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Historiography of Scythian Migration in the Mirror of Information Technologies

Yulia Georgievna Kokorina

PhD in History, PhD in Philology, Moscow Polytechnic University, Moscow, Russian Federation

Machach Mustafaevich Vagabov

PhD in History, Moscow Polytechnic University, Moscow, Russian Federation

Helena Ivanovna Lelina

PhD in History, St. Petersburg State University, St. Petersburg, Russian Federation

Abstract--This article is devoted to the insight of the migration process in the diachronic aspect on the example of Scythians history. This choice is caused by the fact that the information about the Scythians, their arrival in Eastern Europe and movements in the ancient Oecumene, is one of the main problems of Scythian archaeology. A significant range of sources contains information about the arrival of the Scythians and their movements in Europe. These sources include both the works of historians of Antiquity and Modern Times, as well as the works of modern archaeologists. The change of ideas about the Scythians migration is reviewed in accordance with the concept of the information technology shifts, which was put forward by Russian scientists Y.L. Shchapova and S.N. Grinchenko, specifically: information technology of articulate speech and language, information technology of writing, information technology of book printing, information technology of computers, information technology of networks. As result, conclusions were drawn from oral traditions about the vision changes on the causes of migration, about the arrival of a mythological hero – first ancestor at an unpopulated land, wars and tribal confrontation in the era of information technology of speech and language and information technology of writing.

Keywords--history of science, information technology, migration history, multidisciplinary archaeology, Scythians.

Introduction

The concept of “migration” is currently being formed. The English scientist E. Ravenstein gave one of the first definitions of this concept in 1885-1889. Modern authors interpret it as a permanent or temporary change of a person's place of residence. In order to understand the phenomenon of migration, it is necessary to understand the meaning it contained at different stages of human history, because “without the subject history there is no subject theory; but without the subject theory there is not even a thought about its history, because there is no concept of the subject, its meaning and boundaries” (Chernyshevsky, 1950, p. 303). Let us review migration depending on the changes in the information technologies that humanity has mastered (Hampel, 2002; Middleton et al., 2000).

Information technology (IT) is usually associated with the use of computers. However, as S.N. Grinchenko and Y.L. Shchapova have presented, “linking’ IT precisely to the electronic carrier seems to be excessive and unreasonably narrowing the sphere of their existence and use” (Grinchenko & Shchapova, 2013). Consequently, information revolutions were identified in the mankind development associated with the mastering of IT computers and network, book printing, the creation of writing, the onset of articulate speech, the appearance of the language of facial expressions and gestures, signal sounds and poses (Glotko et al., 2018; Pashina, 2021; Krylova et al., 2020). The last five information revolutions will be important for the purposes of our work (Krivoshapkin et al., 2014; Gross, 2021).

Methodology

Verbal texts on the Scythians’ history will serve as the material for this study. The purpose of this work is not to present the Scythology history or to review all the works of authors who have spoken about it, along with the criticism of every concept (Chernyshevskiy, 1950; Formozov & Kropotkin, 1986). However, this work is connected with the history of science. We know about 1) the arrival of the Scythians in Eastern Europe; 2) their Asian crusades; 3) Scythians movements under the influence of neighboring peoples. The person’s ability to embrace with his mind's eye the movement of large population groups belongs to the pre-writing era. It is connected with IT communication in the form of speech and language, which began to form about 121-89 thousand years B.C. The subsequent information technology does not destroy the previous one, and we discover the ideas of Scythians migration from the monuments of writing IT, which began to form in 6.1-5 thousand B.C., and the peak of development falls on 2-1 thousand B.C. (Grinchenko & Shchapova, 2020). There is an extensive historiography of the ancient written tradition about the Scythians in Russian language (Latyshev, 1906; Latyshev, 1947; Latyshev, 1948). The basis of our methodology comprise the comparative historical method and the mathematical modeling of the processes related with the development of each considered information technology. We also used a mental experiment that allows us to consider the cumulative effect in the application of every IT. This means preserving the features of the previous information technology at every subsequent stage (Sher & Lee, 2004; Igarria & Tan, 1997).

