

On Ethnical Composition of Koban Archeological Culture

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ABSTRACT

Koban culture, spread in both, North and South Caucasus, is the culture of late Bronze and early Iron Age.

At different times, the scientists offered several versions of ethnical composition of this culture, debates dealt also with the relationships between Koban and Colchis cultures. The views of the scientists were mostly based on the tangible materials and metallurgic technology that, in many cases, create wide range of suppositions and hypotheses.

In this article we relied on the results of sequencing of the genome from the osteo-materials discovered in Koban culture area, performed by Russian scientists at Vavilov Institute of Genetic Studies.

According to general view, genetic data provide more information about ethnical composition of one or another archeological culture, especially if regarded against the background of genetic picture of contemporary population residing in the specific region.

Within the scopes of Koban culture, haplogroup G2a1a-P18 first appeared in North Caucasus and now it is dominating in Ossetian population, as well as central foothills of South Caucasus.

We suppose that together with the other Caucasian ethnicities, population speaking in Kartvelian languages, particularly Svans (Sanigs in antique tradition), residing in extreme north of Colchis culture area, have significantly contributed to formation of Koban culture.

When the tribes speaking in Iranian languages came to North Caucasus, the genetic picture in the region has not changes while cultural diffusion took place and, as a result, Alanian was accepted as the one with elite language status. This is confirmed by the linguistic data, according to which, in Svanetian language, there is represented whole set of Alanisms, just like borrowed Svanetian words in Ossetian language.

Keywords: archeology, Koban culture, Colchis culture, North Caucasus, Ossetians, Svans, genetics, archeogenetics, linguistics.

1. Introduction

At all stages of the history of mankind, Caucasian region (both, North and South Caucasus) was distinguished with rich archeological centers.

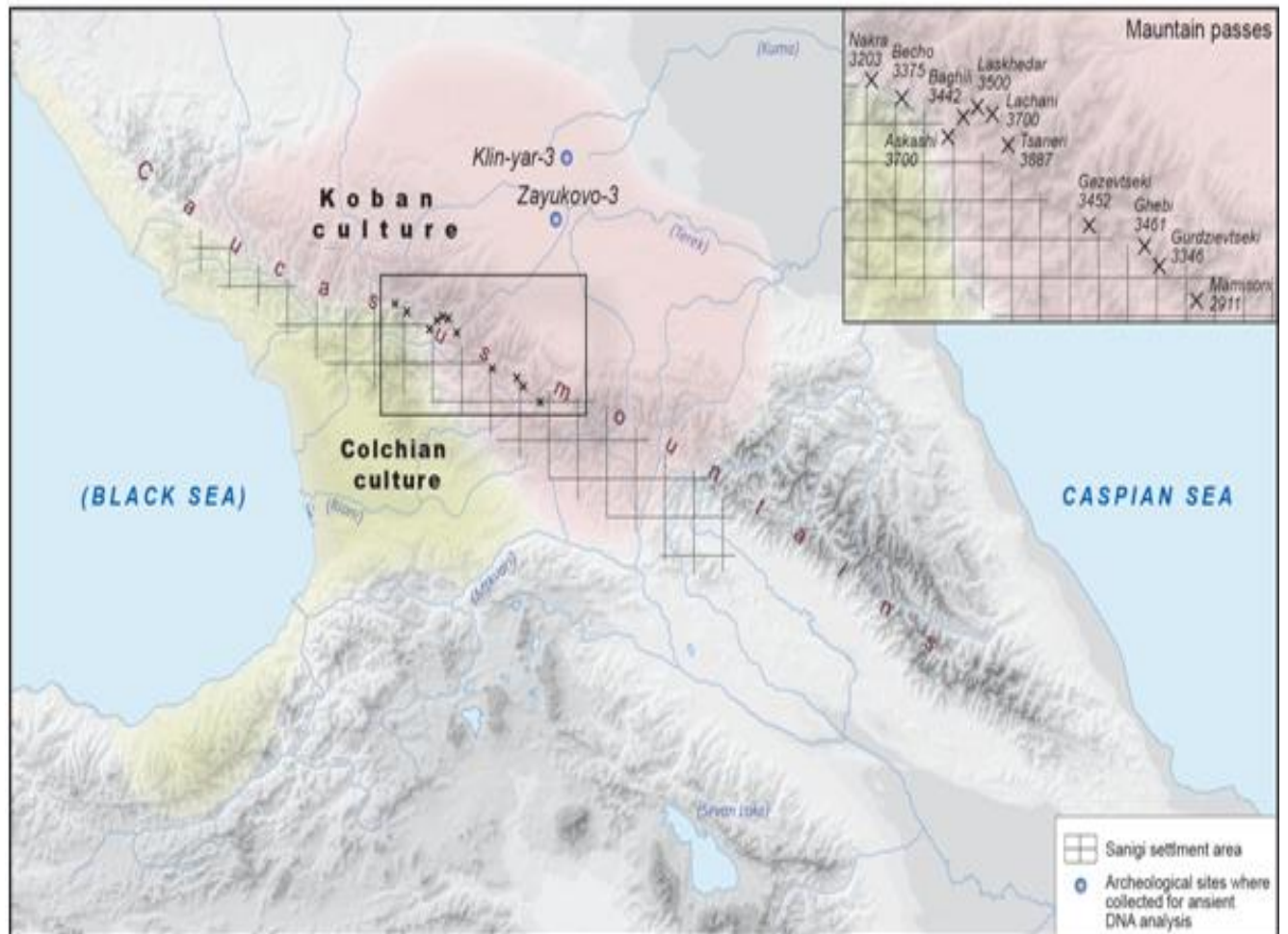
Genetic studies of the bone materials from the old burials taken in the recent period, based on the studies of archeogenetic data of population residing there allowed determination of the traces of their diffusion and route and on the basis of the other archeogenetic materials and comparison of genetic pattern of the contemporary population, there was determined proposed ethnical composition of archeological cultures.

