

AN EXAMINATION OF THE MUŠKI TRIBE: A MULTIDISCIPLINARY APPROACH INCLUDING PALEOGENOMICS

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Abstract

The northern regions of West Asia have been home to countless ethnocultural groups throughout history. Among the most mysterious are the Muški. A multidisciplinary approach, which for the first time exploits genetic data, has been used in the hope of identifying their cultural and linguistic affiliation. In the 8th century BCE, the Assyrians used “Muški” as a name for Phrygia, which led to subsequent theories suggesting the Muški must have origins in the Balkans, either as Phrygians or as a group closely related to them. However, these connections have proven to be groundless. The genetic data do not support an Early Iron Age migration from the Balkans to the Kharberd/Elaziğ region or the headwaters of Tigris River, where Muški are first attested in Assyrian sources of the 12th century BCE. On the other hand, there is preliminary evidence, which requires further confirmation, for a genetic marker moving from the Armenian Highlands and South Caucasus to the Anatolian Plain. This new evaluation supports a Muški connection to Armenians, with the Muški homeland located near the headwaters of Western Euphrates/Karasu river. Alternatively, it finds a connection to the ancient Kaška people, known allies of the Bronze Age Muški, equally plausible. Additionally, an analysis of the available linguistic evidence has similarly indicated that a Muški ethnolinguistic connection to Georgian is unlikely, although a connection between the names *Muški* and *Mtskhe* is plausible.

Keywords: Muški, archaeogenetics, paleogenomics, Muški homeland, Moschoi, Phrygia, Urartu, Assyria, Kaška, Iron Age Near East, grooved ware

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Introduction

Serving as a crossroads between the eastern and western worlds for millennia, Asia Minor, the Armenian Highlands, and the South Caucasus have been inhabited by countless ethnocultural groups since the dawn of civilization. While the ethnic and linguistic affiliations of many of these groups are well-established, there are still numerous groups that continue to evade classification. The Muški, a people who are variously believed to have resided everywhere from the Balkans¹ to eastern Georgia, are among the most mysterious of these still unidentified cultures. People called Muški variously were described as enemies of the Assyrian Empire, enemies of Assyria's main political rival, Urartu, and, at times, allied with both of these competing powers as well. A group (or perhaps groups) with variations of the name Muški were known in Antiquity to the Greeks, Romans, and Jews. The Muški are believed to have conquered part of the southern Armenian Highlands in the 12th century BCE, invaded Assyria twice, and, in the Iron Age, conquered Anatolia. Their king is widely thought to have served as the inspiration for one the most iconic of Greek myths, well-known to this day. Despite seemingly occupying a wide geographic area and being so militarily active, very little is known about the Muški. Their homeland has not been established, there is no scholarly consensus on what language they spoke, and convincing arguments have been made linking them to a number of other groups with more clear identities.

According to Assyrian records, the Muški, with their allies the Urumu and Kaška (or the Abešlu) attempted to invade Assyria from the north around 1165 BCE. These groups took control of Purulumzi (or Purukuzzi) and Alzi, usually placed near the confluence of the Euphrates and Arsianias (=Murat-su) rivers [13: 122; 58: 145], or in the vicinity of the source of the Tigris River [29: 147].² A few decades later, during the reign of Tiglath-Pileser I, 20,000 Muški warriors were reported as having invaded Kadmuhi, in what is now southeastern Turkey. These Muški were

¹ The term *Muški* is not directly attested in the Balkans. Only indirectly related terms like *Moesan* are mentioned in this region (see section 4.4.1).

² Harutyunyan 1985:147. These two different locations are due to potential localization of Alzi. We prefer a source located near the mouth of the Tigris River for Alzi (Harutyunyan 1985:19). This is where the related Armenian province *Aljnik* (Greek: *Arzanene*) was located.

retroactively coined *the Eastern Muški* [13: 115; 66].³ After defeating the Muški, Tiglath-Pileser I resettled many of them in northern Syria.

In the 8th century BCE, a group called the Muški were mentioned in Assyrian records as being present in modern southern and central Anatolia. This later Muški group was dubbed *the Western Muški* by modern scholars as their relationship to the earlier Muški is uncertain.

Methods and materials

The methodology employed in this paper will consist of a combination of the available data derived from archaeology, linguistics, ancient records, and genetics to examine the validity and the probability of proposed theories regarding the Muški's origins and ethno-linguistic affiliation. The terms *Western Muški* and *Eastern Muški* will be used, but with the assumption that the so-called Western Muški originated from the Eastern Muški as there is no reason to believe that two distinct peoples called Muški emerged in West Asia during the Iron Age. However, it is possible the Western Muški had already shifted to speaking a different language by the time they were most active in recorded history.

Paleogenomic studies and Muški question

Over the past decade, population genetics in general and paleogenomics in particular have become a tool used by researchers to study ancient migrations. One of the most complicated and controversial mysteries long puzzled linguists, historians, and archaeologists, the origin of the modern Indo-European peoples, has been convincingly explained by paleogenetics.

Even though the ultimate origin of Proto-Indo-Anatolian has not yet been resolved, the geographic extent of its possible homeland has narrowed substantially. Currently discussed theories place the homeland either to the south or to the north of the Caucasus Mountain range [42; 30; 44].⁴ If the now extinct Anatolian branch, whose origin is not directly related to the subject of this study, is excluded, all other modern Indo-European languages can be derived from the language of the Yamnaya archaeological culture (3300-2700 BCE) located in Pontic-Caspian steppe.[42; 44] One group, descended from Yamnaya, migrated directly over the Caucasus

³ Diakonoff 1984:115. Another naming convention is the “old and new Muški” proposed by Wittke (2004).

⁴ Lazaridis et al. 2022a, Heggarty et al. 2023 for south of the Caucasus and Lazaridis et al. 2025 for north of the Caucasus.

Mountains to the South Caucasus after 2500 BCE. This group plausibly spoke the Proto-Armenian language, and, upon mixing with locals, were ultimately responsible for the formation of the Armenian people [46: 165; 42: 11b; 57; 68; 64: 11]. Other groups settled throughout the Balkans, including Greece, leading to the establishment of the Mycenaean Greek culture [68]. Given the strong linguistic connection of Phrygian to Greek, it can be presumed that Phrygian speakers moved to Anatolia from the Balkans, although they did not leave behind a strong genetic imprint[42: 11c].

Genetic studies have also improved the understanding of Caucasian and other non-Indo-European linguistic groups.

Identifying DNA connected to the Muški could prove crucial to determining their linguistic and cultural affiliation. However, it is only possible to identify potential DNA associated with the Muški indirectly as there is no genomic data that can be securely linked to them. In addition to Bronze Age DNA from Anatolia, there are a number of ancient DNA samples dating to the Iron Age (1200-600 BCE) and Classical-era (600 BCE-400 CE) from different regions of Turkey. There is also a large number of DNA samples from Georgia (including the Meskhethi region) and the Republic of Armenia, which have made it possible to reevaluate theories related to the Muški's origins and migrations.

