram, a billy-goat, aries” and “to write” (Egyptian).

The concept of “Egyptian language” is expressed by the “emegir” word, whereas the same word with the “udu” index (^{udu} emegir) means a “species of a goat”. In Sumerian the word “to write” sounded “sar” which is identical to the Egyptian “sr, zr = to write”, which have the following Armenian corresponding analogues:

“shar” = “a row, a range, a group”,

“sarel” = “to compile, to bind, to tie,”

“tsir” = “a line, a circle, an order, a furrow”, from which derives “tsrel = to write” *.

In the picture-conceptual writing system the Armenian words mentioned above are homonymous to the Armenian “zar = goat, ram”. Hence the abstract “shar, sar, tsir” concepts could find their sound reflection in the pictogram of “zar = goat”. Besides, there are other homonymous names in Armenian language for the concepts of “writing” and “goat”. “Khaz = goat” and “khaz = writing” are homonyms in Armenian. In written “grabar”- classical Armenian texts (written using Mashtotsian alphabet) the word “khaz” means “line,” “scratch,” “writing” is used more frequently and at the same time it is a collective name for the ancient Armenian music signs “khazer” (“-er” – ending expressing plural number in Armenian). “Khaz” in Armenian means also a “male goat” (“khzan” – plural)**. One should think that all the names for “writing” initially have had only the meaning of a “goat”. During the process of engraving a goat to express a certain idea the meaning of “writing” was attached to some names of “goat”. This is proved also by ethnographic material. The identity of “goat = writing” is expressed most vividly and briefly in Armenian riddles. For example:

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|---|----------------------------|
| 1. “A white garden and black goats”. | (Karabakh) |
| 2. “Black goat pastures on the white field”. | (Vagharshapat, Van, Dovri) |
| 3. “White side with the black goats greasing on it”. | (Alashkert, Artsakh) |
| 4. “White mountains and black-black goats”. | (Karabakh) |
| 5. “Black goats and white hills (gorgeous) with plenty of bees” | (Khotrjour) |
| 6. “Every shepherd shouldn’t carry goats”. | (Kesaria, Kharberd). |

In the mentioned riddles goat bears the meaning of the “writing”. It is worth mentioning also that such examples cover the whole territory of the historical Armenia.

2. In the initial stage of creation of a writing system before the concepts of “writing” and “to write” were finally formed the act of writing could be expressed by arranging, binding, compiling, scratching and drawing the images. It could be supposed that the Sumerian word “sar” and the Egyptian words “sr, zr” standing for the word “writing” initially had had the meaning of words “sharel, sarel, tsrel - to arrange, to compile, to draw”. It is necessary to study the homonyms of the Sumerian word “sir” and the Egyptian words “sr, zr” in order to prove if this hypothesis is trustworthy. This author will also present his study on the Sumerian samples in another paper. The homonyms of the Egyptian words “sr, zr” and corresponding Armenian pairs are mentioned in the table below. Another important aspect that needs to be noted is that the Egyptian writing system is based on consonants.

In the given case another important point is the definite frequency of occurrence of each sign what can characterize a well-formed writing system. The numbers of frequency of some signs used in the 802 pictograms are shown in the table below. The large number of the abstract signs and the definite frequency of their occurrence in the pictograms suggest that the pictograms of Ukhtasar-Djermadzor were a writing system at a certain stage of its development.

Sign	Quantity	Sign	Quantity
⊕	47	□	11
O	35	⊞	13
Y	34	8	12
+	31	Γ	7
⊙	12	H	9

II. THE LANGUAGE OF ARMENIAN PICTOGRAMS

1. If pictograms are picture-conceptual records then like in any writing system the recorder had to take records in compliance with his vocabulary. In pictogram writing system the sound composition is based on the principle of a sound rebus. In order to express a word with an abstract meaning a picture of an object with a homophonous name was depicted (the principle of homonyms). If two words are homonymous in a given language it occurs only in that language and cannot be the same in other language. For example, the English word “sow” means at the same time “a pig” and “to sow seeds”, or the words “you = you” and “ewe=sheep” have got absolutely the same pronunciation [ju:] and these word pairs are homonyms and homophones only in English language. Thus if the pictogram writer were an English speaker he would have to depict a pig in order to express the personal pronoun “you”.
2. The initiators of the pictogram writing most often were trying to depict the names of their gods, the peculiarities of their essence and activity as well as their prayers and worship rituals. In this field a large number of words are abstract nouns. From time immemorial a real theolatriy has been a ceremonial worship structure with the three main supports:
 - a) It is the God who creates, gives and takes the life;
 - b) It is the God who nourishes the beings that He has created;
 - c) It is the God who judges and grants people with life after death.

For any human being the first and foremost problem has been and still remains finding food every day. Humans receive food given by the God through flora and fauna and it is nothing but natural that vegetables and animals were considered food providing mediators between people and the God. By means of animals and herbs, the God gives food or deprives humans of that possibility. No surprise that since the ancient times of mythological perception of the world around the Gods have had their addressing codes in flora and fauna. In the mythology the animal codes had an exceptional place and were used most frequently. The God - animal identification also was based on the principle of homonymy between one of the names of the God and the given animal. Using the principle of homonymy let's try to reveal the god-animal reference among the Ukhtasar-Djermadzor pictograms.

1. In the mentioned 802 pictograms there are 4133 complete pictures of people and animals, which can be divided into the following groups according to the species of animals⁸:

No	Animals	Total Number	%	Frequency of occurrence in the pictograms
1	Goat	1869	45,22	2,33
2	Man	896	21,68	1,12
3	Lion	713	17,25	0,89
4	Bull	280	6,77	0,35
5	Snake	145	3,51	0,18
6	Deer	119	2,88	0,15
7	Dog	55	1,33	0,07
8	Donkey	17	0,41	0,02
9	Boar	8	0,19	0,009
10	Horse	6	0,15	0,007
11	Rabbit	6	0,15	0,007
12	Bird	6	0,15	0,007
13	Cat	5	0,12	0,006
14	Bear	3	0,07	0,0037
15	Lizard	3	0,07	0,0037
16	Crocodile	3	0,07	0,0037
17	Crayfish	2	0,05	0,0025

The information in the table drawn above demonstrates the following two obvious peculiarities of the pictogram:

- Nearly half of the pictures in the pictograms are goats. The frequency of depicting goats makes 2.33 per one complex pictogram, whereas the man's is two times less (1.12 per each pictogram). Frequency of other animals is less than 1.
- The most popular animals holding the first 5 places in the list (goat, lion, ----, bull, snake and deer) comprise the list of saint animals of the ancient period in the Near East.