In the period of Koban culture (unlike the earlier cultures), it is already possible to discuss ethnos, as the population creating material and spiritual culture that, with high probability, has common communication vocabulary, traditions and religious beliefs.

Naturally, genetic data cannot provide final reliable information about ethnical composition of archeological culture, as the history knows the cases, where the population that has entered the territory in the process of infiltration, does not leave clear genetic trace but introduces its culture and language (cultural diffusion). Hence, care should be taken in consideration of the genetic data and making conclusions.

Though, multidisciplinary research, within the scopes of which, general analysis of archeological, archeogenetic data, as well as genetic range of contemporary population and linguistics makes one or another hypothesis more convincing.

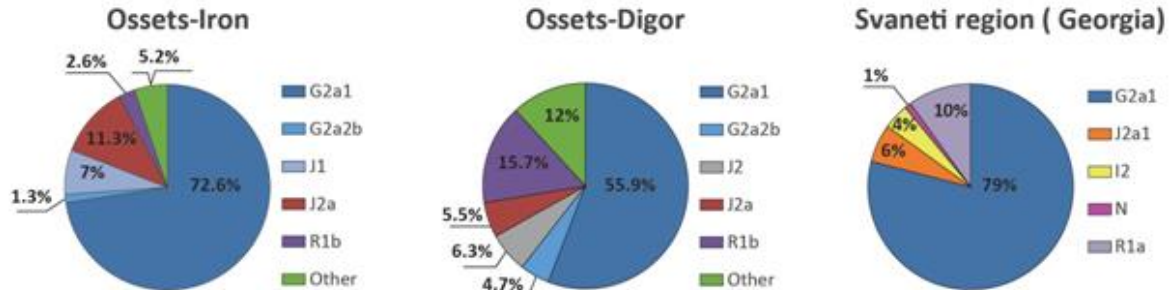
2. Materials and methods



In our work, we relied on archeological materials discovered in the areas of Koban and Colchis archeological cultures, dated back by the period from 13th to 5th century BCE, also archeogenetic studies of the osteo-materials (bone, teeth) from two burials of Koban culture (Ayukovo-3 and Klin-Yar 3) the genome sequencing was possible (at Kurchatov Institute) by both, Illumina Novaseq 6000 system and Sanger method - Y chromosome and mitochondrial DNA were decoded. With respect of genetics of the region's contemporary population, we relied on the statistics published by the authors referred in the article, dealing with the genetic data of the population of Ossetia (Irons and Digors) and central foothills of South Caucasus (Svans).

In identification of the linguistic similarities, alanisms in Svan and borrowed Svan words in Ossetian languages, we take into consideration the studies of the linguists researching these issues for many years.

3. Results



Oleg Balanovsky et al. *Parallel Evolution of Genes and Languages in the Caucasus Region*. 2011.

Aram Yardumian et al. *Genetic diversity in Svaneti and its implications for the human settlement of the Highland Caucasus*. 2017.

3.1 Archeological context and issue of ethnical composition

Koban cultural-historical community is archeological culture of late Bronze/early Iron Age, covering central regions of North and South Caucasus.

Chronologically, this culture includes 13th/12th – 4th centuries BCE, though different studies can consider the other periods, short period (1) and a long one, from proto-Koban culture to the epoch of Scythians. (2) (3) (4)

Initially, there were identified three local variants of Koban culture that covered only North Caucasus, i.e. these were considered as the historical-cultural phenomenon, different from the neighboring Colchis culture. (5) (6) (7) Though, further, the adjacent regions of South Caucasus were included into the area of this archeological culture (8) and, in addition, there emerged the view about “Colchis-Koban unity”, mostly, with respect of metallurgy while the funeral rites, ceramics, typical decoration specimens, axes, in the author’s opinion, showed some degree of relationship but belong to different groups, supposedly demonstrating difference of ethnical composition between these two archeological cultures. (8) p. 130

There was also interesting discussion related to the term “cultural unity”. For Evgeni Krupnov, this term was synonym of “ethnoculture”. According to him, cultural unity is “entirety of the ancient material monuments unified by common signs or historically formed cultural unity, different from the other cultural-historical unities of the same period, with the tools, weapons, decorations, pottery, types of dwelling and, finally, types of burials and funeral rites, characteristic for them only.” [1] (5)

Egor Kamenetski offers his interpretation of this term of the fundamental content, he expanded the concept of "cultural unity", i.e. "archeological culture" and attempts thus to explain the phenomenon of existence of local variants and peripheral analogies of the united archeological complex: "archeological culture is a set of monuments occupying the common territory, borders of which can be changed. The monuments in the set have objectively existing similarities of material and intangible characteristics, creating complex, inherently related system uniformly changing with time, with limited variations in the space and significantly differs from the systems of similar type of the other cultures". [2] (9) As for correspondence of archeological culture to the ethnoculture, the author mentioned that "the most adequate position is the one of those, regarding that probability of correspondence of the culture and ethnical group increases with the age of the culture". [3] (9) pp. 30-36 And this means that on the example of Koban culture, "archeological culture", all its variants, regarding their old age, can be regarded as the united ethnographic space.