Etymologies and related onomastics

Igor M. Diakonoff partially ascribed the term *Muški* an Armenian origin, stating its root was some form of *muš/mus/mos/moš* (a word he did not etymologize) with the addition of the Classical Armenian *k'* plural suffix [13: 118, 195, note 87]. Armen Petrosyan, relying on Vladimir Toporov's proposal, considers it likely that the root *mus/muš* is derived from the Proto-Indo-European **mús*, meaning "mouse," with a semantic development referring to ancient Indo-European epics [52: 142]. On the other hand, the root *muš* is present in the Armenian word *mšak* < **muš-ak* (vineyard worker, farmer) and Georgian *mušaki/muša* (worker).⁵ Additionally, the word *mišak*, meaning "agriculturalist," also exists in Circassian. However, the possibility that **mušak*-derived words stem from an Eastern Iranian source makes an etymology connected to the Muški less likely [2: 332-333].

⁵ The drop of the final *-ki* is regular in Georgian. Compare *danaki*>*dana*, *agaraki*>*agara*. Gippert, Jost (1993: 64–65).

Hittite and Urartian texts mention a number of terms containing the root *muš*, including personal names, such as *Muššu* and *Mušu*, and geographic terms, like *Muša*.⁶ The Hurrian word *muš-*, meaning “truth” or “just,” could ultimately be the origin of this root.[34: 39-40, 47] It is also possible a derivative form, **mušun*, could be the root of toponym *Mušunipa* (with a regular Anatolian *-ipa* ending), the name of the Hurrian deity *Mušuni/Mušni*,[1: 7] and the incomplete *Mušun-x* of the Lake Van basin. The presence of these names suggests the possibility that the root *mušun* (potentially of Hurrian origin and perhaps derived from the root **muš*), had an old presence in Anatolia and could also be the root of *Muški*. The Classical-era *Mysia* (Μυσία) in northwest Anatolia could be another derivative of this root.

Rostyslav Oreshko etymologized both the names *Muški* and *Phryges* from a Balkanic word **mus-k*, meaning “mule,” supposedly derived from “horse/donkey”[50: 77-128]. Assuming that Balkanic **musk* is related to the *Muški*, another explanation is the name of the country *Muska* began to be used to denote mules in the ancient languages of the Balkans and eastern Europe, such as Albanian *mušk/mušķē*, Romanian *mușcoiu* and Proto-Slavic *mŭskŭ* (*mъskŭ). This theory was suggested by Gustav Meyer, [50: 116-117]⁷ although he linked the Balkanic mule-related wanderword to the land of Mysia. A derivation from the name of the land *Muska* seems to be more realistic when the final *-k* is taken into consideration. It should be noted that the first mules were bred in Anatolia, and one of the oldest DNA samples from a mule was found in Anatolia as well [26; 25: 4].

Assyrian inscriptions mention a type of tree called *GIŠmušku*. Wittke suggested that the name of the *Muški* could have derived from this tree name[67]. However, the inverse is also possible, and more likely, given the existence of another tree called *GIŠurumu*, known in the land of Nairi [6: 271]. Both of these arboreal terms could be derived from the ethnic names of the *Muški* and the *Urumu*, respectively.

In sum, determining an unambiguous etymology for a root as short as **muš* can be difficult, especially in a linguistically diverse environment.

Moschoi. The root *mosch*, [μόςχ, *mosk^h*] attested in various Greek and Roman sources, closely corresponds with cuneiform *Muški*. The cuneiform [u] was frequently used to represent the phonetic [o]. The suggestion that Greek *Moschoi* and Latin *Moschi* are derived from *Muški* is beyond a doubt given that in old Greek

⁶ Laman Hittite name finder. <https://laman.hittites.org/>; Proper names in Urartian texts <https://oracc.museum.upenn.edu/ecut/cbd/qpn/onebigfile.html>

⁷ Oreshko 2020:116-117. A similar, modern example is the turkey, which, in various European languages, derives its name from the countries Turkey and India.

the letter *chi* (χ) was pronounced as a velar aspirated stop k^h , which is close to the Armenian velar ejective stop k' (p). Taking this into account, it is very likely that names containing the root *Mosch* in Antiquity are related to the name Muški, although this does not necessarily mean the peoples connected to the various lands called *Mosch*- spoke the same language(s) as the Muški.

In Strabo, the Moschian Mountains are referred to as *Moschike* (Μοσχική).⁸ The Armenian form, *Mosk'ikean* (Մոսքիկեան), seems to be related to Strabo's *Moschike* with an additional Armenian *-ean* ($-\text{եան}$) suffix. This extra *-ike* suffix in Strabo, when attached to the stem *Mosch*-, could potentially be derived from the language of the Moschian people themselves. The suffix *-k-* has reflexes in many Indo-European languages but is particularly present in Balkanic ethnonyms. Armenian also has the *-ik* ($-\text{իկ}$) suffix for denoting an appurtenance [50: 114-115].⁹

According to Flavius Josephus, Mosoch (Meshech) was the founding father of the Mosocheni, which later became known as the Cappadocians [16]. In Genesis, this Meshech is a son of Japeth. A possibly different Meshech (known as Mash in Genesis) was mentioned as a son of Aram and brother of Hul in Genesis. Josephus stated Hul founded the Armenian nation. The correspondence of Meshech from Chronicles 1:17 to Mash from Genesis can be viewed as another indirect argument for the final cuneiform *-ki* (corresponding to *-ch* in Greek) functioning as a suffix. Another argument for the existence of the suffix *-ki* is the presence of both *Musa* and *Muska* in the same Luwian text. The final *-ka* in Hittite and Luwian texts could have been pronounced as $k'a$, similar to *-ki* in Assyrian texts. There are other examples of the root *muš* without the ending particle. In a text dated to the 8th century BCE, Sarduri II, king of Urartu, listed the land of *Muša* as being located near modern Malatya [29: 146].¹⁰ All this combined with the data presented in section 3.d strongly suggests the final *-ki* in Muški was a suffix.

Personal names. The Muški left no records of their language. The only personal name that has been concretely associated with them is *Mita*, who was the 8th century BCE (Western) Muški king. Mita, who fought against the Assyrians, is usually assumed to be Midas of Phrygia, who is generally regarded as being the

⁸ Strabo *Geographia* XI,2.15, 12.4,14.1; XII.3.18.

⁹ Oreshko 2020:114-115. Although *-ik* in Armenian is considered to be a loan of Iranian origin (the native form would be *-ik'*), it was almost certainly part of the Armenian vocabulary by Strabo's time.

¹⁰ Harutyunyan 1985:146. This *Muša* should not be confused with the city name of Muš (=Muş) to the west of Lake Van, which also could be related to Muški. (Petrosyan 2002:142).

historical inspiration for the mythological king famous for his golden touch. The name Mita was recorded in Hittite texts as early as the 15th century BCE as the name of a rebel leader from Pahhuwa, a land located near the Upper Euphrates [36: 261]. If the Phrygians emigrated to Asia Minor from Europe after 1200 BCE, as is commonly thought (and which is supported by paleogenomics), it is chronologically impossible for Mita to be a Phrygian name. Interestingly, one of the governors of Zikirtu, located near Lake Urmia in northern Iran, was named *Mitatti*. Another name, *Mitaki*, was also attested in Iron Age Iran [69: 94, 112]. Although both *Mita-ki* and *Mita-tti* are considered to be old Iranian names by Ran Zadok [70: 267-268], it cannot be ruled out that they were introduced to West Asia by the early Indo-Iranians who established the Kingdom of Mitanni. This possibility is further supported by theories explaining the name *Mitanni* (or the alternate form, *Maitani*) as stemming from the kingdom's legendary founding ruler's or tribe's name, *Mita/Maita* [12: 68]. The root *mita/maita* has been proposed to have an Indo-Iranian etymology, [17: 11]¹¹ which raises the possibility that Mita of Pahhuwa had an Indo-Iranian background. However, the presence of similar names, such as *Muida* mentioned in an inscription found at Karmir Blur, Armenia, and dating to the Urartian-period, could mean that the name Mita was not exclusively derived from archaic Indo-Iranians, but could be affiliated with Etiuni as well [23: 58].