Results

Description of Scythian migrations in the era of information technologies of oral speech and writing

The cuneiform texts of the Front Asian states of the VII century B.C. mention the people of "Ishkuza" ("Ashkuza") who modern scientists associate with the Scythians (Scythians, 1992, p.6). Ancient authors describe the appearance of the Scythians in Eastern Europe and their crusades in Asia Minor (Herodotus of Halicarnassus (484-425 B.C.) and Diodorus of Sicily (90 A.D. - 30 A.D.)) in a report, "According to the Scythians, their tribe is the youngest of all the rest, and it appeared as follows: the first who showed up at this land that was deserted at that time, a man named Targitai. As they say, parents of this Targitai (in my opinion, their story is unreliable, but that is still what they say) were Zeus and the daughter of the river Borysthenes" (Herodotus, IV, 5) (highlighted by us - Y.K.). It is not by chance that the verb "say" is repeated as the oral story has been passed on. This story has the nature of a mythological legend, in which the arrival of the people to the new land is told as a myth about a cultural hero - the first man (Rybakov, 1979; Raevskiy, 2006). Meanwhile, the land's desolation where the Scythians arrived is emphasized. The legend that Herodotus ascribes to the Greeks also echoes with it: "Driving the Geryon's bulls, Hercules arrived in the deserted land at the time that is now inhabited by Scythians (Herodotus, IV, 8) (highlighted by us - Y.K.). Both stories present migration as the appearance of the ancestor of the people in a desert country (Røpke, 2004; Dibner & Richards, 2005).

"There is another story of this content that I trust the most. The nomadic Scythians living in Asia were displaced during the war by the Massagetae, and escaped crossing the Aras River to the Cimmerian land (it is now inhabited by the Scythians and in ancient times, as they say, it belonged to the Cimmerians)" (Herodotus, IV, 11) (highlighted by us - Y.K.). At this point Herodotus relies again on oral legend (story), but does not see its mythological nature, so he trusts it more and the reason for the relocation seems quite real to him – a war in which one nation displaced the other. This seems natural, "it is also obvious that the Cimmerians fled from the Scythians to Asia. It is also clear that pursuing them the Scythians invaded the Median land having lost their way" (Herodotus, IV, 12). (Highlighted by us - Y.K.) (Al-Sofi & Abouabduqader, 2020; Nyandra et al., 2018).

Diodorus of Sicily also cites the conquest as the main reason for migration to new lands: the Scythians "conquered a vast territory and gained great glory and domination for their tribe" (Diodorus, II, 43) (Ivanchik, 2001; Ivanchik, 1989). This means that the description of migrations does not belong to the Scythians, but to their literate neighbors the Greeks that brings a particular character to these texts. Apparently, there is a stadial phenomenon: migration with the appearance of a cultural hero in an uninhabited area and a chain of migrations caused by wars and pressure of peoples on each other. This assumption needs to be verified by involving sources on the history of other peoples (Veeramah, 2018; Dabkowski, 2014).

Historiography of Scythian migrations in the era of printing information technology

The reinterpretation of Herodotus' messages and other authors takes place in the era of the next information technology - printing IT (the beginning – 1446 and the peak of development - 1796-1816 ([Grinchenko & Shchapova, 2020](#)). Russian scientists of the XVIII century retell information of ancient authors about the Scythians, compare them with the Slavic “eccentrics” as M.V. Lomonosov (Lomonosov-URL). The leading historians of Russia of the XIX century agree with ancient authors like N.M. Karamzin in the interpretation of the causes of migration (Karamzin, 1842, p.3). They rely exclusively on written sources, like S.V. Solovyov, who points out the natural character of migrations in the steppe zone ([Solovyov, 1959](#)). V.O. Klyuchevsky describes migrations from east to west as a common phenomenon, without dwelling on it (Klyuchevsky, 1987, p. 18). The greater availability of information compared to the previous IT allows the outstanding Russian archaeologist M.I. Rostovtsev as well as ancient authors to place the history of the Black Sea steppes in a wide natural and historical-cultural context seeing the reasons for the Scythians' movements in the war ([Rostovtsev, 2003](#)).