In relation to the same issue, Lev Klein, for clarification of the original nature of archeological culture, adds great significance to the statistics, i.e. quantitative-comparative factors of the artifacts, as the most reliable indicator. (10)

Based on the mentioned view, some scientists discuss ethnical composition of Koban culture, as the autochthonic one (11) – mostly representatives of Nakh-Dagestan languages family are implied. (12) (13)

Though, different views were offered as well.

In 40s of the past century, Mikhail Ivashenko wrote: "Main bearers of so called Koban Bronze culture were the Cholchians". [4] (14)

Abkhazian archeologist, Yuri Voronov, relying on the metallurgic products, expressed his views about "Colchis-Koban ethno-cultural unity" and existence of "Colchis-Koban metallurgic province". (15)

As a result of thorough comparison of the ornamental-graphical images on the bronze axes, Alexander Skokov came to the same conclusion and offered the idea about existence of common Koban-Colchian graphical style. (16)

He distinguished Enguri-Rioni, Bzipi and Lechkhum-Imereti variants and, by comparison of the axes, belts and decorations, placed Koban culture into the same archeological space and, in turn, divided it into four areas. (17)

About similarities of Colchian axes and ornaments on them with the Koban ones, wrote Otar Lortkipanidze and Otar Japaridze. (18) (19) Other Georgian scientists have also mentioned powerful metallurgical center, common for Colchis and Koban cultures. (20)

Shushuki (Adyghe) ceramic complex evidences existence of relations between proto-Koban and Colchis cultures. (21)

Similarities with South Caucasian ones, are characteristic for the bronze axes of upper Kuban area, particularly, on Sokhumi Mountain.

“Origin of these axes can be related to Bichvinta and Likhni treasures”, [5] (22) and Giliachi-type axes show apparent similarities with the similar tools discovered in Lailashi (Lechkhumi). Overall, the specimens of early Colchis Ureki are the prototypes of upper Kuban axes. (22) pp. 44-54

The most recent researches have also showed similarities between early Koban funeral practices (cremation) with Colchian traditions, as well as the ceramics (short daggers and decorations). Western and central regions of Georgia are regarded as the original source of these artifacts. (23) (24)

„In general, one can say that the western and southern Caucasus, as opposed to the eastern European steppes, formed the ancestral basis of the Koban culture and shared with it a common fate from the beginning to the end of their existence.“ (25)

Due to the clear reasons, in relation with determination of ethnic composition of Koban culture, decisive can be the archeogenetic (paleogenetic) data of the osteo-materials discovered there.

3.2 Archeogenetics

Currently, archeogenetic material related to Koban culture is quite scarce. Genomes of 15 individuals from two archeological centers of that period – Sayukovo-3 (Kabardino-Balkarian Republic, Russia) and Klin-Yar-3 (Stavropol Krai, Russia) were sequenced. Of them, 14 individuals belonged directly to Koban culture and one (Excavation ID 91) – belonged to Sarmatian period and was used for comparison.

Sequenced osteo-materials cover period from 9th to 5th centuries BCE (one individual of Sarmatian period – from 2nd to 3rd century BCE).

Both, mitochondrial DNA and Y-chromosome were sequenced and haplogroups H20a, J1c, N, HV1, T1a, H1e, W5a, R6, I1 were identified in mitochondrial DNA line and haplogroups E1a2a, G2a1a, R1b и R1a – in Y-chromosome line. (26)

History of spreading of R1a and R1b is well studied and it is apparently related to migrations of the population of Indo-European language family. (27) In this case, we can consider the role of Yamnaya culture that covered Pontic-Caspian steppe and with respect of migration to the Western Europe and Asia, was the proximal source of these haplogroups. Naturally, it can be said that part of the meta-population remained in North Caucasus and provided basis for the subclades of the mentioned haplogroup.

E1a haplogroup discovered in Klin-Yar-3 is a very rare subclade of E*. Its trace, in particular M132, known as M33 according to the old nomenclature, in very small quantity, is maintained in Africa, in Kota and Orungu tribes. (28) Discovery of this subclade in North Caucasus, in our opinion, should be associated with migration of Levantine PPN to the north.

One of the individuals of Zayukovo-3 showed D2a1a haplogroup, the related older haplogroup of which, D1-M15 was found in Tibet (28%), (29), also, it is spread in the territory of Sichuan province, among the speakers in Qiangic language. (30) Currently it is hard to say, whether this fact could be considered within the scopes of Nostratic conception of Dene-Caucasian languages (Starostin).

But in this case, we focus on two individuals (7 and 9) from Kabardino-Balkaria of Koban archeological culture (Sayukovo-3), one of which is of the 5th and the other – of 9th century BCE.

Haplogroup of both of them is G* (G2a1a- FGC595/Z6553 and G2a1a1a2 -FGC1160) which, according to the current data, was discovered in North Caucasus for the first time. This fact can be of great significance for Koban culture, in our opinion, for identification of one of the components of the multi-ethnic population.

3.3 Early archeogenetic picture in the region

For comparison, let us consider the genetic picture in North Caucasus, in the periods before Koban archeological culture.