Although frequently borne by Luwian kings, and ascribed a Luwian origin, the name *Kurti* (sometimes translated as Gurdi) has also been considered a possible Muškian name [37: 200-202]¹² The name has been equated with the Phrygian name Gordius (or Gordias). Midas' father was named Gordias, although in some traditions they were not biologically related. Additionally, due to phonetic similarities, Kurti has been compared to the second part of the name Ara Kardos, a legendary Armenian king mentioned by Movsēs Xorenac'i [39: note 29].

The similarities of Mitanni and its earliest legendary kings *Maitta* and *Kirta* to *Mita* and *Kurti*, respectively, are noteworthy. This could suggest the presence of an Indo-Iranian adstrate amongst the Muški. This is especially worthy of consideration as Kosyan and Petrosyan identified Indo-Aryan names in Hayasa-Azzi

¹¹ Fournet 2010:11. In the past, the name Mita was compared to a hypothetical Luwian word *mita*, supposedly meaning "servant." However, Hawkins demonstrated that the reading of this word as *mita* is inaccurate (Kosyan 2009: 91-92).

¹² Kosyan 2002:200-202. A Phrygian origin of Kurti was proposed by Simon (2023:157).

and Išuwa, lands that may have been home to, or been adjacent to, Muški populations[38; 53].¹³

The initial homeland of Muški

The question of the initial Bronze Age homeland of the Muški is unsolved. Despite this uncertainty, the currently available genetic and epigraphic data puts important constraints on the possible geography of this homeland.

- The earliest mention of the Muški in the Upper Tigris dates to the rule of the Assyrian king Ninurta-apil-Ekur (1191-1179 BCE) [58: 149]. A homeland in the Balkans would require a lightspeed migration from the Balkans to the Upper Tigris around 1200 BCE, a period when the last Hittite king, Suppiliuluma II, was still ruling over the Plain of Anatolia. Not only is this an unrealistic scenario, but there is no single piece of genetic or archaeological evidence to indicate a migration from the Balkans that far east at the time.
- The Muški homeland was almost certainly not in Asia Minor, otherwise the Hittites would have left some reference to them.¹⁴
- Their homeland was not in the Sasun (=Sason) or Kharberd (=Elazığ) regions for the same reasons: the Assyrians and/or Hittites would have left some references to the Muški. Additionally, Assyrian sources claim that they were invaders to that region.

After excluding those regions, there is no other choice than to search toward regions east of Anatolia and north of the Alzi region. Indeed, looking closer at regions near the source of Euphrates, namely Karin (=Erzurum) and adjacent regions to the east and north of it, we can find a number of reasons to favor the northwestern

¹³ Kosyan 2009; Petrosyan 2018a. The name of the ethnic group Cyrti/Kyrti (Κύρτιοι) could be related to this personal name also.

¹⁴ Michael Banyai proposes a homeland in Central Anatolia, in a region called the Halys bend. (Banyai 2024:35-37) He considers the Muški and Phrygians to be different groups, and links the grooved ware in Upper Euphrates to the Muški. Even though both of these proposals are plausible, Banyai's argument for grooved ware's original homeland is weak. His proposals are based on a few shards of grooved ware found in the Central Anatolia region and the assumption that there are no older examples elsewhere. However, Guido Guarducci reports older dates of grooved ware in the Erzurum region, South Caucasus, and northwestern Iran (Guarducci 2019:518-519). It is worth noting that archaeology alone is likely to be insufficient for deducing the Muški homeland.

region of historic Armenia (=northeastern Turkey) as the initial Bronze Age homeland of the Muški.

- a) *Mita*, the only name securely linked to the Muški, was first attested in Pahhuwa, near the sources of the Euphrates. The toponym *Muša* also was attested in the Upper Euphrates region.
- b) Veli Sevin suggested the Kharberd (Elazığ) ceramic ware's distinctiveness from the previous ceramic styles found in the region was indicative of a new population, one from the South Caucasus, settling in the Kharberd (Elazığ) region at the end of the 2nd millennium BCE [61: 87-97].¹⁵ Sevin argued that the large amount of this pottery found in Elazığ could indicate a 50% increase in population. Citing C.A. Burney, Sevin said this pottery, dubbed "grooved ware," may have been associated with the movement of the Muški as they migrated westward from a homeland in the South Caucasus (he mentioned that while this pottery came style originated in eastern Georgia, it was also found in the Erzurum-Kars region, located between the South Caucasus and Elazığ). Although it is more likely the Muški homeland was in the vicinity of the Upper Euphrates rather than the South Caucasus, a migration from the latter would almost certainly cause a domino effect, triggering migrations from the Erzurum-Sarikamish region also. Sevin's theory was subsequently criticized for connecting this "grooved ware" solely to the Muški. The same pottery appeared in regions associated with other polities, such as Nairi [14: 116f; 24: 442].¹⁶ Its initial provenance from the South Caucasus also was questioned.[24: 409-412] Despite these criticisms, this pottery originating in the Armenian Highlands and the fact that Muški tribes appeared during the same period in regions where this pottery was produced, can hardly be disputed. For this same reason, the initial Muški homeland cannot be placed further north into the Greater Caucasus since grooved ware does not originate from Bronze Age Caucasus-based pottery traditions, such as Colchian or Dolmen cultures.
- c) In Assyrian texts, the Muški's allies, the Urumu and the Kaška, were called "troops of the Hatti land" (suggesting they either came from Cappadocia or

¹⁵ Sevin 1991:87-97. According to Pavel Avetisyan, during the 13th-12th centuries BCE, the populations of some regions of present-day Armenia (Aragats, Sevan) abruptly decreased. It is possible the new 'grooved' pottery that appeared in the Alzi region at the beginning of the Iron Age could have originated from the territory of present-day Armenia (Petrosyan 2018b:141).

¹⁶ Erdem 2012:116f. Guarducci 2019:442. Grooved ware is also known as Nairi ware or Nairi-grooved ware.

nearby regions under Hittite suzerainty), however, the Muški were not given this qualifier.[52: 166; 54: 133] This could indicate that the Muški did not invade Assyria from the west, but rather invaded from areas to the north or east that were not under the Hittite yoke.