It was necessary to accumulate archaeological sources to correlate them with written ones and build new ideas about the Scythians' migrations. Such accumulation began with the excavation of Litoi Mound by the General A. N. Melgunov in 1763 [Pridik \(1911\)](#), and it continued in the second half of the nineteenth century Steppes, and was summarized by M. I. Rostovtsev in his work in 1925 ([Rostovtsev, 1925](#)). In Soviet times, the spread of the “japhetic, or stadial theory” of N. I. Marra which indicated that the Scythian language was also referred to as “japhetic” [Artamonov \(1947\)](#), complicated the study of Scythians' migrations. The debunking of the “new doctrine of language” in the 1950s allowed us to address the migration problem ([Tanwete & Kombinda, 2020](#); [Menaka & Sankar, 2019](#)).

Historiography of Scythian migrations in the era of computer information technologies

In 1970-1980s, coinciding with the peak of IT computer technology, extensive fieldwork was being carried out in the steppe Black Sea region. In 1980, a discussion on the main problems of Scythology took place on the pages of the journal “Peoples of Asia and Africa” (Discussion Problems, 1982) that contributed to the definition of several hypotheses of the Scythians' origin. The autochthonous hypothesis formulated by B.N. Grakov interprets migration as a phased process connected with the merger of the arrived ethnic group and the local substrate ([Grakov, 1971](#)). M.I. Artamonov associated the formation of the Scythian “triad” (horse equipment, weapons, “animal style” art) with the influence of the Near-Asian cultures on the Scythian. A.I. Terenozhkin proposed the Central Asian hypothesis. The Scythians came to the Black Sea region “from the depths of Asia” in the VII century B.C. bringing a mainly formed culture with them I.V. Yatsenko and D.S. Raevskiy analyzed the strong and weak points of all three concepts. They defended the polycentric hypothesis noting that different links of the

Scythian cultural complex were extensively born at different times and in different places.

During the peak of the development of IT computer technologies, works appeared that interpret the message of Herodotus as a reflection of the mythological representations of the Scythians (Raevskiy, 1977; Raevskiy, 1985). Chronologically speaking, special studies devoted to the problems of the origin and early history of the Scythians can rather be attributed to the era of the next IT (Kuklina, 1985; Murzin, 1990; Pogrebova & Raevskiy, 1992; Goryushkina, 2021). Acute discussions about the Scythians' migration from the regions of Central Asia got an additional boost due to the discovery of the Arzhan Mound in Tuva. It contains art monuments similar to those found in the Northern Black Sea region. This allows some scientists to talk about the movement of Scythian culture bearers "in its purest form" and others to say that this migration could not cause fundamental cultural and historical consequences (Pogrebova & Raevskiy, 1992).

The availability of information of other sciences, conditioned by the spread of printing IT and computer IT, made it possible to create a hypothesis about the Scythian ethnos as a heterogeneous entity "formed as a result of interaction of local and strange nomadic tribes related by language" (Murzin, 1990). D.S. Raevskiy and M.N. Pogrebova suggested that the Scythian ethnos was formed in the interfluvium of the Volga and the Don, where tribes close in culture penetrated to local peoples. One of the tribes bearing the ethnonym "Scythians" occupied the dominant position among them. This transferred it to a large tribal union, which was the initiator of the crusades to the Front Asia. Since the VII century B.C., an active settlement of bearers of this cultural complex begins in Eastern Europe. In the VI century B.C. there is an ethnopolitical isolation of certain parts of this territory that Herodotus found in the V century B.C. (Pogrebova & Raevskiy, 1992).

Historiography of Scythian migrations in the era of network information technologies

The general accessibility of information contributes to the wide appearance of popular scientific literature on Scythology, especially on the web (Grinchenko, 2007). The authors do not always specify the criteria for selecting the concept of Scythian migration (Alekseev & Inkov, 2012; Rays, 2003). The necessity to develop a new concept of Scythian migration is expressed in the edition of the textbook with its statement in 2004 Petrukhin & Raevskiy (2004), reconstruction of the Cimmerians' history in Front East in an extensive work published in 2001 (Ivanchik, 2001). The latest works of Russian archaeologists give a generalization of the latest points of view on this problem (Gulyaev, 2005; Gulyaev, 2019).