Darkveti-Meshoko

We have archeogenetic data from North Caucasus, from Eneolithic Inakozovskaya (individuals I1722, I2055, I2056), where there can be seen Caucasian hunter-gatherers (CHG), with admixture of Anatolian Neolith. In two of three individuals specified above (the third one has only mitochondrial DNA), in Y-chromosome line, there were found J and J2a haplogroups, showing migration of this population from South Caucasia. And this is not surprising, as the mentioned archeological site is part of Darkveti-Meshoko culture, original source of which, supposedly, was in Zemo Imereti. (31)

Maykop

This genetic profile was maintained in the later, Maykop archeological culture period (here is implied Maykop foothills, as in the steppes the picture is different, where western hunter-gatherers (WHG) dominate, and this can be clearly seen at Novosvobodnaya stage (archeological site clade in individuals: I6266, I6272, I6267, I6268). In this period as well, Caucasian hunter-gatherers (CHG) and Western Anatolian Neolith (EAN) dominate, with insignificant participation of the eastern hunter-gatherers (EHG). (32)

In the same period, in North-east Caucasus, developed the other history: in Velikent, according to archeological and further genetic data, one more wave from the south was identified, supposedly, this was associated with Kura-Araxes culture (this process can be noticed as early as in Leyla-Tepe period), which, here, in genetic respect, is represented by J1 haplogroup (Harman-Tepe, individual VEK007). (32)

Novosvobodnaya

At Novosvobodnaya stage, the picture in North-West Caucasus has changed dramatically, in both, archeological and genetic respects. Individual of the period 3500-3000 years ago from Klad and Dlinnaya Polyana (individual I6272) showed Y-haplogroup G2a2a that is associated with migration of the early farmers of central and western Anatolia to Western Europe. (33)

Clear changes are apparent in archeological respect as well, as at this stage, Maykop culture is substituted by the new archeological tradition. It has the signs of Fatyanovo culture, which, in turn, is related to Late Neolith culture of Western Europe. (34) (35) (36)

This haplogroup, currently dominating in the population speaking in Abkhazian-Adyghe languages, though through related through distant ancestor G2a-P15 with central Caucasian population, demonstrates different history of migration to North Caucasus ("drastically different range of G2 STR haplotypes indicates that history of formation of the genetic pool in west and central Caucasus was quite different"). [6] (37)

Yamnaya

Simultaneously, in lowlands of North Caucasus, appeared Yamnaya archeological culture (3300-2600 BCE), genetically represented by the subclades of R1b haplogroup.

This population, identified with the representatives of Indo-European language family, later invaded into Western Europe and, actually, completely substituted early Anatolian farmers. (38) (39)

Catacomb culture

This steppe genetic line maintained in catacomb (2600-2200 BCE) and post-Catacomb (2200-1300 BCE) cultures. (31)

As we can see, for entire early history of North Caucasus, according to current data, no G2a1 haplogroup can be found and it appears only in Koban culture.

3.4 G2a1 in contemporary population

According to currently available data, subclades of G2a1-FGC7535 haplogroup, basically, are represented in the central areas of North Caucasus and central regions of South Caucasus and they are very rare elsewhere, in the world. Hence, relative unique nature of emergence and migration of this haplogroup can be seen.

In North Caucasus, this haplogroup is dominating in Digors and Irons, speaking in Iranian languages. Here, its share is no less than 56%, achieving 73% in some places, while, in the neighboring regions, in average, it is no more than 3%.

“Generally, it seems that haplogroup G2a1a-P18 had long history in Caucasus, it was widespread in the entire region and created numerous branches. Though, two of them (clusters α and β , identified in Irons and Digors), regarding the branching structure, show that they have expanded relatively later.” (37) (40)

This fact is significant for presentation of the history of this haplogroup.

In South Caucasus, this haplogroup is also concentrated in the central regions and its percentage is particularly high in Svaneti, Racha-Lechkhumi and historical Kvemo Kartli – the regions, directly adjacent to Digors and Irons. (41)

In Svaneti, this haplogroup is represented in 78%. (42)

Important fact is that this haplogroup is absent in the regions, from where, supposedly resettled the Scythians, Sarmatians and Alanians. Hence, in North Ossetia, there occurred not demic diffusion, but rather cultural domination of the newcomer population, i.e. the new population has not changed the genetic profile of the local population but it has spread its language, as the elite one (Renfrew).

3.5 History of haplogroup G2a1

With respect of the date of origination of G* (M-201) haplogroup – ancestor of G2a1a-P18 haplogroup, there are two, short and long dating. According to the former, its age is 9 500 BP,

(43) while according to the latter one, it is 17 000 BP. (44) Both studies agreed about the place of origination and, similar to the other authors, specify that this was Near East. (45) (46)

Its subclade G2 (P287) is mostly represented by G2a (P15/PF3112), age of which is regarded as $15\ 082 \pm 2217$ and it is spread over quite large territory, from Near/Middle East to Balkans and Western Europe, inclusive. (46)

At this stage, this haplogroup divided into two subclades: G2a1-FGC7535 and G2a2-CTS4367. Both of them, with the relevant subclades, are represented in Caucasus, both, in North and South, but as mentioned above, they have different histories of spreading, with respect of both, archeogenetics (G2a2 is widespread in Central and Western Anatolia and participated in the process of Neolithization of Europe and G2a1, at this time, occurred mostly in Eastern Anatolia), (47) (48) (49) (50) (51) (52) (53) and contemporary population (the former is dominating in the north-western regions of Caucasus and the latter – in central Caucasus). (37) (46)

As the source of G2a1a1 (P18) major haplogroup, currently widespread In Central Caucasus, can be regarded Eastern Anatolia/Iran (unlike north-western Caucasian cluster, the original source of which should be sought in Central/western Anatolia and Western Europe), as this is the place, where there is represented the archeogenetic material of the previous version of this haplogroup, particularly G2a1-P16. (37) (43) (53) (54)

As the age of the last common ancestor (TMRCA) is regarded 9 400 years, (46), at the same time, subclade spread among the Svans shows high haplotype differentiation, indicating its long history in this region. (55)

3.6 Ossetian-Svan linguistic coincidences

As of today, there is no any area contacts between Svanetian and Ossetian languages, but regarding that historical region of Svanetia, in the early period, included the territories of Racha-Lechkhumi and, supposedly, Shoda Kartli (as can be seen in the historical sources, as well as toponymics maintained in this large area up to date), existence of extensive cultural-economic contacts is highly probable.