- d) Assuming the *-ki* is a suffix, then a search of similar endings in ancient toponyms could point to the Muški homeland. Diakonoff mentioned another toponym with the same ending: *Tumiški* (Greek: Tomisa), located in Tsop‘k’/Soplene (Elazığ/Eğil region) [13: 173 note 29]. There are at least two other ethnonyms with similar endings, *Šaški* and *Ardaraki*, the names of tribes mentioned in texts related to the Urartian campaign in Diaukhi[29: 70]. *Šašilu*, a land and a city in the same region, while phonetically having the same root as *Šaški*, features a possible Hattian/Kaşkian suffix, *-ilu/-ili* [63: 171].¹⁷ Assuming that *-ki* in *Šaški* functioned as a suffix, it could serve the same purpose in *Muški* and *Ardaraki*¹⁸ as well. Diaukhi was located near modern Erzurum and Olti, which overlaps with the possible Muški homeland. This increases the probability that the final *-ki* in *Muški* belonged to a language spoken in the northwestern regions of the Armenian Highland (modern northeast Turkey). Whatever linguistic group was using the final *-ki*, its presence in the aforementioned region is another argument for the Muški’s initial homeland located in Erzurum region.
- e) Urartian sources mention a land called *Muškini* (or “land of the Muški,” *-ni* functioning as a possessive suffix in Urartian) twice during the reign of Rusa, son of Argišti, in the 7th century BCE. Nikolai Harutyunyan and Aram Kosyan proposed a location for *Muškini* in the Upper Euphrates, [29: 147; 40: 23] but the most widely accepted contemporary view is that it referred to Phrygia in central Anatolia. However, this theory is not without problems as the two inscriptions do not offer insight into the geographic location of the Urartian-era *Muškini*. While one inscription is incomplete, the other comprises a list of eight enemy countries from where the king Rusa deported men and women. Those countries, listed in order, are:

¹⁷ Singer 2007:171. Abeš(i)lu could also contain this *-ilu* suffix. The Abeš Mountains, in the source of Halys River, could be derived from this ethnonym. (Hakobyan et al. 1986: Volume 1;8).

¹⁸ The root *šaš-* is well attested in Hittite toponyms: *Šašša*, *Šašana*, *Šaššita* etc. The personal name *Ardara* is attested during the late Nairi period. (Šamši-Adad V 1 iii 48).

Assyria (south of Urartu)

Targuni (location unknown, but if this is identical to Tarius, then it was northwest of Urartu)

Etiuni (northeast of Urartu)

Tabla = Tabal (west of Urartu, near Cilicia)

Qainaru (unknown)

Hatti (west of Urartu)

Muškini - ?

Siluquni (east of Urartu)

All the above-mentioned countries are beyond, or on the periphery of, the lands controlled by Urartu. Geographically they are listed in a zigzagging manner, making it virtually impossible to imagine that a king with his army was moving in such a manner during a military campaign. Based on the list, it is not possible to know the direction in which Muškini was located and its connection to Phrygia is speculative.

- f) And finally, an initial homeland in the Erzurum region, close to the modern Georgian border, could be reflected by the Moschoi/Moschi, mentioned in texts by Greek and Roman writers, such as Herodotus, Strabo, Pliny the Elder and others. Herodotus placed the Moschoi in the Pontic regions of the XIX satrapy of the Achaemenids,¹⁹ while Strabo placed the Moschike Mountains between Colchis, Armenia, and Iberia, which was the Arsiani Range (=Yalnızçam Mountains). Ptolemy considered the Moschike mountains to be part of Armenia [31: 245 note 75A, 331]. According to Yeremyan, ancient Moschike was a larger place than modern Meskheta in Georgia, and that it included the Ardahan and Artvin regions [31: 303-304]. After the bulk of the Muški moved southward, along the Euphrates, other remnant groups could have used the Olti, Tortum, and Chorokh rivers to move to the Black Sea coast, while others could have settled near the headwaters of the Kur River, where they left toponyms.

Proposed linguistic connections

Armenian

Herodotus stated that the Phrygians originally came from Macedonia and settled in what is now central Turkey [13: 110]. It is usually thought this settlement took place in the 12th century BCE, with the Phrygians filling a power vacuum left

¹⁹ Herodotus *The Histories* III.94, VII.78.

by the fall of the Hittite Empire. Herodotus also said that Armenians had been “colonists from Phrygia.” Diakonoff, using Herodotus’ statement regarding the shared origins of Phrygians and Armenians, and the fact that the Assyrians conflated the Phrygians with the Muški, asserted that the Muški were speakers of Proto-Armenian, and were either Phrygians, or a closely related group who followed them from the Balkans eastward toward Armenia [13: 115ff].

Modern research suggests that much of Diakonoff’s theory linking Armenians to Phrygians and Muški is untenable. Petrosyan, in his monograph, presented eleven weak points of Diakonoff’s theory [54: 133-134]. Genetic studies have determined the majority of the Armenian ethnogenesis was completed by 1200 BCE and Proto-Armenians were present in the Armenian Highlands since the Middle Bronze Age [27: 931-936; 45; 68; 32: 18-20]. This suggests that even if the Muški were from the Balkans (which is virtually impossible), they could not have contributed to the Armenian gene pool as their entrance was too late and there are no Balkan-origin markers in Armenians dating to the period in question [42: Suppl.text3: 280; 32: 18-20]. Diakonoff’s theory is not supported by modern linguistic evidence either: although Armenian, Greek, and Phrygian all belong to the Indo-European language family,²⁰ the Phrygian language is now believed to be much more closely related to Greek than it is to Armenian [9: 69-80; 49]. Archaeologically, there is no evidence of the western (“Phrygian”) ceramic ware east of the site of Kaman-Kalehöyük in Kırşehir Province in Early Iron Age [40: 28-29]. The known geographic extent of this ceramic ware indicates it cannot be associated with Armenian-speakers.

Despite these issues, Diakonoff’s proposed Armenian-Muški connection could be accurate if the Muški’s migratory route was not from the west to the east, but rather the east to the west. Based on the archaeological and ancient records, Kosyan does not rule out the possibility that the Muški, or at least the Eastern Muški, could be speakers of Armenian, or of a closely related, although now extinct, language [36: 261-262].

From Trialeti-Vanadzor Culture to the west. A number of arguments exist in support of an Armenian-Muški connection. Armenians are well-attested during the Classical-era in regions where the Eastern Muški were active in the preceding Iron Age. The *-ki* suffix in *Muški* can be the reflex of Armenian plural suffix *-k*. The possibility of a *mosk* > *moc* shift (see section 4.2.1 for details) could support that the Muškian language had the same sound changes apparent in Armenian.

²⁰ For the position of Armenian in the Indo-European family see Martirosyan 2013.

There is evidence of “grooved ware” (see section 3 for details) reaching Kharberd/Elazığ by approximately 1200 BCE. The origin of “grooved ware” is still debated. However, a few things are now well known. First the grooved ware of the Erzurum region is typologically close to that found in the South Caucasus region [24: 440-441]. The oldest cases of this pottery are found among the Late Bronze Age Transcaucasian ceramic ware, originally found in eastern Georgia and Armenia, which spread throughout much of modern Armenia and as far west as Erzurum by the middle of the 2nd millennium BCE [61: 96-97; 54: 14; 24: 451]. The Transcaucasian Late Bronze Age culture responsible for this ceramic ware is now known as the Lchashen-Metsamor Culture, which both archaeological evidence and recent genetic studies strongly hint at having been an Indo-European culture, and linked to Armenian-speakers specifically [42: 11b. Supp. Data1 267-268, 280; 43; 57; 68; 64:11]. Even if we take into consideration alternative theories that posit Proto-Armenian a local autochthonous origin [45; 30; 32] then the arguments below are still partly valid, though supporting other Indo-European linguistic connection of Muški. (see section 4.5)

Lchashen-Metsamor Culture, which descended from the Trialeti-Vanadzor Culture, was known as Etiuni in Urartian sources. While the Armenic connection to these cultures has solid genetic, linguistic and archaeological support, it is possible that a subset of those from Trialeti-Vanadzor Culture’s western periphery developed a unique Muški identity, which was distinct from the primary Etiuni (=Armenian) identity, although linguistically connected to them. It should be noted that numerous ancient sources make a distinction between Armenians and Moschoi/Moschi. According to Tacitus, the Moschi, who were loyal to Rome, raided Armenia in the 1st century CE.²¹ However, these differences in political alignment and cultural identity are not necessarily a hindrance to an Armenian-Muški ethnolinguistic connection. It is possible that the groups were related linguistically but had their own distinct identities, dialects, and political affiliations. There are precedents for such a dynamic, when two closely related peoples develop hostile relations with one another, such as the Iranic Medes and Persians or the Greek Athenians and Spartans, respectively.