Discussion

Referring to the accomplishments of anthropology back in the era of printing IT allowed us to conclude that the Scythians do not have Mongoloid traits that would confirm their migration from Central Asia (Yatsenko & Raevsky, 1992). Calculations of craniological measurements in the era of the next IT led to

conclusions about the presence of a Caucasoid element in Mongolia [Murzin \(1990\)](#), the similarity of Scythian skulls of the IV century with the skulls of the bearers of Srubnaya culture [Konduktorova \(1972\)](#), the anthropological proximity of the steppe Scythians with the bearers of the Okunev culture in Tuva ([Kovalev, 2014](#); [Kozintsev, 2007](#)). In the era of printing IT, Russian linguists formulated a regulation on the Iranian-speaking Scythians ([Miller, 1877](#); [Abaev, 1965](#)). V.I. Abaev interpreted Herodotus' message on the arrival of the Scythians from Asia not as a fundamental change of population, but a regrouping of Iranian tribes on the territory of Southeastern Europe occupied by them for a long time ([Abaev, 1965](#)). It was indicated the Scythians arrived from the area between the Volga and the Aral Sea.

Linguists have suggested the interchangeability of the names “the Scythians and Cimmerians” [Dyakonov \(1981\)](#), naming all the Scythian-Saka tribes as Cimmerians [Dandamaev \(1977\)](#), interpreting the term “Cimmerians” as “moving cavalry unit of the Iranian-speaking population of the Eurasian steppes” [Dyakonov \(1981\)](#), describing the biblical Ishkuzas as a wide range of peoples ([Dyakonov, 1956](#)). At the peak of computer IT development in 1979-1981 O. N. Trubachev put forward a hypothesis about the division of the Indo-Iranian array into Indo-Aryan and Iranian language branches on the territory of Eastern Europe. At the same time, some of the Indo-Aryans continued to live in the Northern Black Sea region and were assimilated by the Iranian-speaking Scythians ([Richter, 1979](#); [Richter, 1981](#)). T.V. Gamkrelidze and V.V. Ivanov believe that the Scythians are one part of the bearers of Indo-Iranian dialect, advancing to Europe through the Caspian steppes ([Gamkrelidze & Ivanov 2010](#)).

The possibilities of the new IT network technologies allowed us to expand and deepen the linguistic research, to come to the conclusion that “the Scythians committed not only predatory raids on the territory of Front Asia, but also stayed there for quite a long time, and this was reflected both in their language and in the languages of local Iranian-speaking peoples, primarily the Medes” [Kullanda \(2016\)](#), to see the ancestral homeland of the eastern Iranians on the territory “not to the east of the Ural River”. It was revealed that the Scythian language “layered” on top of other Indo-European languages in Eastern Europe [Kullanda \(2016\)](#), that indicates the migration of its speakers to this territory ([Khamdun et al., 2021](#); [Serykh et al., 2021](#)).

Conclusion

Thus, the ideas about the Scythians' migration changed with the development of information technologies of humanity. In the era of dominance of articulate speech IT and writing IT, the cause of migration is seen in the arrival of the mythological ancestor to the desert land and wars between different peoples. The peak of printing IT development coincides with the formation of new, archaeological knowledge that expands the range of sources for solving the problem. However, before their active use in solving the problems of Scythian migrations, it was necessary to accumulate these sources, so historians have appealed to ancient authors without considering archaeological data for a long time. A broad discussion of the problem of Scythian migration begins in the 1950s caused by overcoming the legacy of “Marrism” and the beginning of the IT

formation. During the peak of the development of this IT in 1970-1980, the formation of the basic concepts of Scythian migrations takes place and was facilitated by the discussion about the main directions of domestic Scythology. The age of IT network technologies brought the “reading” of the ancient authors’ texts with the regard of the achievements of other sciences, and this allowed us to formulate hypotheses about the heterogeneity of the Scythian ethnos, the ambiguity of the terms “Scythians” and “Cimmerians” as ethnonyms, to clarify the ways of movement of the population of the steppes of Eurasia in the Late Bronze Age – Early Iron Age. The peak of this IT in 2003-2004 was associated with the combination of theories of different sciences in one work, the development and revision of migration concepts expressed earlier. Multidisciplinary archaeology is being formed that definitely has a future, including in solving the problem of Scythian migration (regardless what ethnic or socio-political association is understood by this term).

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