3.7 Toponyms

As mentioned above, the Svans, in addition to current territory, occupied almost entire foothills of South Caucasus, implying Racha-Lechkhumi and Shida Kartli regions. Moreover, according to Leonti Mroveli, From "Didoeti to Egrisi ... is Svaneti" (56)

Generally, it should be stated that regarding the landscape characteristics, settling of the Svans in Zemo Svaneti has supposedly occurred by this route, i.e. from today's Lashkheti, as Enguri River Gorge, up to the newest history of Georgia was almost impassable.

Even in the name of the region – "Racha", some researchers see Svan stem "Rach(u)" (rabbit), while Vazja Gobejishvili associates name of Chaneti with Svan variation – "La Chan". In addition, especially in the mountainous areas of Racha, there are maintained Svan toponyms up to present, for example:

Ghebi (village in Oni District) that is associated with the Svan word "Ghob" (beehive in Svan), according to the other version, it is associated with the Svan word "ghveb" (sunken place). (57)

Svan stem was found in the name of village Golola, "gololai" means sunken or sloped place in Svan (57) p. 25

At Etsera, there is "Mushuanis Khevi", also, the toponyms Chvesho, Chveshula are apparently associated with Svan language; there are also Sasvano Gora, Mushvani River etc.

It should be mentioned that mountainous Racha is connected to North Ossetia with Manisoni Pass that is one of the most convenient passes in all seasons and it is directly connected with the region of Koban culture.

Up to early 16th century, mountainous Racha was held by Svaneti lords (58) p. 126-131 (59) p. 12-18 and up to the recent period, there were Svanetian towers of "Murquami" type (57) p. 24

3.8 Linguistics

Vasil Abaev identified such elements of Iranian origin in Ossetian language which, generally, are not characteristic for the Indo-European languages.

Such Caucasian influence can be found at the levels of phonetics, morphology, as well as syntax and semantics.

For example, in Ossetian language, there are apparently plosive-glottal consonants characteristic for Caucasian, primarily Kartvelian languages: k\p\t\c\c (60) p. 76 Cases in Ossetian language are different from inflectional type and, similar to Caucasian languages, it is of agglutinative nature. (60) p. 77

Changes have taken place at the level of syntax as well, in particular, with respect of sequence of the definitive attribute and the defined. For example, construction "перед домом" (in front of

house) characteristic Russian, the Indo-European language, in Ossetian language is presented as “სახლის წინ” (house in front) as typical for Kartvelian languages. (60) p. 77.

Adaptation of the language, as perception expression of the concept with the Caucasian space is of interest. This can be seen in semantics and idioms. For example, Ossetian word fyccag/ficcag (first) semantically originates from the word meaning the “nose”. This approach has certain similarity with Georgian word “pirveli” (first) that is associated with word “piri” (პირი, face). In Abaev’s opinion, such similarities cannot be found in Indo-European languages. (60) p. 79.

In lexical respect, Abaev offers about fifty lexemes that are common in Ossetian (both, Irons and Digors are implied) and Svan languages and includes the words demoting natural phenomena, flora, fauna, economic, material culture items, as well as foods and beverages, clothes, shows and parts of the body (60) chapter: “Journey in Svaneti”.

According to the studies of various scientists (G. Akhvlediani, T. Kambolov etc.), number of Svanetian-Ossetian isoglosses exceed four hundred.

With respect of lexical similarities, there can be, there is an interesting circumstance. Where there are discrepancies between Ironian and Digorian, Svan language follows Digorian that is extreme western dialect in contemporary Ossetia. (60) pp. 294-301

Here, we should briefly discuss one more circumstance: the matter is that contemporary Ossetian is characterized with vicenary system of counting that is alien to Indo-European languages, while it is typical for Caucasian ones. The exclusion is Svanetian, where both systems of counting are accepted.

For us, this is of particular significance, as it evidences existence of much earlier relationships between Alanians and Svans, as such difference of Svan counting system from general Caucasian and Kartvelian language space should be associated with the time, when the vicenary system was not accepted by the Ossetians (Alans) yet and decimal counting was taken by Svans from the Alanians. [7] (60)

4. Conclusions

Thus, as the archeological data show, in different epochs, in North Caucasus, the genetic ranges were different.

Darkveti-Meshoko archeological culture show domination of the Caucasian hunter-gatherers that can be clearly seen in Unakozovskaya. The picture is similar in North-East Caucasus, where, in

Velikent, there can be seen the Caucasian hunter-gatherers with East Anatolia and Zagros admixture.

In the period of flourishing of Maykop culture, this genetic line still maintained up to Novosvobodnaya archeological culture and in this period, in the region, appeared haplogroup of central and western Anatolian farmers the proximal source of which is Fatyanovo culture. Fatyanovo, in turn, shows the traces of Western European archeological cultures.

The picture dramatically changes at a time of flourishing of Yamnaya archeological culture, when population from middle reaches of Volga River mixes with Caucasian hunter-gatherers (without admixtures) and, later, expands to various directions.

Haplogroup G2a1 can be found in none of these archeogenetic data of these archeological culture, it will be revealed in Koban culture period.