Interestingly, the medieval Armenian historian Movsēs Xorenac‘i wrote that the mythological Armenian patriarch, Aram, made his cousin/general, Mšak [Məšak] governor of Cappadocia [52: 43-44]. According to Xorenac‘i, Mšak founded the city of Mazhak (Greek: Mazaca) and named it after himself. Some

²¹ Tacitus *Annals* XIII, v. V.

sources suggest that Mazaca (=Kayseri) was the Muški capital city. In addition to the phonetic similarities of the names Mšak and Muški, the name Aram could correspond with the name of the Muški's allies, the Urumu [52: 166]. However, while the Muški are known to have lived in what is now central Turkey, the Assyrians and Urartians never mentioned the Urumu as inhabiting this region.

Incidentally Somekhi, the Georgian exonym for Armenians, has been proposed to be derived from Muški, translating the name as *so-mekhi*, meaning “the country of the Mekhi,” a name supposedly originating from Muški [7: 16]. However, this proposal has a number of phonetic issues. It is possible that the Georgian name for Armenians is derived from a poorly attested **som(e)* root with an addition of -x- suffix (see section 4.2.1 for the -x- suffix).

Ancient DNA has added some support for a possible connection of the Muški with Armenic tribes. The Y DNA haplogroup I2 has a European origin. Its subclade, I2a2b-Y16419, appeared in Middle Bronze Age Armenia and Georgia, and is associated with the Trialeti-Vanadzor Culture [42; 65]. The Trialeti-Vanadzor Culture formed as a mixture of new Steppe pastoralists from the Pontic Caspian region north of the Caucasus and the local Kura-Araxes Culture. Based on the current data, Proto-Armenian was spoken by the people of Trialeti-Vanadzor Culture. The lineage I2-Y16419 expanded in the Middle Bronze Age and was prevalent in the later Late Bronze Age to Early Iron Age Lchashen-Metsamor Culture. This haplotype gradually moved to the west and was present in the Anatolian Plateau by the time of the Romans. Three ancient DNA samples from southern Europe²² suggest an additional dispersal of this haplotype by the time of the Roman Imperial-era, a phenomenon that affected many Anatolian haplotypes [43]. While it is likely that I2-Y16419 was introduced to Anatolia by Armenians inhabiting Lesser Armenia, they may not have been its sole bearers. It cannot be ruled out that the Muški could also be connected to the westward migration of this haplotype. The presence of I2-Y16419 Achaemenid-era Skhulta (located in the Khulo district of Georgia's Adjara region), [64]²³ where Armenians are not known to have had a presence in Antiquity while Moschoi were attested nearby, raises the possibility that the Moschoi/Muški also bore this haplotype. Based on this limited

²² <https://discover.familytreedna.com/y-dna/I-SK1270/tree> From the Roman city Viminacium (ID: I15524) in what is now eastern Serbia and from El Castillon (ID: I3575) in post Roman-era Spain. Another from Classic era Sardinia (Ringbauer et al. 2025: SuppTable3, ID: I22091) which is marked as an outlier from Caucasus.

²³ Skourtanioti et al., 2025 Supplemental Tables S1; ID SKH002.

data, it is possible that the Muški could have been the bearers of I2-Y17419 and, therefore, had ancestry from the Indo-European Trialeti-Vanadzor Culture.

Georgian

Some scholars have linked the Muški to Kartvelians, especially Georgians [48: 105-109]. The most frequent argument is that modern Georgian-speaking Meskhetians supposedly preserved the name of the Muški/Moschoi. Another line of reasoning is based around linking the Kaška with Kartvelians, and the known association of the Muški with the Kaška [11].

The linkage of the Muški to the Kaška seems plausible (see section 4.3), but the theory that the Kaška were a Kartvelian tribe is unproven and not supported by the current (albeit, admittedly, scant) genetic data from northern Anatolia. The usual argument in support of a Moschoi and Meschoi (Μέσχοι) connection is the apparent similarity of the two terms. However, they only appear similar in Romanized Greek transliteration where the letter *chi* (χ) is used to render two different phonemes: *k*^h and *x*. A closer examination of their phonetic pronunciations shows discrepancies. Meschi (>Meskhethi) is pronounced as *mesx*, which is distinct from *mosk^h/mosk*^h (the cuneiform reading of Muški). Diakonoff expressed scepticism that the two roots were related. Giorgi Melikishvili suggested the term *mesx* must have been loaned into Kartvelian languages from a foreign source. Others have suggested that *mesx* traces its origin to the Colchian language [13; 48; 33].²⁴ However, this latter suggestion is unverifiable due to the absence of Colchian texts.

The oldest mention of the root *mesch* [*mesx*] is dated to the 4th-5th century CE [4: 420; 33: 43 note 5]. It can be said with a high degree of certainty that *mesch* is the Greek transcription of the Georgian term *mc* 'x(e)- [*mæc* 'x(e)-],²⁵ as the Greek alphabet lacks a letter for aspirated alveolar affricate [c^h] and instead the letter sigma

²⁴ Diakonoff 1984; Melikishvili 1959 105 note 231; Kavtaradze 2001:45 note 9. Melikishvili says that the term *mesx* is of foreign origin and was introduced into Georgian in a later period. This could be somewhat similar to how the term Ararat (instead of the older Urartu) was resurrected in Armenian texts during the Christian-era.

²⁵ Another possibility is that *mesx* was derived from the Biblical *Mesech*. The possible replacement of the term *mosk^h* by *mesx* may have occurred during the spread of Christianity, when theologians were trying to link Biblical terms to familiar, contemporary geographic and ethnic terms. The *k^h>x* shift in Koine Greek (where the letter chi (χ) was pronounced as *k^h*), changed to [*x*] in the Early Medieval period. After the creation of the Georgian alphabet in the 5th century CE, monks translated Greek texts into Georgian, which could have caused the appearance of the new term *mesx* in Georgia. However, this theory cannot explain the Georgian root *mc* 'xe-.

was used, while the letter epsilon represents the mid central vowel [ə]. Thus, the root *mc'xe* needs to be examined more closely.