These peculiarities of the pictograms are by no means occasional, they have got a spiritual-conceptual base.

Now let us try to find out that reference in Armenian language through the names of concepts homonymous to the names of the animals (see in the table below).

Name of the Animal	Homonym of the Animal's Name	Meaning of the Homonym
Dig (=goat)	diq	god
Khash (=goat)	Khach(=cross)	Saint, sign of the God
Hor (=goat)	Hayr (possessive case -hor)	father
Arewts (=lion)	Arew	sun
Hovaz (=panther)	Hov	protection
Endjiugh (=bull)	Endzuil	to grow, to occur, to spring, to bloom
Kov (=bull, kov)	gov	glorification
Odz (=snake)	ots	anoint
Eghn (=deer)	Egh	being created, subsistence, existence

Shun (dog)	sun	to nourish
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This group of homonyms which is not, of course, presented here entirely can be found only in Armenian language, and there is no other language in the world which could express the concepts of “father”, “god” and “cross” by the picture of a goat, the concepts of “being, existence” by the picture of a deer, “glorification” by a bull and “anoint” by a snake.

In this regard if we put together the pictures of a goat and a snake it will read “anointed god” according to the principle of homonymy which is peculiar only to the Armenian language and mentality as far as the pairs of “aits-odz” and “dig-diq” exist only in Armenian language. Besides, the “aits-odz” pair introduced in the pictograms can be found also on the seals of the 3-2nd millennia B.C. in Mesopotamia (see picture No 3).




Picture No 3.

4. Taking into consideration the specific role of goat in the pictograms let's study some names and homonyms of goat more scrupulously. The image of goat prevails in the pictograms as much as the names of goat (they are more than 30) prevail over the names of other animals in Armenian language. The following names of goat in Armenian such as “aits-ats, ets, ar, dig, arti” should be studied separately.

a) “dig” – this name is the homonym of “diq=god”. That means that the abstract noun “god” could be expressed in the pictograms by depicting the object “dig” = goat. This pair of homonyms is present also in Sumerian and Egyptian languages. “Divinity” in Sumerian is written like “Digir, deger” = gods; the “god” itself is written like “ILU = I-LU = I-UDU”, what literally means “respectable/ adorable/ honoured goat” (Sumerian **UDU** = Armenian **odi** = goat, sheep).

In Egyptian the word “dg” expressed the name of the god who protected Osiris. This pair of homonyms can be found only in these three languages.

b) “Aits, ats, az” – these names of goat in Armenian are homonyms of the word “azn=azg” (nation, family, tribe), hence the words “azniv”, “aznuakan” = “noble, nobleman” derive⁹. It is not surprising that the Armenians bore the nick-name of “aits = goat” before the Christianity period¹⁰.

In Egyptian the  hieroglyph besides the meaning of “goat” had also the meaning of “nobleman, royal title”.

In Sumerian “nobleman” is written like ^{dig}ZA.MAH= ^{dig}lord (ZA = person, man; MAH = sub-, above, grand) plus the synonym of the word goat - “dig”.

The mentioned two pairs of homonyms show that the concepts of “god” and “nobleman” were expressed by the picture of goat in accordance with the principle of homonymy. Given the pictograms had been created before or at the time of initiation of the Sumerian and Egyptian writing systems the pictures of goat in the pictograms were also to express the same meanings.

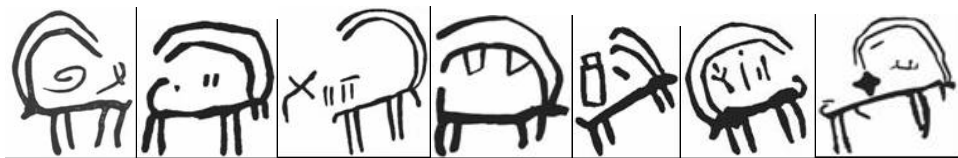
d) “arti” – in Egyptian the homophone to this name of goat is the word “art”, which also possesses the meaning of “goat, wild goat”. At the same time this word in Egyptian means the following: “record, writing, document, book, parchment scroll (i.e. manuscript).

In Armenian language these meanings are expressed by the homonym of “arti = goat” – “ardzan” (the dialectal variants of the word “ardzan” are “artsan” and its initial forms “ardan, artan” : t > ts; d > dz, z), which means “to engrave on a stone plate; a record“.

- The second meaning of the Egyptian word “arti” is “flame, fire”. The corresponding variant of this meaning in Armenian is “art > arts” = to draw with a hot iron stick on the wood” (to write); “artsartsel” = to set on fire, to stir fire.
- “arti” in Egyptian also reads “a cemetery”. For this meaning Armenian language offers the same “ardzan” word with the meaning of “tomb”, “death memorial”.

Homonymy of “արստի” [arti] (Arm.) = “arti” (Egp.) is found only in these two languages. It another time demonstrates homonymy of the concepts of “goat” and “writing”.

5. The links between the concepts of “goat” and “writing” are also vividly demonstrated in the pictograms. The samples of the pictograms in the picture 4 prove that the space between the backs and the horns of the goats was often used as a unique marker.



Picture No 4.

According to our study, the abstract symbols drawn between the backs and the horns of the various goats are signs conveying each goat’s (god’s) name, nickname or other characteristics, which are subject to decoding. Let’s study two samples:

In the picture No. 5 a circle with a dot in the middle of it is drawn above the back of a goat. The circle on the back of the goat is identical with the Egyptian hieroglyph ☉ bearing the meaning of ‘Sun’, ‘The Sun God’. In this case “goat” as “dig” should be read “diq = god”. In the result we have the following meaning: “The Sun God”. The image of goat in the pictogram in the picture 5 has got another peculiarity as well: the author of the pictogram connected the two ends of the horns together and drew a flag, what will be interpreted a little bit later.



Picture No 5.