This haplogroup is still dominating in the area of Koban culture, in North (Irons, Digors), as well as South (Svaneti, Racha-Lechkhumi and historical Shida Kartli) Caucasus.

In our opinion, in the late Bronze Age Colchis culture has spread in the North Caucasus and this expansion was partially of demic nature, i.e. population of the South Caucasus has moved to North Caucasus.

Supposedly, this population was related to Sanigs, i.e. ancestors of today's Svans, occupying northern part of Colchis culture area. So called "saddle principle" worked, implying that the tribes residing in the southern foothills of Caucasus, due to the landscape and, generally, identity of the living environment, developed northern slopes of Caucasus and spread the key elements of Colchis culture together with the local population, especially specific practices of metallurgy..

Population that came after Scythians and Sarmatians and later – Alanes, has not substituted local genetic cluster, but rather introduced Iranian group of Indo-European languages.

The conception that expansion of Alans to North Caucasus was rather of cultural nature than demic, before emergence of paleogenetic science was accepted in the scientific community, where the Alan cluster was regarded as the super-stratum that has established in this area through "substitution of the elite language".

Supposedly, by that period, the haplogroup was either dominating in the region, or later, "genetic driftage" in its favor has taken place.

Thus, we regard that the peripheral element of Colchis culture has contributed to the formation of Koban culture, and its ethnic composition can be identified as Kartvelian. And actual identity of

the neighborhood of historical Svaneti and archeogenetic material of Koban culture with contemporary Svans, as well as genetic palette of contemporary population of Ossetia points that, supposedly, such proto-Kartvelian element was the Svanetian one.

5. Acknowledgments

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Quotations

[1] «совокупность вещественных памятников прошлого, объединенных общими признаками, или исторически сложившаяся культурная общность, отличающаяся от других таких же общностей строго определенного времени только ей присущими орудиями труда и быта, оружием, украшениями, посудой, типами жилищ и, наконец, типами могильных сооружений и погребальным обрядом»

[2] „археологическая культура – это группа памятников, занимающих сплошную территорию, границы которой могут меняться, и обладающих объективно существующим сходством материальных и нематериальных признаков, образующих сложную, внутренне связанную систему, единообразно изменяющуюся во времени и ограниченно варьирующую в пространстве, существенно отличающуюся от аналогичного типа систем, характеризующих другие культуры.“

[3] „наиболее верна позиция тех, кто полагает, что вероятность соответствия между культурой и этносом повышается с древностью культуры.“

[4] "главным носителем так называемой "Кобанской" бронзовой культуры были колхи"

[5] „Истоки этой формы топоров, возможно, уходят к топорам Пицундского (Иессен, 1951. С. 99. Рис. 32: 1) и Лыхненского (Трапш, 1970. С. 176. Табл. VIII: 1) кладов.“

[6] „Резко различающийся спектр STR гаплотипов G2 указывает на разную историю формирования генофондов Западного и Центрального Кавказа.“

[7] „Выходит, что осетины, научив сванов десятичному счету, сами поспешили забыть его и восприняли (может быть у тех же сванов?) Двдцдтдчнй.“

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Appendix

For comparison of Svan-Ossetian vocabulary

Semantic group: Inanimate Nature

Nº	Svan lexical unit presented by V. Abaev	Translation of Svan lexical unit (according to V. Abaev)	Ossetian lexical unit presented by V. Abaev	Translation of Ossetian lexical unit (according to V. Abaev)	The same lexical unit presented by V. Topuria, M. Kaldan	The context in which this lexical unit occurs (according to V. Topuria, M. Kaldan)	IPA
1.	<i>žäh</i>	Avalanche	<i>zæj</i> <i>zæjæ</i>	Avalanche	ჟჷჰ	ლინთ □ ისგა ხომ □ მიმთ □ ნ ჟჷჰ ანჰ □ დ ჩამ □ რგ □ შჰუ (Upper Bal)	S. zæh O. zøj zøjæ
2.	<i>k'a</i>	Slate, Clay slate	<i>k'æj</i> <i>k'æjæ</i>	Slate, Clay slate	კა	დ □ რ □ რ კ □ ჟი ჟ'ესსიჰე ზურ □ ლდ (Upper Bal)	S. k'a O. k'ej k'ejæ

Semantic group: Plants

3.	<i>mōg</i>	Mespilus	<i>mugæ</i> <i>mogæ</i>	Mespilus			S. mo:g O. mugæ mogæ
4.	<i>inğa</i>	Red raspberry	<i>ninæğ</i>	Red raspberry	ინღა	მი ინღა-ც □ ნყ □ ლალ □ ფ □ ლოე ღური (Upper Bal)	S. inka O. ninek
5.	<i>basq</i>	Fragaria	<i>mæck'u</i>	Lingonberry	ბ □ სყ	მ □ ჰი ბ □ სყ მუჰ □ ი ლი (Upper Bal)	S. basq' O. metskū
6.	<i>matata, mat'at'a</i>	Henbanes	<i>mætatyk</i> <i>tatuk</i>	Edible plant			S. mat ^h at ^h a O. mat'at'a