Mosk' and Mc'xe. A number of Georgian terms are derived from *mc'xe*: *Mc'xet'a*, the ancient capital of Caucasian Iberia, *Samc'xe* (=the land of Mc'xe), and the name of the patriarch, *Mc'xet'os*. This shows the importance of this root. It is clear, however, that the two terms *mosk'* and *mc'xe* are quite distinct. They only share a single phoneme out of four overall. Given that these are the primary roots, in contrast to *mesx*, which appears late and almost certainly is derived from one of them, it is possible that:

- a) The two terms are unrelated: they have different origins and only one phoneme in common. However, since they were used to denote a similar place, this theory has its weaknesses. Additionally, the use of *Mosok* for Georgia by Northeast Caucasians remains unexplained in this scenario.
- b) Two terms are related and one of them is derived from the other. Given that the form *mosk'* (Muški) was attested in the early Iron Age, it must be the initial form, while the form *mc'xe* must be derived from *mosk'*.
 - Based on known regional sound change laws, the emergence of aspirated alveolar affricate [c'] can be explained as a result of *sk'>c'* shift (a change well-attested in Armenian). An intermediate stage is not directly attested; however, Hewsens suggested that the modern town of Posof in Turkey is derived from an unattested form **Moc'ovi* via the Georgian *P'oc'ovi* [5: 138, 209; 31: 135].
 - Next the appearance of *-x* can be explained by an addition of a suffix similar to those found in neighboring toponyms like *Odzra-xe*, *Java-x-* (Urat. *Zabahae*), and possibly *Boł-xa* in the Olti region of Turkey [28: 726].²⁶ It is possible the *-x* suffix comes from the Muškian language itself or that it was added by its neighbors. The resulting intermediate form is attested in the Laz language, where Meskheti is known as *Moc'x-iw*. [31: 135]²⁷
 - And finally, the loss of the [o] in *moc'x* can be due to an accent shift to the last added vowel *e*, resulting in the known form: *mc'xe*.

²⁶ Hakobyan et al. 1986: Volume 1, 726. *Bołberd* in the same region meaning “fortress of Boł” indicates that the root is the Boł (Hakobyan et al. 1986: Volume 1, 725).

²⁷ Hewsens 1992:135. Another example of such a shift can be seen in the name of the village *Turc'x(i)* from **Turšk'*. The village, located near Akhalkalaki, is also known as *Turs* (Hakobyan et al. 1986: Volume 5, 146).

The existence of these sound changes is a strong indication that the initial Moschoi community underwent a linguistic shift most probably during Late Antiquity. Imagining the inverse (i.e. a development from *mc'xe>mosk'*) is practically impossible. This suggests that the name continuity argument for the Georgian origins of Moschoi is untenable.

Moschoi and Colchians. Another proposed argument is Hecataeus Miletus' (Frag. 288) reference to the Moschoi as a Colchian tribe. However, this is not sufficient for identifying the linguistic affiliation of the Moschoi. Ancient sources report significant linguistic diversity in Colchis. In just one city, Dioscourias, between 70 to 300 languages were spoken and 130 translators operated, according to Greek and Roman sources [59: 14]. Thus, the Moschoi being associated with Colchis does not guarantee they had the same linguistic affiliation as the Colchians. Nevertheless, it could indicate the Anatolian Moschoi migrated from the more eastern regions where Uartian-era *Qulha* or Greek-era Colchis were located. It is worth noting that the Greeks differentiated between Iberians and Colchians. Hecataeus Miletus' connection of the Moschoi with Colchians contradicts the theory that the Moschoi was an Iberian tribe. Hecataeus Miletus claimed that the Moschoi inhabited a region near Matiene, which, based on his later description, was firmly within Anatolia and not near the Caucasus. It is probable that these Moschoi were related to the Western Muški. In any case, ancient sources' claims regarding the origins of ethnic groups should be treated with caution. For instance, Herodotus stated that the Colchians had an Egyptian origin given their dark skin, a view that was never taken seriously by modern researchers. Another example is that many Caucasian ethnic groups were linked to Scythians or given other dubious origins in ancient texts.

Genetic data. According to the current genetic data, the homeland of the Kartvelian languages might be within the borders of modern Georgia [19]. Kartvelian people exhibit excessive genetic affinity to Caucasian hunter-gatherers [18: 7, 10]. Any Kartvelian migration or a chain of migrations to Anatolia would have left a specific genetic trace related to Caucasian hunter-gatherers. Ancient DNA samples from Anatolia dated to the Iron Age and Antiquity have not revealed any evidence of a significant increase in Caucasian hunter-gather ancestry, with the exception of one outlier from Hellenistic-era Samsun [42].

The ancient DNA from the Meskheta region in Georgia is not particularly supportive of a Kartvelian connection either. Genetic evidence indicates a migration from the south to the north in the direction of Meskheta (as discussed in section 3)

instead of expected migration from north to south. The presence of haplogroups R1a, Q2, and J1-P58 in Late Antiquity Akhaltsikhe, Georgia, suggests the presence of non-local migrants [65].²⁸ Even though R1a and Q2 are almost certainly not related to the Muški (they are Indo-Iranian haplotypes), their presence nevertheless suggests a migration from the south. The same is true for the J1-P58 and probably G2a2a1. Genome-wide DNA for Meskhetian Georgians is available. The results have shown modern Meskhetians have significantly more Anatolian-related genetic ancestry than other Kartvelian groups [18: 8, 10].

Irrespective of the initial identity of the Muški, it is beyond a doubt that a branch of them moved north and became part of Georgian ethnicity, playing an important role in the ethnogenesis of the Georgian nation. This is reflected in the founding myth of the Georgian nation, which features Mc‘xet‘os, son of Kartlos.

Anatolian-Georgian connections. The Muški have been proposed as a source for Anatolian influence in eastern Georgia.²⁹ Giorgi L. Kavtaradze suggested a possible Phrygian endonym, *Vrekun*, and theorized a connection to *Virk’*, the medieval Armenian name for Caucasian Iberia [33: 48]. According to Kavtaradze, the Muški were Georgian-speakers who inhabited Cappadocia. They were subsequently conquered by the Phrygians, who had migrated from the Balkans alongside Armenians. After mixing, the Phrygian self-appellation, *Vrekun*, was reapplied by the Armenians to the Muški, the latter of whom resettled in Georgia. Kavtaradze further supported this by saying eastern Georgians were known to Northeast Caucasians as *Mosok/Masek/Mosoch*, [33: 44 note 8] with the implication being these names could ultimately be connected to Muški. It should be noted, however, that *Vrekun* has recently been rejected as a Phrygian self-appellation [62: 157].

Despite these theories, the migration from the Anatolian Plain to eastern Georgia is not supported by the ancient genetic data from Caucasian Iberia. Levantine and Anatolian related ancestry appeared in eastern Georgia only during the Hellenistic and Late Antiquity periods, which is too late to support Kavtaradze’s theory [65: 6 figure 3c]. Assuming that some of those Anatolian/Levantine shifted

²⁸ Skourtanioti et al. 2025: Supplementary Tables S1.

²⁹ Compare the Hittite gods Arma, Santa, Atis, and Kibela, and the ancient gods of Georgian Iberia: Armazi, Zadeni, Gatsi, and Ga. (Kavtaradze 2001:44 note 7; Gordeziani and Tatishvili. 2016:267-272.) However, at least some of these Iberian gods may have other origins, i.e. Armazi from Ahura Mazda (or Ormazd) of the Iranian Zoroastrian religion (Lang 1986).

samples were from the northeastern regions of Anatolia (near the Kur River headwaters), it can be hypothesized that they can be related to a Muški/Moschoi migration from the headwaters of Kur River to eastern Georgia. If true, this could offer an explanation for why some Northeast Caucasians refer to Georgians as *Mosok*.