In the picture No 6 there is also an image of a lion. The hieroglyph of “lion” (𐊎) reads “r” or “rw” and it conveys consonant “r” in “արու(ծ)=[arew(ts)] and “արու(ծ)=[areaw(ts)] ancient forms or consonant “r” with semi-vowel “l” =[w] (Arm.). The mentioned way of reading the name of lion is provided only by Armenian and Egyptian languages as well as only in Armenian and Egyptian the names of “lion = arewts” and “sun = arev” are homophone.



Picture No 6. In Egyptian the name of the Sun God was expressed by the pictogram ☉ together with the hieroglyph of “lion” (𐊎) as a phonetic addition to the pictogram, which read “r” or “rw”, and the hieroglyph of “elbow” (𐊏), which read “a”. The horizontal line in (𐊏) meant that the hieroglyph ☉ was a pictogram. The Egyptian way of writing the name of the Sun God is identical to the principle of writing in the pictogram shown in the picture No 6, i.e. goat is the qualifier (determinant) of the mythological name where the picture of lion stands for the sound

form “arew(ts)” in the pictogram of sun ☉. Depending on the way of reading the hieroglyph of lion - “r” or “rw” the name of the Sun God in Egyptian could be read Ara or Arew.



Now let's return to the idea of the flag mentioned above. In the pictogram shown in the picture No 7 a man holds a goat on a long stick above his head. This might be the most ancient flag in the world. In order to underline the meaning of the flag the author of the pictogram like in the previous example used the horns of goat with a circle in the middle of it.

Picture No 7.

The word “flag” in Armenian – “drosh” - has got the meaning of “image of God, idol, statue”. The Egyptians had the same perception of flag: they ascribed the meaning of God to that hieroglyph (𓆎) and used it as determinative for mythological names. Thus in this example the name of God is expressed 3-fold: firstly, by the goat itself, secondly, the goat raised on a stick as a statue, flag, idol and, finally, the flag formed with the horns of the goat. The circle depicted in the middle of the flag has got the meaning of “lord”, which is typical to the Sumerian pictogram writing system. Thus, in the result the whole picture expressed the meaning of “the Lord God”. It should be mentioned also that the goat-like idol-flags are very often found in Ukhtasar mountain pictograms (see picture No 8).



Picture No 8.

Probably, writing on parchment was also used along with the pictogram writing. As shown in the goat-flag pictures the processed skin/parchment was stretched over the horns of a sacrificed goat with a sacrifice script or other worship formula on it.

There were also goat-shaped stone statues of flag-idols. A head of a stone goat-idol dated to the 9th millennium B.C. was found in Einan (see picture 9).

Picture No 9.



Homonyms found in Armenian, their homophone pairs with the identical meanings in Egyptian as well as the analysis of some pictograms lay ground to come up with the following two initial conclusions:

- a). The creators of the pictograms found in Ukhtasar and Djermadzor had Armenian linguistic mentality:
- b). Armenian and Egyptian languages are sister-languages, if not identical, at least deriving from the same core.

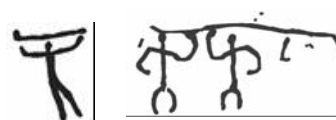
6. Let's compare the names of goat in Armenian and Egyptian languages within the framework of the mentioned conclusions:

Egyptian name	The meaning of the Egyptian name	Armenian pair	The meaning of Armenian word
at	goat	Ats, ets	goat (t>ts)
art, arti	goat, mountain goat, ram	arti	wild goat, sheep
awt	goat and sheep herd	hawt	goat and sheep herd
iAw.t	goats and sheep	hawt	goat and sheep herd
wa.ti	Goat species	gti	goat
qA	goat	qał	male goat
Anx, nx	goat	noxaz	male goat
Hqs	Wild goat	haqis	Exclamation used to drive goat and sheep herd

The importance of this analysis is supported by the fact that there were no goats either wild or domestic in Egypt before appearance of the “dynastic race” living in the Valley of the Nile. The ancestor of domestic goat was the wild goat of Besoir whose homeland is the Armenian Highland and the mountainous regions adjacent to it. Archeological data prove that the culture of cattle-breeding and the domestic animals were brought to the valley of the Nile by the founders of the Egyptian civilization¹¹. It is obvious that the newcomers had to bring and preserve the names of goat they had used in their homeland. Besides this common point found in the names of goat there is also another interesting link between Armenian and Egyptian languages. In Egyptian language the hieroglyph with the meaning of “skin/hide” (𓂏, 𓂐) was used along with the goat-like hieroglyphs (𓂑, 𓂒, 𓂓) as an identifier for the names of goat. For example, qA = 𓂏 𓂑 = qał *, awt (check in the table) = 𓂏 𓂑 𓂒 or 𓂏 𓂑 𓂒 𓂓 = herd. This could occur only in a language where the names of “hide” and “goat” were identical. This is also true for Armenian (see the table blow).

The name of “goat” in Armenian	The name of “hide” in Armenian
aits	aitseni
mash	mashk
khashn	kashi
qał	xał

7. Pictogram writing is linked to the Armenian culture not only due to the revelations made by the principle of homonymy. There are also certain symbols in the pictograms which had been preserved through the millennia and were used in the system of symbolic signs in the Middle Ages and which are still used in nowadays and are peculiar only to Armenian culture. One of these symbols is “patiw” sign (𐎎), which is used in the abbreviations of the names of God. The same symbol is found in the pictograms and is used above the heads of the human-like Gods (see picture No 10).



Picture No 10.

IV. Chronology of the Ukhtasar-Djermadzor pictograms

1. One of the first problems of this study is the problem of dating the pictogram. Different scientists bring forward different date of creation of the pictograms including the 8th-1st millennia B.C, though all the numbers are subjective and are not supported by any proof. Probably approach of scientist Harutyun Martirosyan who has got great input in the study of pictograms stands aside among others. He classified the pictograms by their style and technique and dated each of the group separately¹². The pictograms differentiated by him into 6 style groups were dated to the 5th -1st millennia B.C. Actually the pictograms classified by the scientist into different groups in many cases were not different styles of drawing the same sign but they were quite different signs and symbols. Very often a pictogram dated by the scientist to the 5th millennium B.C. came along with a pictogram dated to the 1st millennium B.C. in the same sign chain. The input of Harutyun Martirosyan is especially prominent in deciphering the worship meaning of the pictograms¹³. It makes us wonder why the scientist did not use his disclosure in dating the pictograms what could have made the results more objective and truthful

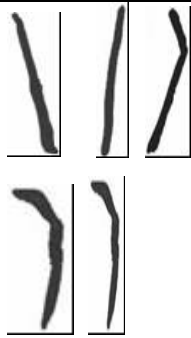
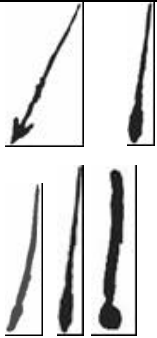
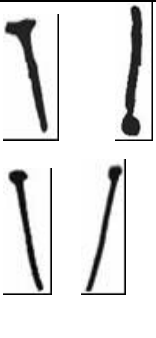
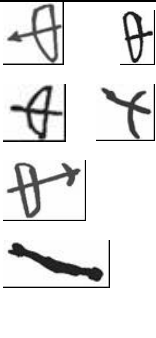

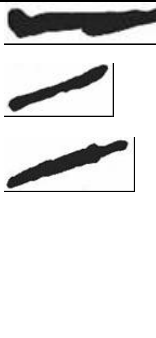

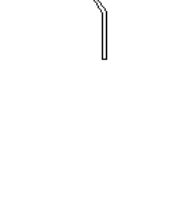

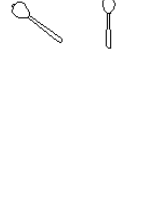
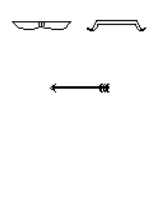
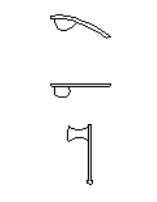

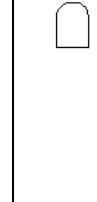
2. The dating of the pictograms may be done by two following ways:

a). By the archeological material found with the pictograms (tools, tombs, settlements etc.). Unfortunately we lack such archeological material and we used in this research another way for dating the pictograms.

b) By comparing and identifying the objects in the pictograms (tools, arms, ceramic items, animals, worship symbols, etc.) with the objects already dated which have been found and excavated in other places.

First of all, let's study the types of arms found in the pictograms bearing in mind the fact that the metal arms or weapons and armaments with metallic parts spread throughout the Near East in early Bronze Age (the 2nd part of the 4th millennium- the beginning of the 3rd millennium B.C.)¹⁴.

3. In the table below the samples of the arms found in the 802 pictograms mentioned above are classified in the following manner: the types of arms are in the first row, the Egyptian hieroglyphs corresponding to the mentioned types of the arms are in the second row and the general number of each type of the arms is in the third row.

Stick, bat	Spear	Club	Bow and arrow	Axe	Knife, dagger	Shield
						
						
73	9	8	58	5	6	29

Resulting from the statistics above the most popular arms in the period of creating the pictograms were sticks, bows with arrows and shields. But the frequency of this or that type of arms in the pictograms could be supposed actually not by the frequency of actual usage of that type of weapons at that period of time but by the frequency of the concept expressed by means of the given object in accordance with the principle of homonymy.

The detailed study of cutting and pricking parts of the arms and their comparison with the metal samples of the Stone and Bronze Ages demonstrate that the mentioned parts are not made of metal. Of course, there might be a portion of subjectivity in this approach, but coming from the idea that the style of depicting the pictograms is strongly realistic we consider our conclusion based on the pictures of the objects rather truthful. This is supported by another fact as well: only in 6 cases out of 58 the tips of arrows in the pictograms of bow with arrow are cone-shaped (>). This mostly speaks for the late Paleolithic Age when elliptic or cone-shaped stone tips came to replace wooden or reed arrows with sharpened ends. Even if we suppose that the endings of the arrows were made of metal it suggests the beginning of the early Bronze Age when metal arms were “expensive.” In this doubtful situation we can only state that the pictograms had been created at least earlier than the 3rd millennium B.C.

4. The study of the pottery proves the fact that the arms found in the pictograms had been made from stone and the date of creation of the pictograms goes still far back. In the system of Egyptian hieroglyphs there are 26 main hieroglyphs depicting stone or ceramic pottery which have got more than 100 ways of drawing them. The situation is the same also in the Sumerian writing system. This tradition was preserved in the latter period as well (e.g. in the hieroglyphs of the Hittites and Luwians in the 2nd millennium B.C.). Hence we can suppose that the pictograms as a hieroglyph writing system also had to include pictures of different pottery. But they are not found in Ukhtasar-Djermadzor pictograms, except the single one found among the published pictograms of Geghama Mountains (see picture No 11)¹⁵.

Picture No 11.



This gives us ground to suppose that the Ukhtasar-Djermadzor pictograms date back at least to the 7th millennia B.C., i.e. before the formation of the ceramic period of the Neolith Age.

4. Another criterion in dating the Ukhtasar-Djermadzor pictograms is the pictures of ships and boats found among them. There are more than 10 pictures of ships in the 802 published pictograms (see picture No 12; from the left, pictograms 1 through 4). All the pictures are presented in a comparative table of the pictograms and the Egyptian hieroglyphs). In the photo copies of 400 pictograms taken in Ukhtasar by our expedition in the summer of 2006 there are also many pictures of ships and boats (see picture No 12; from the left, pictograms 5 through 10).

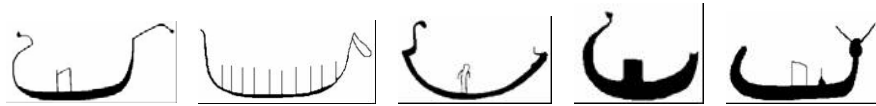


Picture No 12.

As we can see the initiators of the pictograms had created and were applying the means of using the power of the wind, i.e. the sail. Another interesting point is that in the 10th picture the sail-

boat is drawn under the horns of a goat which means that the concept of a “divine boat” had already been formed by that time.

The geographic situation in Syunik region of Armenia within the historic period that we can trace back (shallow fast rivers, small lakes in volcanic craters) surely does not provide the means for sailing. Additionally, the pictures of the ships suggest that they were wooden with high keels and deep bottoms the ones that could sail only in large and deep waters (a sea or a large lake). It should be mentioned that the pictures of the high-keeled ships of Ukhtasar-Djermadzor pictograms have been also found in the pictograms in the desert located between the Nile valley and the Red Sea (see picture No 13) ¹⁶.







Picture No 13.

It is with these kinds of ships that the founders of the Egyptian civilization crossed the Red Sea and invaded the valley of the Nile.

As far as the historic Syunik region did not have waters apt for sailing the conditions offering the means for sailing should be looked for in the prehistoric period when Syunik had been a mountainous island or a peninsula. According to the modern geological data the main mountain-forming processes in Syunik finished in the middle of the Neopleistocen (420-100 thousand years ago) when a highland with 3000 - 4000 meters-high picks was formed ¹⁷. The system of lakes in Shirak, Ararat valley and Angeghakot also was formed within that period. About 20-17 thousand years ago the last transgression of the Caspian Sea took place and its waters reached the region of Mountainous Karabakh. At that time Syunik became a peninsula with many sea hollows on its territory which were linked with the land in its northern section*. That system of large lakes broke up in the beginning of Holocen (10th millennium B.C.). The Ararat valley lake probably dried up completely in the 8th millennium B.C. because the first settlements appeared in there during this period. So if we take into consideration the fact that the above noted lakes were still apt for sailing in the 12th-11th millennia B.C. we can place the date of the sailing ships from Ukhtasar-Djermadzor (in Syunik) to the 12th-11th millennia B.C.

6. The next criteria helping to date the pictograms is the pictures of the fossil mammals belonging to the quaternary geological era in the pictograms. Fossil remnants of elephant, rhinoceros, horse, camel, bull and deer were found on the territory of the Republic of Armenia ¹⁸. According to paleozoologists the last global ecological crisis on Earth took place at the borderline of the Pleistocen and the Holocen (12-13 thousand years ago) ¹⁹. Mostly big mammals the pictures of which we can see in the pictograms of Ukhtasar-Djermadzor died out during that crisis (see picture No 14).

Name of the animal	Drawings of various animals depicted in the pictograms
Camel	
Elephant	
Hypo (?)	
Bull (?)	

Rhinoceros	
?	
Deer	
Giraffe	
?	
Seal (?)	

Picture No 14.

This evidence also places the estimated date of the pictograms to 12th-11th millennia B.C. as their latest date. The pictures of the fossil animals in the Ukhtasar-Djermadzor pictograms seem to solve another Egyptian riddle. In Egyptian hieroglyphs the concept of the God Set is expressed by a picture of an unknown animal. We see the same symbol of that animal in the Ukhtasar-Djermadzor pictograms. In the table below the pictures of the animal are reproduced for comparison with the hieroglyphs expressing the name of God Set.

Pictograms of Ukhtasar-Djermadzor		
Egyptian hieroglyphs		

This animal resembling a dog and a donkey at the same time probably also became extinct in the beginning of the Holocen, but not earlier than the end of the 6th millennium B.C. when its picture might have been taken to Egypt.

- Analyses of the examples above make us believe that the Ukhtasar-Djermadzor pictograms had been created before the 12th-11th millennium B.C. Now let us try and find out the highest time point of creation of the pictograms. This can be done by the markings left on the rocks after the last Würmian Ice Period.

The pictograms on the picture No 15 show that they have been carved on the cliffs which have an earlier origin and which have suffered a mechanical impact.



Picture No 15.

According to geologists the marking on the stones is the result of displacement of ice during the period of ice regression. The last Würm-III Ice Era was on its peak ~ 25 thousand years ago (according to M. Milankovich). During that period the ice in the Lesser Caucasus Mountains (extending into the Syunik region of Armenia) slipped down to the level of 2500-2700 meters above sea level. Consequently, the sites where the pictograms are found now (2500-3500 meters) were under the ice. It is supposed that the given territory cleared from the ice ~ 20-18 thousand years ago. Putting this fact together with the information mentioned in the previous paragraphs we can draw a conclusion that the Ukhtasar-Djermadzor pictograms were created in the 18th- 11th millennia B.C. These results by all means have to be proved by direct archeological data, which can be provided in case some target excavations take place on the territory rich with pictograms in Syunik and Gegharkunik regions taking into the consideration the fact that the settlements of the creators of the pictograms might be at the height from 1500-1700 meters (sea-shore period of the High Pleistocen) to 3000-3300 meters (the main levels the pictograms are mostly found).

9. The pictograms can supply a lot of other data concerning economy and worship traditions of the given era. Within the framework of this study the following may be considered interesting:
 - a) The pictures of ploughs and two or four-wheeled carts tied to the bulls (see picture No 16).



Picture No 16*.

The bulls with ploughs and carts on wheels pictured in the pictograms suggest that there was a developed agriculture, cattle-breeding and settled civilization. Of course, the wooden parts of the ploughs and carts of the 12th-11th millennia B.C. could not have been preserved but there are certain archeological data which could serve as evidence for the above given date²⁰.

The hand-use millstones found from the ancient settlements of Zavi Chemi (the 12th-11th millennia, Armenian Mesopotamia) and Hallan Chemi (11th-10th millennia, in the Korduk province of Armenia) are among very important. These most ancient samples of hand mills provide the following two crucial proofs regarding the 12th-11th millennia: first of all, there must have been efficient agriculture and, secondly, wheels must have been invented and carts with wheels might have existed. Cattle are known from the settlement called Chayonu-B (the 9th millennium B.C., in the Aghdznik province of Armenia). This date is 2-3 millennia after our estimated date for the creation of the pictograms. But in our view, this time discrepancy is rather imaginative that has been preconditioned by certain subjective reasons:

- all the mentioned settlements are in the border-line regions of historic Armenia. If Armenia is the centre of the origin of civilization and of the spread of mankind²¹ one must rely on the data from the central regions of the country during the analysis of genealogy of the civilization.
- Unfortunately, the history of central parts of historic Armenia (Upper Armenia or Bardzr Hayq, Turuberan, Vaspurakan, Ararat, Syunik) during the Paleolithic Era eventually is not studied²².

Proceeding from the facts disclosed during his research of the pictograms and taking into consideration the fact of continuous habitation of people in Armenia starting from the lower Paleolithic Era the author of this work has drafted out exactly 33 years ago the main directions in

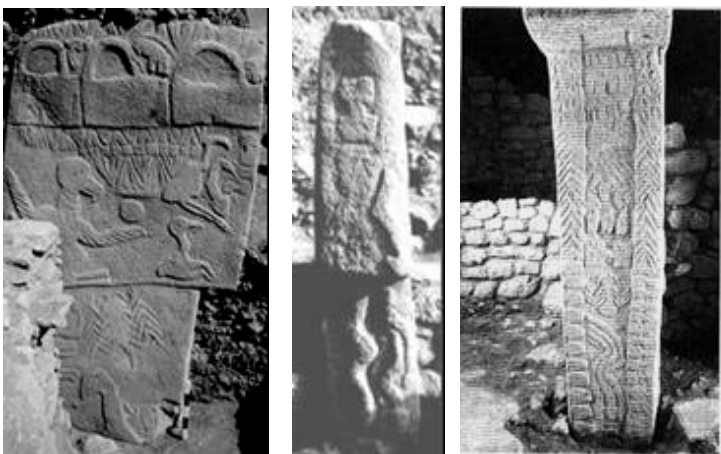
the study of the Paleolithic-Neolithic Eras. The Institute of Archeology did not have scientific groups that were able to study the problems of these historical periods with the approach of archeologists who specialized in different spheres with the help of many other scientists in Quaternary geology and geography, natural and technical sciences in order to solve the problem of thorough study of the pictograms²³.

b). The next aspect that is of interest in the pictograms is the scheme of foundations buildings. There are 12 rectangular foundation schemes among the 802 published pictograms from Ukhtasar-Djermadzor. The most ancient buildings with rectangular foundations are attributed to the habitations found in Mureybet (Northern Syria, the 11th-8th millennia B.C)²⁴. The beginning of Mureybet (the 11th millennium B.C.) coincides with the lower date of creation of the pictograms. To our belief the 12 mentioned schemes are foundations of temples. Let us try to prove this using one of the schemes (see picture No 17).

Picture No 17.



The building is divided into four parts. In the upper left part there is the Egyptian hieroglyph of “water pool” (☐), the hieroglyph of “flag” (𓏏), which means “god, idol” and the hieroglyph of “water” (𓏲) above those two. Next to it to the right there is a hieroglyph of “well, source, spring” (𓏲). There is no doubt the scheme belongs to a worship temple built on a water spring. In accordance with the four parts of the temple there are four animals pictured in the scheme: 2 lions, a goat and a panther. There are also 2 signs in the pictogram as if a title for it that proves the building to be a temple. The first sign is the Egyptian hieroglyph (𓏏) which means “big, major”, the second one is the hieroglyph (𓏏) with the meaning of “house”. Proceeding from that we can read the scheme as “major house”, i.e. temple. The most ancient temple was also found on the territory of historic Armenia. German archeologist K. Schmidt has excavated a wonderful complex of temples near Urha town in a place called Portaqr (navel-stone) or Gobekli which is 800 meters high above the sea level²⁵.



Picture No 18.











That complex composed of about 20 temples with round and rectangular foundations was built in the 10th millennium B.C. and remained functional for 2000 years and later probably in compliance with instructions of priests or for some other reasons it was left and covered with earth. In order to get at least a small idea of what the 10th millennium B.C. temple in Portaqar was we introduce the pictures of three columns of the temple in the picture No 18. The unprecedented level of cultural development of the temples prompts an assumption that it must have had previous stages of development one of which was the culture of the so-called dragon-stones and that of the pictograms of Syunik. The genealogical links between the temples of Portaqar and the pictograms of Ukhtasar-Djermadzor are presupposed by the common system of the world outlook and perception of spiritual values of those who created these unsurpassed monuments. The same sacred animals and symbols depicted in the temples of Portaqar and in the pictograms of Syunik speak in favor of this conclusion. This notion will be further developed in another extensive study.

V. The genealogical links between the pictograms of Syunik and the Egyptian hieroglyphs

1. During the research done in the previous paragraphs we found out that the Ukhtasar-Djermadzor pictograms are:
 - a). a picture-conceptual writing system,
 - b). the basis of which is the Armenian linguistic mentality,
 - c). which were engraved in the 18th-11th millennia B.C.

In this case we can assume that the Ukhtasar-Djermadzor pictogram writing is the most ancient writing system known throughout the world. Consequently, it can be supposed that it might have had an impact on the writing systems that occurred later (the end of the 4th millennium B.C.), i.e. the Sumerian and the Egyptian ones. In order to directly check this assumption we have to compare the Sumerian signs of the pre-hieroglyph period and the Egyptian hieroglyphs with the pictogram symbols of Ukhtasar-Djermadzor. In this paper we have done such comparison for the Egyptian hieroglyphs. The comparison was done according to the Gardinerian groups of the Egyptian hieroglyphs, the results of which are introduced in the table below.



























































a) Man and the anatomical parts of his body

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



































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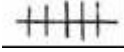



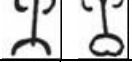

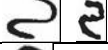

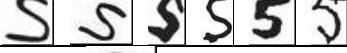















b) Animals

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c) Parts of animals






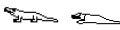







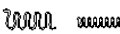
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d) Birds





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e) Reptiles


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f) Fish and its parts


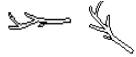














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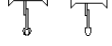
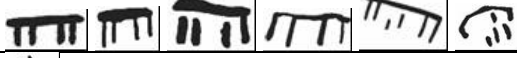



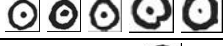



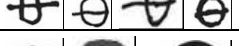





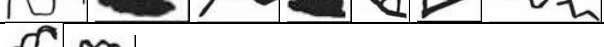

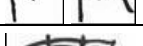



g) Smaller animals






1		
		

h) Herbs




















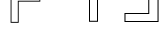


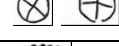











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i) Sky, earth, water




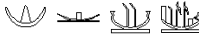








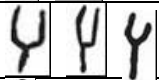









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j) Buildings and the parts

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k) Ships and the parts

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l) Furniture

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m) Church plate and sacred signs

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n) Crown and the scepter

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o) War, hunting, murder

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p) Agriculture and trade

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q) Rope and thread, basket

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r) Bread and cakes






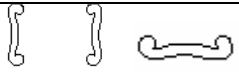

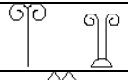






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s) Geometric signs

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t) Unclassified signs



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2. We have selected 450-500 signs in the Ukhtasar-Djermadzor pictograms (ambiguity of the number of the signs derives from the method of counting them by two-three in a bunch). The data inserted in the table shows that for the 228 signs there are corresponding Egyptian hieroglyphs. Taking into consideration the fact that the Egyptian hieroglyph writing system consists from the 700 most popular hieroglyphs (during the middle kingdom period in the end of the 3rd millennium- the beginning of the 2nd millennium) then it becomes clear that more than 30 % of them have their virtually identical duplicates in the 802 pictograms of Ukhtasar-Djermadzor. This is a vast rate of similarity given that:

- The Egyptian hieroglyphs represent the most developed period of the writing system, a wider range of usage (the spiritual-cultural, economical and mercantile, as well as administrative and other spheres) and finally a strong state that lasted for nearly 1000 years.
- The 802 analyzed pictograms of Ukhtasar-Djermadzor represent the initial period of the writing system, they have the exclusive meaning of worship, and they are only a small part of the pictograms spread over thousands of square kilometers.

The wide framework of the problems being discussed demand a systemized way of research. It should be mentioned that most of them are under the threat of destruction and it is necessary to develop governmental projects both for their research as well as just as importantly their protection.

3. According to an adopted opinion the Egyptian hieroglyphs as a writing system developed during the formation of the Egyptian State organization (the end of the 4th millennium B.C.). This is proved also by the fact, that the oldest versions of the hieroglyphs of “papyrus roll” () and “writing, written” () are found in the texts created during the period of the first dynasty²⁶. The most ancient sample of a papyrus also belongs to the period of the first dynasty and was found in the tomb of the nobleman Hemaka²⁷. But the archeological data prove that the hieroglyphic signs had been used on the territory of Egypt even earlier. In terms of antiquity we first of all refer to the pictograms found in the eastern desert, the age of which we have to link with the age of the oldest archeological finds excavated in the valley of the Nile. Pictograms are spread along the ways which led the new-comers after having crossed the Red Sea to the valley of the Nile where they founded the Egyptian civilization. Below in the right pictogram of picture No 19 is a sample from Vadi Hammat and the left pictogram is from Vadi Atvani.



Picture No 19.

The endemic animal of the Armenian Highland – the goat of Besoir with arched horns - and the abstract signs identical with those found in Syunik prevail in these pictograms as well as in the pictograms from Syunik.

We can see the same signs on the stone or ceramic vessels and palettes created during the period between the Egyptian pictograms and the formation of the hieroglyphic writing system (the 5th-4th millennia B.C.) Some of such Egyptian signs are compared with the signs from the Syunik pictograms in the table below²⁸.

	Ukhtasar	Egypt			Ukhtasar	Egypt
1				18		
2				19		
3				20		
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17				34		


The given table obviously shows virtually identical signs from Syunik and Egypt. Many of the signs of that period were left out later and they did not enter the list of the hieroglyphs. This also speaks for the fact that the Egyptian hieroglyphic signs have been brought to Egypt from the highlands of Armenia where they formed the base for the creation of the hieroglyphic writing system.

































4. Until now we have been comparing the signs of pictograms from Syunik and the Egyptian hieroglyphic signs mainly through comparing separate signs or fragments taken from the pictograms. We'll try to find out how the Egyptian hieroglyphic signs are reflected in a separate compound pictogram. For that reason we have chosen No 151/2 pictogram published in "The pictograms of Syunik" research paper (picture No 20).



For that reason we have chosen No 151/2 pictogram published in "The pictograms of Syunik" research paper (picture No 20).

Picture No 20.

The comparison of separate signs of this pictogram with the Egyptian hieroglyphic signs is shown in the table. All the signs of the given pictogram except the compound sign () have got their equals in the Egyptian hieroglyphic signs. In the result, using the meaning of the Egyptian hieroglyphs we can read and disclose the meaning of the given pictogram. On the other hand if we use Armenian sources such as homonyms, medieval signs, ethnography and other in the process of deciphering the pictograms we can also verify the meaning and the sound form of the Egyptian hieroglyphs.

Pictogram signs	Egyptian hieroglyph	Pictogram signs	Egyptian hieroglyph
			
			
			
			
			
			
			
			

VI. SUMMARY

Summarizing the results of different parts of our research we can state the following:

1. The Ukhtasar-Djermadzor pictograms are picture-conceptual records engraved for worship aims which were created in the Upper Paleolithic Era (the 18th-11th millennia B.C.).
2. Like in every type of pictograms the principle of homonymy lies in the basis of the Ukhtasar-Djermadzor pictograms also. The comparison of the meanings of the worship animals found in the pictograms with the homonyms of their Armenian names shows that Armenian language lies in the basis of the Ukhtasar-Djermadzor ideograms.
3. The comparison of the Ukhtasar-Djermadzor pictogram signs with the Egyptian hieroglyphs suggest that 30% of the Egyptian hieroglyphs have got their identical signs in the pictograms. Hence we can assume that the Syunik pictograms and the Egyptian hieroglyphs have got the same origin. Taking into account the fact that the pictograms of Ukhtasar-Djermadzor had been created earlier (the 18th-11th-millennia B.C.) than the Egyptian hieroglyphic signs (the 6th-5th millennia B.C.) we can make the assumption based on the results of our research that the genealogical roots of the Egyptian hieroglyphs go back to the Syunik pictogram signs of Armenia.

This research has been done within the framework of the ANSEF HU-hist-849 grant.

HAMLET MARTIROSYAN

Tel: (37410) 350028

e-mail: hmart@crdlx5.yerphi.am
hamletmartirosyan@yahoo.com

Footnotes

- 1 . See *Archaic Egypt*, W.B. Emery, Edinburg, 1961.
 - 2 . See *The Cambridge Ancient History*, ed. by J. Bury et al, v.1, Cambridge, 1928; I. J. Gelb, *Hurrians and Subarians*, Chicago, 1944.
 - 3 . See the information in CANeW project, <http://www.canew.org/download.html>
 - 4 . *Who were the Sumerians and Egyptians?*, Hamlet Martirosyan, in the periodical *Republic of Armenia*, May 12, 2006.
 - 5 . *Mountain Pictographs of Syunik*, G. Karakhanyan, G. Karapetyan, P. Safaryan, Yerevan, 1970.
 - 6 . *Data of the Sumerian words (Sumerian-English Dictionary)*, University of Pennsylvania, <http://psd.museum.upenn.edu/epsd/nepsd-frame.html> and *Manuelle d'epigraphie akkadienne* R. Labat, Paris, 1948. *The signs of Egyptian hieroglyphs and meanings*, Hieroglyphica Publications Interuniversitaires de Recherches Egyptologiques Informatisees, Vol. I, ed. N. Grimal, J. Hallof, D. van der Plas, Utrecht, Paris 1993. *Egyptian Hieroglyphic dictionary*, E. A. W. Budgt , v. I-II, New York, 1978. *Worterbuch der aegyptischen sprache*, Adolf Erman in Auftrage der deutschen Akademien hrsg. and Hermann Grapow. Bd. I-V. Unveränderter Nachdruck. Berlin, 1971.
- * According to the Dictionary of medieval author Jeremiah of Meghri, the Armenian word “sar(t)” means: “size of writing”. So, the Armenian word “sar”, Sumerian “sar” and the Egyptian “sr” has the same meaning - “writing” and sounds exactly similar.
- ** It is possible that the Armenian word “nokhaz” which means - “the head goat of the flock” has been formatted from the word “khaz” which means “male goat”: nokhaz = male goat (= nah/k + khaz = first goat - “the leader goat”).
- 7 . *The Armenian Folk Conundrum*, collected by Sargis Harutyunyan, Yerevan, 1965, p. 178.
 - 8 . Because in certain pictographs it is hard to distinguish a panther from a lion, and a dog from a wolf, I chose to also include pictures of a panther and a wolf.
 - 9 . The root “ats,” which is the first part in the word “ayts” = goat, is also found in homonym words like *atsu* = to spring, *entsyugh* = (plant) stem, *tsegh* (tribe, flock).
 - 10 . The History of Armenia, (fourth century Armenian historian) Pavstos Byuzand, Chapter Four, Part 16.
 - 11 . *Earliest Civilizations of the Near East*, J. Mellaart, London, 1965.
 - 12 . *Archaic Egypt*, W.B. Emery, Edinburg, 1961

* One of the Armenian homonyms for goat (ayts) is “kał,” which should be actually read as “al” which stand for the “angł” (vulture, eagle) pictograph.

13 . Pictographs of Geghama Mountains, Harutyun Martirosyan, Yerevan, 1981.

14 . Science Begins in Pre-History, Harutyun Martirosyan, Yerevan, 1978.

15 . See *Rounded Handles of the Swords and Daggers of the Ancient Near East*, A. Piliposyan, Yerevan, 1999.

16 . *Pictographs of Geghama Mountains*, Harutyun Martirosyan, Yerevan, 1981.

17 . *The Genesis of Civilization*, D. Rol Eksmo Press, Moscow, 2003.

18 . The presented data is according to *The Four Geological Eras of Armenian Highland: Geology, Stratigraphy and Paleogeography of Upper Miocene*, Y. Sayadyan, doctoral thesis, Moscow, 2006. *The Natural Wealth and Geology of Armenian Highland*, A. Vehuni, *Geology of Armenian SSR, v. I, Geomorphology*, Yerevan, 1966.

* . The fact that pottery appeared around 8-7th millennia BC, is most probably associated with the fact that the creators of the Neolithic Civilization (Revolution) were initially agrarians and cattle-breeders who lived in a high mountains terrain where clay deposits were virtually non-existent. The receding lake waters made it possible for the highlanders to discover clay deposits in the basins of dried-up lakes. This made it possible for the highlanders of Armenia to discover the use of clay for making pottery.

19 . *Pre-Historic Society in Armenia*, S. Sardaryan, Yerevan, 1967. *Armenia: The Cradle of Civilization*, S. Sardaryan, 2004.

20 . *Environmental Changes of the Caspian Sea and its Non-Flowing Bodies of Water during the Paleolithic*, S. I. Varushenko, A. N. Varushenko, R. K. Klige, Moscow, 1987.

* . During that period, the entire land mass of Lesser Caucasus was surrounded by bodies of water and Armenian Highland was an island or a peninsula. The Sumerian inscription of the Country of Dilmun corresponds to neighboring Armenian Highland where the sacred rivers of paradise – the Tigris and the Euphrates – rose and flowed down towards southern Mesopotamia. Dilmun in Sumerian inscriptions is described as the Country of Gods, the Country of the Rising Sun and the Country of the East was the home of Ziusudra, the survivor of the Great Flood, who was granted a divine right by the gods.

In the Sumerian inscriptions “Dilmun” is written NI-TUK^{KI}. The cuneiform sign for NI is also read as IA₃, which means that NI-TUK^{KI} is also read as IA₃-TUK^{KI} = Yatuk (“apart, isolated, island” in armenian). It is possible that the name Khaghkhakh (which is the old name of the province of Ghazagh) in Armenian means “sea inlet” or an “island-mountain” comes from this time.

- 21 . *Quartpedal Creatures of Armenia*, L. Avakyan, Yerevan, 1959.
- Atlas of Unearthed Fauna of Armenian SSR*, M. Abrahamyan, L. Avakyan, N. Azaryan, and others, Yerevan, 1974.
- 22 . *Paleolithic in USSR*, Moscow, 1984.
- Paleontologic and Archaeologic Basis of Continental Stratigraphy related to the four periods on the territory of USSR*, V. I. Gromov, Moscow, 1948.
- * . The pictograph of the ploughshare was taken from a photograph by our expedition group and is not include in the book *Pictographs of Syunik*.
- 23 . Archaeological data is taken from CANeW project: <http://www.canew.org/download.html>
- 24 . *Research of Ancient Armenian Culture and the Prospects of its Development*, *Lraber*, the Journal of Social Sciences, , 7 (379), page 25, Harutyun Martirosyan, Yerevan, 1974.
- 25 . Ibid.
- 26 . Ibid.
- 27 . See data from CANeW project.
- 28 . K. Schmidt, *Sie bauten die ersten Tempel. Das rätselhafte Heiligtum der Steinzeitjäger*. Munich: C. H. Beck Verlag, 2006
- 29 . *Introduction of Egyptian Philology*, M. Korostovtsev, Moscow, 1963.
- 30 . *Excavation at Saqqara, the tomb of Hemaka*, W. Emery, Cairo, 1938
- 31 . The Egyptian symbols are taken from the following works: W.M. Flinders Petrie, *Naqada and Ballas*, London, 1986; W.M. Flinders Petrie, *Tarkhan I and Memphis V*, London, 1913; W.M. Flinders Petrie, *Prehistoric Egypt*, London, 1920; G. Brunton, *Qau and Badari I*, London, 1927.