							metatuk tatuk
7.	<i>tek'ra, tek'er</i>	Maple	<i>tægær</i>	Maple	თეკრა	ხაგ ად□იდ თეკრა (Lower Bal)	S. t ^h ek'ra, t ^h ek'er O. t ^h egær
8.	<i>zəntx</i>	Oat	<i>zətxæ</i>	Oat	ზ□ნთხ	ზ□ნთხს აკლ□□იბ (Upper Bal)	S. zənt ^h χ O. zətxæ
9.	<i>ğeder</i>	Bean	<i>qædur</i> <i>qædoræ</i>	Bean, Wild bean	ღედ□რ, ღედერ	მუ ღედ□რს ალ□ში (Upper Bal)	S. ðeder O. qædur qædoræ
10.	<i>kan</i>	Hemp	<i>gæn</i> <i>gæncæ</i>	Hemp	ქან	ალა ქანა ლ□ში ლი (Lashkian)	S. k ^h an O. gən gæncæ
11.	<i>manäš</i>	Rye	<i>mænæw</i>	Wheat	მან□შ	ეჩხ□ნ □დბინე სიმინდი ლიჯდე ი მან□შიმ (Upper Bal)	S. manæʃ O. mænæw
12.	<i>zad</i>	Malt	<i>zad</i>	Malt	ზად	ხოჩა ზად მულ□ე (Upper Bal)	S. zad O. zad
13.	<i>māga, māg</i>	The name of a small bird that is hunted.	<i>mæga</i>	Common snipe			S. ma:ga, ma:g O. mæga
14.	<i>məršk</i>	Ant	<i>mælzyg</i> <i>mulzug</i> (old Ossetian - *murčuk)	Ant	მ□რშკ	მიჩა მყალ□შ ესერ... გიმქა მ□რშკ დემ იზელ□ლ (Upper Bal)	S. mərʃk' O. mælzyg mulzug (old Ossetian *murtuk)
15.	<i>darg</i>	A goats aged six months to one year.	<i>dærk'</i>	A goats aged six months to one year.	დარგ	ემზუ დარგ ჩუადიჰხ ეჯ ლ□თ (Upper Bal)	S. darg O. dærk'
16.	<i>dalisw</i> (Mulakh. <i>dalüs</i>)	A lamb aged six months to	<i>dalys</i> <i>dalis</i>	A lamb aged six months to one	დალის□	[ჭყინტდ] ემზუ დალის□ ჟ'□ნ□რმე (Upper Bal)	S. dalisw (Mulakh. dalys) O. dalys dalis

		one year.		year.			
17.	<i>dombäj</i>	A big and strong bull.	<i>dombaj</i>	Bison	დომბაო	ხომა ლახაორს დომბაო ლამრდ (Lower Bal)	S. <i>dombäj</i> O. <i>dombaj</i>
Semantic group: Material culture							
18.	<i>gurna // gurana</i>	A round stone for grinding grains and salt.	<i>kuroj</i> <i>kurojnæ</i>	Mill	გურნა	[ციც] გურნაჟინ ესგონ (Upper Bal)	S. <i>gurna</i> <i>gurana</i> O. <i>kuroj</i> <i>kurojnæ</i>
19.	<i>gwem</i>	Storeroom	<i>gom, gon</i>	Granary	გემ	გემისგა ლიენლ ესერ ხოცხადა ლაყრაისგა? (Upper Bal)	S. <i>gwem</i> O. <i>gom, gon</i>
20.	<i>mekw</i>	Haystack	<i>mæk'wyl</i> <i>mæk'wæl</i>	Stack	მექ	ბიქს მოქორ მგ ჩოთრლას (Upper Bal)	S. <i>mæk^{hw}</i> O. <i>mæk'wyl</i> <i>mæk'wæl</i>
21.	<i>arsan</i>	A strong rope	<i>rætæn</i> or <i>ræsæn</i>	A strong rope			S. <i>arsan</i> O. <i>ræten, ræsæn</i>
22.	<i>k'ir</i>	A wooden ring at the end of a rope, used for tying.	<i>gærk'a</i>	A wooden ring at the end of a rope, used for tying.	კირ	კირს ბგი ზეხენქა ატბებ (Upper Bal)	S. <i>k'ir</i> O. <i>gærk'a</i>
23.	<i>cæg</i>	A mill bearing (an iron plate with a dimple)	<i>cæg</i>	Ring, bracket	ცგ		S. <i>ts^hæg</i> O. <i>tsæg</i>

		in the middle, against which the vertical axis of a mountain water mill rests)					
24.	<i>k'ədər</i> (Lenjer), <i>k'udur</i> (Mulakh)	Chump, Fat man	<i>k'wydyr</i> <i>k'udur</i>	Chump, Stump	კუდურ	კუდირს ესერ ჯი ბი□□ე (Lower Bal)	S. <i>k'ədər</i> , <i>k'udur</i> O. <i>kwudur</i> <i>kudur</i>
25.	<i>k'wadal</i> , <i>k'wädäl</i>	Rod	<i>k'æcæl</i> <i>k'wæcæl</i>	Wand	კვადელ	□ისიბ □ან□რს კვადელს დ□მა ხოსპა (Upper Bal)	S. <i>k'wadal</i> , <i>k'wædæl</i> O. <i>kæt̪s̪əl</i> <i>kwæt̪s̪əl</i>
26.	<i>čirt</i>	A pile of stones collected from a field cleared for arable farming	<i>curt</i> <i>cirt</i>	Monument, Burial ground	ჩირთ	[როსტომ] ჩირთჟენ ჩვადყურდა (Upper Bal)	S. <i>t̪ʰirtʰ</i> O. <i>t̪s̪irtʰ</i> <i>t̪s̪irtʰ</i>
27.	<i>kešēni</i>	Above-ground burial	<i>kesena</i> , <i>kešene</i>	Above-ground burial	ქეშენი	ხოჩა ქეშენი ოთგებ ბაბას საფლ□□ეი (Upper Bal)	S. <i>kefe:ni</i> O. <i>kesena</i> , <i>kešene</i>
Semantic group: Food and drink							
28.	<i>kəržin</i>	Bread baked in ash	<i>kærzyn</i> <i>kærzin</i>	Barley or corn bread	ქვრჯინ	ქვრჯინს ჯამინებ ყ□იჟან-ტაბლან მ□ქაფი (Upper Bal)	S. <i>kərdžin</i> O. <i>kərdžun</i>

							kerd̄zin
29.	<i>woräš</i>	Wort	<i>wæras</i>	Baga	ორშ	ნეუნდ ორშ ხუდანხ (Upper Bal)	S. <i>woræf</i> O. <i>weras</i>
30.	<i>rang</i>	Honey (drink)	<i>rong</i>	Mythical drink of the Narts, nectar	რნგ	ჯინალდ ეუნზლიმ რნგს ლმზომნელობ (Lower Bal)	S. <i>rang</i> O. <i>rong</i>
Semantic group: Clothes and footwear							
31.	<i>kærdän</i>	Rag	<i>kærdæn</i>	Handkerchief			S. <i>kærdæn</i> O. <i>kerden</i>
32.	<i>žabər</i>	Footwear for walking on steep slopes (upper made from a solid piece of leather, sole made from straps)	<i>žabyr</i> <i>žabur</i>	One type of shoe	ჯაბირ	დის მრმე ჯაბირ ოკდა (Upper Bal)	S. <i>džabər</i> O. <i>džabyr</i> <i>džabur</i>
Semantic group: Parts and body							
33.	<i>p'il</i>	Lip	<i>byl</i> <i>bilæ</i>	Lip	პილ	ზურღლდ ტტ ლობდე პილრქა (Upper Bal)	S. <i>p'il</i> O. <i>byl</i> <i>bilæ</i>
34.	<i>talapa</i>	Eyelash	<i>tæfalæ</i>	Eyelash	თაღა	ეჯ დნას მეზე თაღელხრ (Upper Bal)	S. <i>t^halap^ha</i> O. <i>t^hefalæ</i>
35.	<i>mak'wšdäg</i>	Thigh	<i>mæk'ustag</i>	Humerus	მაყშდგ	ყალჩუყლანდ ქა ლობიტ	S. <i>mak'wšdæg</i>

						მაყმდღგს (Upper Bal)	O. mək'ust ^h ag
36.	<i>sk'el</i>	Shin	<i>sč'il sk'elæ</i>	Ankle	სკელ	მრა სკელდ ლიშე ლობინე (Upper Bal)	S. sk'el O. sts'il skele
Semantic group: Varia							
37.	<i>bwast', ame bwast', eče bwast'</i>	World, this world, that world (the afterlife)	<i>bæstæ</i>	World, country	ეჩებუსტ	მიჩ ეჩაბუსტხო დემ ლოქ იხნეხ (Lentekhian)	S. bwast', ame bwast', eč ^h e bwast' O. bæstæ
38.	<i>swim-ra</i>	Grand procession	<i>sim-sem</i>	Performing a group dance	სიმრა	ზაჩა გიგიჟი ჭოლში სიმრა (Upper Bal)	S. swim-ra O. sim-sem
39	<i>səlxær</i>	mad	<i>səlxær</i>	mad	სლხერ	ძღდ სლხერ ხერხ (Upper Bal)	S. səlxær O. səlxær
40.	<i>šxar, sağar</i>	A bull with a white stripe on its forehead, a horse with the same stripe.	<i>zyğar zæğar</i>	An animal with a white spot on its forehead.	შერ, საღერ	შერ ჩე ოხეიდდ (Upper Bal) საღერ ჩე იხეიდდ (Upper Bal)	S. šxar, sağar O. zyğar zəğar
41.	<i>buran</i>	1. Small livestock droppings, 2. Dusty soil surface	<i>byron burojnæ</i>	Rubbish	ბურნ	ბურნდ გემი ლი ლალულიქერ (Upper Bal)	S. buran O.byron burojnæ

Semantic group: Mythology, Folklore

42.	<i>Apsat'</i>	Patron god of hunting and hunters, patron of animals	<i>Æfsati</i>	Patron god of hunting and hunters, patron of animals	აფსათ	ობურმენ აფსათ – გარეილი მლდედ (Upper Bal)	S. Ap ^h sat' O. Æfsat ^h i
43.	<i>Närt</i>	A hero, a representative of the heroic race of people	<i>Nart</i>	A hero, a representative of the heroic race of people	ნართ	ნართლდ დემმაგემ ხაყერხ (Upper Bal)	S. Nært ^h O. Nart ^h
44.	<i>Sosruqwa</i>	An epic hero	<i>Sozruqo</i>	An epic hero	სოსრუყ	ახდახ ლიმილ სოსრუყს ი ნართლს (Upper Bal)	S. Sosruq'wa O. Sozruqo
45.	<i>Werzmeg</i>	Name found in tales and also in everyday life	<i>Wæræzmæg</i>	Nart hero			S. Werzmeg O. Wærezmæg
46.	<i>Xabiž, Xabžə</i>	Name found in tales and also in everyday life	<i>Xæmyc</i> <i>Xæmic</i>	Nart hero			S. Xabidž, Xabdžə O. Xemuts, Xemits
47.	<i>Satanäj, Zitanäj</i>	The name of the sorceress in fairy tales	<i>Satana</i>	Nart hero			S. Sat'anæj, Zit'anæj O. Satana