Kaška

A number of scholars have linked the Muški with the Kaška tribal confederation, which dwelt in northern Anatolia [21: 179]. The main arguments for these proposals are the known migrations of the Kaška during the same period that the Muški appeared in Assyrian inscriptions. The other argument is the possibility of a Kaškian linguistic connection to the final *-ki* in Muški. According to Itamar Singer, Kaškian toponyms featured a *-ska* suffix [63: 170]. Kosyan mentions that Kaškian personal names had the *-ki/-kki* ending.[38: 94]³⁰ Another theory is that Kaškian toponyms featured a *-ka* suffix.[11: 151 note 3] Such Kaškian toponyms include *Tatiška*, *Duduška*, *Munišga*, *Karikurišga*, *Zianteška*, and of course, the name *Kaška* itself. Additionally, a number of names omitting the final *-š-* include: *Išmirika*, *Tarukka* and possibly *Nerik*. It is worth noting that in Luwian inscriptions the form *Muska* existed with a similar *-ska/ka* ending.

There is no consensus regarding the Kaškian language's classification and various theories have ascribed non-Indo-European and Indo-European affiliations based on the small number of onomastics associated with them. The current scant genetic data from ancient northern Anatolia (Bronze Age Amasya and Classical-era Samsun) supports the suggestion that the Kaška could be a group related to local Hattic people, although a dense sampling of Late Bronze Age and Early Iron Age Anatolia is needed to have a more solid opinion. Hattian and Kaškian related toponyms are well attested in the northwestern parts of the Armenian Highlands in the proposed Muški homeland. This, and the presence of Kaškian terms in the Muš region,[56: 142-145] increases the probability that the Muški were a Kaškian group living in the northeastern regions of Anatolia, who migrated south in the Early Iron Age.

³⁰ Kosyan 2009:94. The linguistic features, such as personal names ending with *-ki/-kki* and toponyms ending with *-ka*, that have been attributed to Kaškian are suspiciously close to Paleo-Balkan languages and the Armenian plural *-k'*. Further research into the Kaškian language is necessary, including an examination of possible contacts with Paleo-Balkan speakers (see section 4.5).

Phrygians

It is widely recognized that references to the (Western) Muški in 8th-7th centuries BCE Assyrian sources refer to Phrygia. Accordingly, it would be logical to link the Muški with Phrygians. Konstanin Kopanias went further, proposing a Phrygian affiliation for the Eastern Muški also. Kopanias adds that “Phrygian” was the general term, while Muški was their endonym. He additionally suggests that the Phrygians/Muški were not from the Balkans, but were indigenous to Asia Minor, and could perhaps be connected to the land of *Maša* [35: 222, 215, 220-222].

However, the most realistic scenario, which is supported by ancient DNA, is that the Phrygians moved from the Balkans,[68] while the first mentioned Eastern Muški were not speakers of the Phrygian language, as it is virtually impossible that the Phrygians were native to Anatolia or that they came from the east. As for *Maša*, a land mentioned in Hittite texts, it is very likely to be connected with the name *Maeonia*, another name of Lydia during the Classical-era [10: 438].

There are two explanations for why the name *Muški* was applied to Phrygia starting in the 8th century BCE. The first is that the Muški were conflated with the Phrygians due to the former establishing themselves as a ruling class over the latter, (which could explain the Mita/Midas connection),[37: 200-202] ³¹ causing the Assyrians to refer to both peoples by the same name. Known examples of country names deriving from a ruling class who spoke a language unrelated to the main language of the land are Bulgaria and France. A further possibility, which is not mutually exclusive to the previously mentioned explanation, is that the Muški settled en masse in Phrygian territory in central Anatolia. It has been proposed that the Western Muški were Eastern Muški who had migrated first to the Neo-Hittite states of Tabal and Que in Cilicia due to pressure from the Urartians, and subsequently settled in Cappadocia [61: 97; 66; 51: 870]. Alternatively, the Western Muški could have separated from the Eastern Muški in the Early Iron Age during their initial expansion. The presence of “grooved ware” in Gordion during the Early Iron Age, and the possibility that the Anatolian great king Hartapu's inscription mentioning Muški was written in 12th century BCE, as proposed by some scholars, raises the possibility that the Muški settled in plain Anatolia earlier than the Sargon's references to them [24: 389; 3].

³¹ Kosyan 2002:200-202. Some Neo-Hittite states may also have had a Muški ruling class, such as Atuna, which had a king who bore the name Kurti.

It should be noted that Greeks differentiated between the Moschoi and the Phrygians. This could support that *Muški* was a Near Eastern exonym applied to Phrygia but not specifically related to Phrygians nor their endonym. This also could mean that the Muški who settled in Anatolia did not shift to the Phrygian language but preserved their initial language or began to speak another, non-Phrygian language, with Luwian being the best candidate.

Moesi and Mysia. Finally, the term *Moesi*, attested in the Balkans, is not a strong argument for linking the Muški to the Balkans, geographically. Recent research related to Moesi/Moesan has shown that this term, which is derived from Mysia [Μυσία Musia], appeared in ancient texts only after the 1st century CE and was only applied to this region by the Romans during the Roman Imperial-era, possibly for political reasons.[8: 407ff].

Assuming that Moesia originated from an Anatolian source, it is quite plausible that Mysia's name is related to Muški. Both apparently derive from the same *mus/mos* root, which could have the same origin. It is also possible the Mysians were a group descended from the Muški who shifted to Phrygian as their primary language and lost their name's final *-ki*. Mysia can be linked to the *Musa* of Luwian inscriptions.

Paleo-Balkan

Petrosyan developed a theory suggesting that the Muški were Phrygians and that they may have contributed to the ethnic background of the Urartian elite. Citing Homer, Petrosyan said it was possible the Phrygians migrated to Asia Minor earlier than the 12th century BCE, and that they perhaps originated in the Pontic region rather than the Balkans. According to Petrosyan's theory, over the centuries, some of the Muški lost their language but retained the Greek-like names borne by the Urartian kings Minua, Argišti,³² Sarduri, and possibly Rusa, and featured in toponyms of the Armenian Highlands, such as Tauros, Arnos, Artos, and Grgros.[55:

³² The name Argišti is of particular interest. One proposed etymology derives this name from Proto-Indo-European **h₂erǵ-* (white, shining). Armenian derivations of this same root, recorded in the Armenian Highlands since at least the Iron Age (i.e. Arcaškun, Arciani), are satem, while Argišti, according to this etymology, is centum. Argišti bears an apparent close phonetic similarity to Greek *argestes* (ἀργέστης), derived from this same Proto-Indo-European root.

408]³³ Petrosyan also said the Muški (if they were related to Phrygians) could also have constituted part of the population of the Late Bronze Age Hittite satellites Hayasa-Azzi and Pahhuwa, noting the similarities of the names of the Hayasan king Karanni to Ancient Macedonian Karanos, as well as the names of Mita of Pahhuwa and Midas of Phrygia [55: 408].

Currently, there is no genetic evidence of any substantial or significant migration from the Balkans to eastern Anatolia or the eastern Pontic regions in the Bronze Age. It is possible that the Balkanic-like names in the ancient Armenian Highlands, present since at least the Late Bronze Age, could have another source: they could have come from the language of a non-Armenic Indo-European tribe that migrated alongside the Proto-Armenians through the Caucasus during the Middle Bronze Age. This hypothetical unknown Balkanic language, whether spoken by the Muški or a different group, would have been linguistically closer to Greek or Phrygian than Armenian, but would have influenced Armenian from a very early stage. The haplogroup I2a2b, found in abundance in the Bronze Age South Caucasus, could be a marker of such a Balkanic presence. Another explanation for the presence of Balkanic terms in West Asia could be the migration of the Sea Peoples, who settled along the eastern Mediterranean coast around 1200 BCE. Ancient DNA has confirmed the European origins of the Philistines [15]. However, the Sea Peoples had little lasting impact on the genetics of the Levant and it is difficult to imagine that the Muški, attested in the Alzi region, deep in the mountains of inner-West Asia, could be derived from those migrants. Additionally, some Balkanic names recorded in the Armenian Highlands, such as Karanni, predate the Sea Peoples migration by more than a century.

Another possibility is, as yet undetected, a maritime coastal migration from the Balkans eastward along the Pontic coast. However, more ancient DNA from northern Anatolia and the Pontic region is needed to determine the likelihood of a hypothetical maritime migration, especially since there is a complete lack of archaeological evidence supporting its occurrence.

Discussion

The origins of the Muški, their spread, and ultimate fate, is a complex matter. Information connected to them is scant and ethnic groups with whom they interacted are diverse. Regions where they settled cover a large geography and have had a

³³ Petrosyan 2019:407. It is worth noting that theories regarding a Urartian-Balkanic connection are not new, having been proposed by Carl Ferdinand Friedrich Lehmann-Haupt and Paul Kretschmer in the first half of the 20th century.

number of different political affiliations. Nevertheless, despite this complexity, recent genetic discoveries can help to offer insight into the background of the Muški.

The Muški's Bronze Age origins were in West Asia, in the Armenian Highlands. Their homeland was in all likelihood near the source of the Euphrates (=Karasu). From their homeland, the Muški migrated to the south in the Early Iron Age (after 1200 BCE). Either during the 12th century BCE or somewhat later, another group of Muški moved to the west, to the plain of Anatolia, and gave their name to the Phrygian kingdom. Retrospectively, this later group became known as the Western Muški. The Muški who remained in their homeland in the Upper Euphrates region apparently developed a distinct identity. In the 7th century BCE, they came under attack by the Urartians, which probably forced them to move north toward the headwaters of the Kur River. Those Northern Muški were the Moschians of Classical sources. Continuous conflicts with the Arsacids apparently resulted in their further migrations to the north and the northeast into the Georgian sphere of influence. During this period, their name underwent significant sound changes, probably due to a linguistic shift, with the old term *Moschi* gradually disappearing from the ancient sources, and the appearance of the new terms: *Mc'xe* and *Mesx*.

The Muški left their impact on Armenians, Georgians, and Cappadocians, leaving a legacy in the form of the founding father legends of these nations. Even more remarkable is the possibility that they transferred their name to the Phrygian kingdom, which created long-lasting confusion about their origins and initial linguistic affiliation. It is plausible that the Muški were involved in breeding and trading mules. The Paleo-Balkan term **musk*, meaning “mule,” could be derived from their name.

Currently there is no ancient DNA from the hypothetical Muški homeland and Early Iron Age grooved ware burials that were plausibly associated with them. However, based on the aforementioned reconstruction of their migrations, there are haplotypes and genetic events that could be linked to the Muški. Firstly, the male Y DNA I2-Y16419, which moved from historic Armenia and South Caucasus to Anatolia, as well as the possibility that the spread of Anatolian farmers' rich ancestry to eastern Georgia in Late Antiquity period was partly mediated by the Muški. It should be cautioned that those conclusions are based on indirect evidence, while the true diversity of Muški gene pool was almost certainly higher and not restricted to just one haplotype. While the true linguistic identity of the Muški remains undetermined, some theories are more probable than others. A Phrygian origin of the Muški is unrealistic, while theories linking the Muški to Armenic or Kaška groups are more plausible. A Georgian connection is hindered by a significant

linguistic obstacle, making it less likely, while a Paleo-Balkan affiliation requires more investigation. As genetic research gets further refined and new archaeological discoveries are made, it seems very possible more information about the Muški will be uncovered.

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**Մուշկի ցեղախմբի ուսումնասիրություն. բազմազգիտակարգ մոտեցում՝
ներառյալ հնագենետիկան**

Հիմնաբառեր - Մուշքեր, Մուշկի, հնագենետիկա, մուշքերի հայրենիք, մոսխեր, Փոյուզիա, Ուրարտու, Ասորեստան, Կասկա, երկաթե դարի Մերձավոր Արևելք, ակոսավոր խեցեղեն

Արամ Պալյան
Սեբ Պելտեկյան

Ամփոփում

Պատմության ընթացքում Արևմտյան Ասիայի հյուսիսը եղել է բազմաթիվ էթնիկ խմբերի հայրենիք: Դրանցից ամենաառեղծվածայիններից են մուշքերը: Նրանց մշակութային և լեզվական պատկանելությունը պարզելու համար կիրառվել է բազմազգիտակարգ մոտեցում, ներառյալ առաջին անգամ օգտագործվել են գենետիկական տվյալներ: Մ.թ.ա. 8-րդ դարում ասորեստանցիները «մուշկի» անվանումը կիրառել են Փոյուզիայի համար, ինչի հետևանքով առաջարկվել են տեսություններ, ըստ որի մուշքերը պետք է ունենային բալկանյան ծագում՝ որպես փոյուզիացիներ կամ նրանց հետ սերտ կապված մի այլ խումբ: Սակայն այդ տեսությունները հիմնավոր ապացույցներ չունեն: Գենետիկական տվյալները չեն հաստատում վաղ երկաթի դարում Բալկաններից դեպի Խարբերդ/Էլազըղ ու Տիգրիս գետի ակունքների շրջան միգրացիան, որտեղ մուշքերը առաջին անգամ հիշատակվում են ասորեստանյան աղբյուրներում մ.թ.ա. 12-րդ դարում: Մյուս կողմից, կան նախնական տվյալներ, որը պահանջում է հետագա հաստատում, որ գենետիկական մարկեր է տեղաշարժվել Հայկական լեռնաշխարհից ու Հարավային Կովկասից դեպի Անատոլիական դաշտավայր: Այս նոր իրողությունը հիմնավոր է դարձնում մուշքերի կապը հայերի հետ, որի դեպքում մուշքերի հայրենիքը գտնվում էր Արևմտյան Եփրատ/Կարասու գետի ակունքների մոտ: Միննույն ժամանակ, հավասարապես հավանական է դառնում կապը հին Կասկա ցեղերի հետ, որոնք հայտնի են որպես բրոնզե դարի մուշքերի դաշնակիցներ: Բացի այդ, առկա լեզվական տվյալների վերլուծությունը ցույց է տալիս, որ մուշքերի վրացական էթնոլեզվական պատկանելությունը անհրաժեշտական է, թեև մուշկի և Մցխեթ անունների միջև կապը հավանական է: