

THE DNIEPER FRONTIER OF THE INDO-EUROPEAN PROBLEM

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Abstract

For a long time there was an opinion in Indo-European studies that the bearers of farming cultures of Old Europe could not migrate eastward - to the steppes of Eurasia - and could not become classical nomads, as Indo-Europeans always seemed to be. The purpose of this article is to introduce English-speaking specialists to the latest trends in Russian and Ukrainian studies in solving the problem of the origin of Indo-Europeans on the example of Tocharians migrations. Abandoning the speculative attributes that were traditionally ascribed to the Indo-Europeans (the cult of the horse, the cult of fire, carts, stone rods), we conducted a comprehensive analysis of the data of archaeology, anthropology, glottochronology and paleogenetics on the principle of their mutual convergence and, as far as possible, consistency. We have retrospectively traced back from archaeological cultures and societies with reliable ethnic attribution to their supposed ancestors to determine the source of migration and the mother culture. As a result, it was possible to trace the logistic chain of migrations of indigenous farmers of the Central European Lengyel culture, who first penetrated into the area of the Trypillia culture, and then far to the east - into the Steppes of Eurasia. The Dnieper ceased to be an insurmountable frontier – the ancestors of the Tocharians easily forced it, as indicated by the Lengyel ceramics found in the Orlik mound on the left (eastern) bank of the Dnieper in the Poltava region of Ukraine. Thus, the model of migration from West to East, to the very Heart of Asia, gets a complete form, gaining an evidence base at each stage of migration.

Keywords: Indo-Europeans, Tocharians, migration, elongated position of dead body, Lengyel, Trypillia, Dereivka.

INTRODUCTION

Supporters of the traditional view of the Indo-European problem (G. Child [1], M. Gimbutas [2], D. Anthony [3]) have always assumed that the Russian and Ukrainian steppes were the homeland of the Indo-Europeans. As a matter, main materials on this issue were published by researchers in Russian and often remained unknown to the English-speaking scientific community. In particular, J. P. Mallory writes about the cultural “watershed” between the Dniester and the Dnieper (i.e. the area of the Trypillia culture) and believes that the Dnieper was the eastern border of the promotion of

Central European and Balkan cultures [4, pp.79, 81] and the influence of agricultural crops was not traced east of this boundary.

Meanwhile, back in 1978, I. F. Kovaleva identified the Zhivotilov group of monuments of Trypillia CII period in the Orel-Samara interfluvium on the Left Bank of the Dnieper (near Novomoskovsk, Dnipropetrovsk region). Subsequently, similar monuments were discovered on the river Molochnaya in Zaporozhye (Volchansk) [5]. By its existence, the Zhivotilovo-Volchansky group indisputably proves the fundamental possibility of migrations of indigenous Trypillians (and any

other farming cultures bearers of Old Europe) deep into the Great Steppe at a distance of 650 km (see Map 1).

In our opinion, the Zhivotilovo-Volchansky breakthrough of the Dnieper frontier from west to east is the latest example of such migration carried out by a separate group of Indo-Iranians, in whose environment there is no satemization of palatal phonemes Kafiristanis. And historically, the Tocharians were the first to overcome the Dnieper frontier.

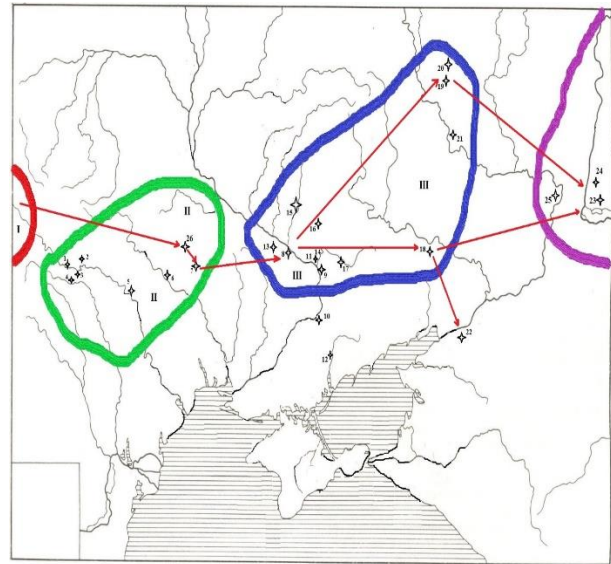
Literature review

In recent years, the Russian-speaking scientific community has achieved some success in the study of anthropology (in particular craniology) of Indo-Europeans [6]. There has been arising a certain consensus among Russian, Ukrainian and Moldovan archaeologists on the issue of the isolated (polycentric) origin of the Yamnaya culture in each separate region where it was present [7; 8]. This makes it possible to attribute the ethnicity of each local variant of the Yamnaya (according to Gimbutas - Kurgan) culture in a new way, and to move away from the traditional concept of monocentrism, which prevailed in the Soviet period. Monocentrism has become widespread thanks to the works of the patriarch of Soviet archeology N. Ya. Merpert [9].

However, little attention was paid to the problem of Tocharian ethnogenesis. It is worth noting a historiographical article devoted to the contribution of Yu. N. Roerich to the study of the history of the Tocharians, who have already thoroughly settled on historical habitats in East Turkestan [10]. Also noteworthy is the concept of N. A. Nikolaeva, who believes that the Tocharians were the first Indo-Europeans who switched to pastoral cattle breeding in the European expanses from the Danube to the Volga [11, p. 577]. We agree with this thesis of N. A. Nikolaeva, however, in this article we offer our own vision of the specific destinies of the Tocharian ethnic group and build a clear logistic chain of migrations from the separation of the Tocharians from the Indo-European family to their exit to historical habitats. At the

same time, our model is based on a strict methodological basis, using the widest set of data.

Map 1 (made by the author). The ethnocultural situation in the South Russian steppes in the Eneolithic



I – the area of the Lengyel culture; II – the area of the Trypillia culture; III – the area of the Dereivka culture; IV – the area of the Yamnaya (Repinskaya) culture. Arrows on the map indicate the expected migration directions of Proto-Tocharians. Settlements: 1 – Gorodnitsa; 2 – Shipentsy; 3 – Zalishchiki; 4 – Bilche-Golden Garden; 5 – Rakovets; 6 – Kolodistoe; 7 – Vladimirovka; 8 – Dereivka; 10 – Sredny Stog; 25 – Repin Khutor; 26 – Krasnostavka. Burial grounds: 9 – Igren; 11 – Zhivotilovka; 12 – Volchansk; 13 – Mlynok; 14 – Spasskoye; 15 – Orlik; 16 – Buzovka; 17 – Bulakhovka and Kabaki; 18 – Zimogorye; 19 – Dronikha; 20 – Ivanoburg; 21 – Pavlovsk; 22 – Dune; 23 – Bykovo; 24 – Berezhnovka

Methodology

We conducted a comprehensive analysis of data not only from archaeology, but also from anthropology, glottochronology, and especially paleogenetics on the principle of their mutual convergence and, as far as possible, consistency. We have retrospectively traced back from archaeological cultures and societies with reliable ethnic attribution to their

supposed ancestors to determine the source of migration and the mother culture.

In particular, the undoubted presence of Tocharians in the Tarim River basin in Chinese Xinjiang is recorded by the VI-VIII centuries AD by writing in the Tocharian language. At the same time, the burial traditions of the Tocharian population belong to the Cavrigul culture (Gumugou, 4000-3500 BP) in the Tarim basin [12]. The culture is characterized by an elongated corpse position on the back with an orientation to the east in grave pits without mounds and ceramics. We proposed to call such a funeral rite Cavrigul rite [13]. According to anthropological features, the ancient population of Cavrigul is most closely related to the brachycephalic Fedorovians (Andronovians) of Kazakhstan [14].

A group of Chinese researchers found mitochondrial haplogroups H, K, U2e, U5a, T2 in the inhabitants of the Cavrigul culture (Xiaohe burial ground) [15]. The authors of the research and Russian experts, who have read the conclusions of their Chinese colleagues, certainly came to the conclusion that some of the Xiaohe inhabitants came from Western Europe [16, p.123]. For our part, analyzing the genetic composition of the early Tocharians in Xinjiang, we came to the conclusion that carriers of haplogroups H, K, U5a could migrate to the heart of Asia only from the area of the Danube cultures – linear-ribbon ceramics and its derivatives – Lengyel and Alfeld, in which similar mtHg were found in the Neolithic [17]. It was there – in the area of the culture of the Moravian painted ceramics (the area of Brno in modern Slovakia) - that the center of the Brunnian brachycephalic race was located [18, p. 110]. Thus, when there is a convergence of data from anthropology, genetics and archaeology, the desired primary focus of Tocharian migration is found – from the area of the Lengyel culture across the Great Steppe to Chinese Xinjiang.

Results and discussion

We have managed to restore the initial and final stages of the Tocharian migration route.

During the period Tripillya B I (5805-5470±65 BP), Tocharians break away from the mother culture of Lengyel and penetrate into the Tripillya settlement of Gorodnitsa (Ivanovo-Frankovsk region of Ukraine), where typical white-painted ceramics of the II stage of the development of the Lengyel culture were found [13]. Such an early penetration of proto-Tocharians into the Trypillian environment suggests that the Tocharians must have lived among the Trypillians for about 450 years, and left archaeological traces of their presence on settlements originating from Gorodnitsa (Fig. 1), however, we have no evidence of this.

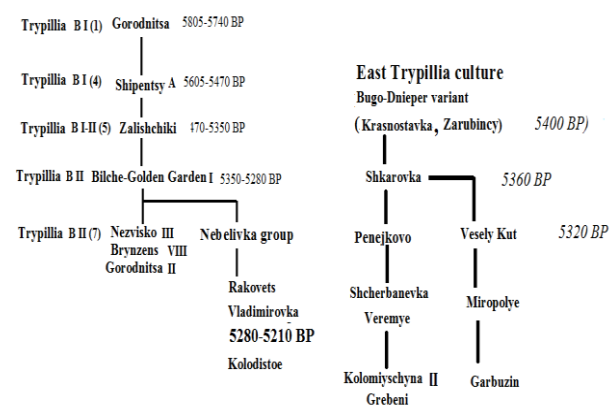


Figure 1 (compiled by the author). Genetic relationship of Trypillian settlements

(by periods and stages)

Therefore, it is likely that the carriers of the Lengyel culture will later penetrate – at the III stage of its development – into the Trypillian environment. About 5400 BP, Lengyel ceramics appear in East Trypillian settlements such as Krasnostavka and Shkarovka [19, p. 276]. From here, as part of the Trypillians, proto-Tocharians begin their migrations to the steppes of Eurasia.

The last steps of Tocharians before going to Tarim were:

- in the Botai culture on the territory of Kazakhstan (4450-4050 BP; according to the latest data published in Science, calibrated dating: 3517-3108 BC [20, p. 1420-1422]);
- in the Yamnaya culture (burial of 1 mound 31 Lopatino I on the Sok river of the Samara

region, 4800-4432 +/-66 BP; in the same place - the Luzhki mound);

- also in the Yamnaya culture only on the lower Volga (Volgograd region: intake (secondary) burial No. 8 in the mound 3 Bykovo II, synchronized with the period 5080-4890 +/-80 BP; burial No. 3 – the main (primary) in the mound 2 Bykovo II - about 5170-5080 BP).

On all these monuments, the Cavrigul funeral rite is already found - the corpse is stretched out on its back with an orientation to the east. This rite is fundamentally different from the crouched burial that prevailed in the Yamnaya culture (on the back with legs bent at the knees), and thus, a specific funeral rite really characterizes a special ethnic group that needs to be distinguished within the Yamnaya culture.

Having lived on the Volga for a long time (5170-4450 BP), the Tocharians came into contact with the local population belonging to the Uralic language family, as a result of which separate Tocharian-Ural lexical isoglosses arose, to which N. A. Nikolaeva draws attention [11, p. 577].

At the same time, if the initial and final phases of the migration of the Tocharians are clearly traced by archaeology and confirmed by paleogenetics and anthropology, then the moment of the emergence of a specific funeral rite and the moment of the passage of the Tocharians across the Dnieper really remain a problem. Therefore, Sir Colin Renfrew is right to follow Prof. Mallory the fault line in the Dniester-Dnieper region [21, p. 25]. Methodologically, the problem boils down to the fact that a certain ethnic group (in our case, the Tocharians), having left the area of agricultural crops (Trypillia), moved to a fundamentally new way of life – pastoral, which is why the ethnic group loses the features of its former way of life, and its agricultural roots are very difficult to detect in the middle of the Great Steppe.

We have already noted that the anthropological composition of the Igrensky burial ground (in the city limits of Dnepropetrovsk) undoubtedly demonstrates the fact of mass penetration into the area of the

cultures of the Sredny Stog and Dereivka farmers of the Trypillia culture (Mediterranean anthropological type: burials No. 2, 3, 5). The burial ground functioned for many centuries: burial No. 15 dated 5745 ± 60 BP [22, p. 46], burial No. 13 is dated 5340±60 BP and is accompanied by Tripoli ceramics [23, p. 417, tab. 15]. Thus, it is the last date that we conditionally take as the moment of the Trypillian migration to the Dnieper.

As for the proto-Tocharians, no more than 60 years have passed since their penetration into the Krasnostavka-type Trypillian settlements (5400 BP) until their departure along with the Trypillians to the Dnieper (5340 BP). Therefore, it is impossible to demand exhaustive archaeological evidence of a lasting and thorough stay of the Tocharians in the Trypillia environment, on the contrary, the data on the presence of Lengyel ceramics in the Trypillia environment can be interpreted as evidence of only superficial contacts between the two cultures. But if we aim to explain the phenomenon of the appearance of the Danube mitochondrial genes in the heart of Asia and to understand the mechanism of migration of speakers of Indo-European languages close to Celtic, then we must evaluate the data on the presence of Lengyel ceramics in the Trypillia environment as indirect evidence of the actual advance of the Tocharians to the east.

It is important to understand that in the Early Eneolithic era (to which burial No. 15 Igren belongs) in the Dnieper steppes, the ritual of burial crouched on his back in ground burial grounds prevailed. These two signs (crouched in the ground) formed a single ritual complex [23, p. 107]. In the Dnieper basin in the Early Eneolithic, only 2 burial mounds out of 8 burial grounds are found, and only in one of them - the 3 Vinogradnoye mound (in Zaporozhye) – burial No. 15 in a sitting position is found [22, p. 44]. We will not find elongated burials on the back in the Dnieper basin. We agree with the Ukrainian researcher N. S. Kotova that elongated burials are characteristic of the Dnieper basin during the Neolithic [23, pp. 108-109], but with the advent of a new – Eneolithic – era, this tradition disappears completely. A detailed criticism of the concept

of the “renaissance” of Neolithic traditions after 800 years of oblivion is given by Yu. Ya. Rassamakin, whose publications are relatively known to English-speaking researchers [24]. Because of this, we consider the appearance of elongated burials in the Late Eneolithic purely as an alien cultural element.

Where does this cultural influence come from and who was its bearer? The elongated burial No. 8 in Igren is accompanied by Nebelivka,s ceramics [23, pp. 53-54]. The Nebelivka group includes settlements of the Trypillia culture on the Southern Bug – Vladimirovka, Kolodistoe [25, p. 9, 24], originating from Gorodnitsa and Shipentsy (Fig. 1). It is quite clear that migration occurred from the west - from the area of Trypillia. But a contradiction arises – in the settlements of the Shipentsy (Nebelivka) group, Lengyel ceramics are not found (except in the early Gorodnitsa). But such ceramics are found in settlements of a different type – Krasnostavki. Considering the relative proximity of Vladimirovka and

Krasnostavka (about 70 km in a straight line) we assume that a certain avant-garde group of proto-Tocharians, inclined to actively search for new habitats, is rapidly moving from Krasnostavka to the area of the Nebelivka group and participates in further migration to the Dnieper (to Igren). It is possible that it was the Tocharian impulse that caused the actual Trypillian migration to the east.

Even more important is the elongated burial No. 1 on the back in the mound 2 Orlik in the Poltava region (i.e. on the left, eastern bank of the Dnieper), accompanied by a bowl of the Lengyel type (Fig.2). The report on the excavation of the mound was published by Ukrainian researchers L. M. Lugova and Yu. Ya. Rassamakin back in 1983 [26], but only now - in this article - the archaeological data are evaluated in the context of Indo-European studies. It is obvious that the influence of the distant Danube culture of Lengyel does not stop before the Dnieper border, but undoubtedly overcomes it and is found in the Poltava region.

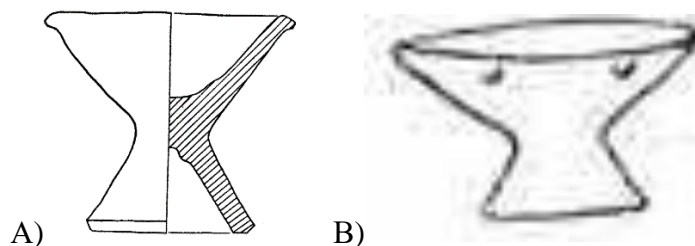


Figure 2. A) a bowl from the mound Orlik, Poltava region (according to N.S. Kotova, 2013);

B) a bowl from the Zengővárkony burial ground, white-painted Lengyel, Hungary (according to V.A. Safronov, 1989)

So, we have a fundamentally new ritual complex: 67% of those buried under the mounds are stretched out on their backs [23, p. 84]. This complex is different from the early Eneolithic traditions of the Dnieper basin (crouched in the ground). We will refrain from answering the question of where the tradition of pouring mounds comes from. Another important thing is that for migrants from Trypillia, the elongated position of the buried and the burial mound were a sign system that they bring with them (or borrow, or develop) on the spot, and this new ritual was intended to mark the transition of former farmers to a nomadic lifestyle in the Steppe. Let us repeat

once again that for the indigenous inhabitants of the Dnieper steppe, the mound was not a fundamentally significant symbol.

The entry of about 5340 ± 60 BP Trypillians (and Tocharians among them) into the area of the Dereiv culture was purely peaceful, accompanied by matrilocal marriages, as indicated by the paired burial No. 7-8 in Igren, where the mother is buried crouched according to the traditional ritual, and the child is elongated according to the paternal ritual. Migrants also accepted the traditional for the Dnieper basin northern orientation of the corpse. This is how the buried one in Orlik is oriented (accompanied, as already mentioned,

by Lengyel ceramics). Similarly, with the head to the north, burial No. 14 of the mound 3 Spasskoye XI was performed near Novomoskovsk, Dnipropetrovsk region (also on the Left Bank of the Dnieper).

On the approaches to the Dnieper River – near Onufrievka, Kirovograd region – the Tocharians left the mound of 44 Mlynok. Burials 3 and 8 were made strictly to the north, burials 6 and 11 – to the northeast, burial 10 – to the east [23, pp. 66, 349, fig. 193]. In this case, we are witnessing the birth of three burial traditions at once – strictly eastern (which will reach Xinjiang), northern and northwestern, while they are synchronous with each other in one mound, and therefore should be considered as a single ritual complex. We observe a similar situation in the Igrensky ground burial ground: the burials have the same numbers, are elongated, only burial No. 1 (Miller's excavations) is oriented to the northeast [22, p. 46], and burial No. 1 (Telegin's excavations of 1986) is oriented strictly to the east [23, p. 53]. We regard these data as a sign that migrants from the area of Trypillia, who simultaneously preserved the traditions of Lengyel and spoke Proto-Tocharian, migrated in several phratries, all of them practiced elongated burial on their backs, but the distinctive sign of each phratry was the specific orientation of the buried.

Strictly eastern elongated corpses are marked in the burials: No. 16 of the Novoaleksandrovsky mound (still on the western bank of the Dnieper); No. 1 of the mound 1 Bulakhovka III and No. 1 of the mound 1 Kabaki (both near Pavlograd), No. 5 of the mound 4 Buzovka III near Magdalinovka (all on the eastern bank of the Dnieper); finally, burials No. 2 and No. 3 of kurgan 2 of Zimogorye in the Luhansk region [23, pp. 67, 58, 57, 61]. All of them testify to the advancement of the bearers of the future Cavrigul rite far to the east of the Dnieper. It is obvious that it was the phratry, which practiced eastern orientation, that separated from the main group of migrants earlier than others (about 5250 BP) and went to the Seversky Donets and Don.

In the period preceding 5250 BP, carriers of the Sredny Stog and Dereivka cultures lived on the Don. They formed the lower horizon of the Dronikhinsky burial ground on the Bitug River in the Voronezh Region [27, p. 102]. The buried are crouched on their backs, oriented to the northwest [28, pp. 249-250]. It is possible that the arrival of migrants from the Sredny Stog and Dereivka in the Don basin was associated with the influx of migrants from Trypillia to the Dnieper – those indigenous inhabitants of the Steppe who did not want to be neighbors with migrants went to the east.

About 5250 BP, carriers of the Cavrigul ritual come to the Don. They form the upper horizon of the Dronikhinsky burial ground (burials No. 5, 7, 8, 9 – elongated oriented to the east). This horizon (5250-5170 BP) includes similar burials No. 19-20 in the Dune I burial ground (on the section Bogaevskaya-Aksai of the Don River), No. 3 of the Pavlovsky kurgan 11 (Voronezh Region), and finally, the burials of the I-th group of the Ivanoburg kurgan (also in the Voronezh region on the Bitug River) [29, p. 122].

The characteristic burial No. 8 Ivanoburg belongs to the I group of burials (oriented to the east), in which a man is buried with a height of about 2 m, which high growth is a characteristic anthropological feature of the Tocharian mummies on the Tarim River. Burials also belong to group I: No. 5, 13, 18, 22, 30 (according to the Cavrigul ritual), No. 10, 20, 25, 26, 31 (according to the Botai ritual with orientation to the southeast, which can only be the result of seasonal deviation of the Sun)[13].

About 5170 BP, the bearers of the II burial group (No. 6, 21, 27, 28 of the Ivanoburg kurgan; No. 13 of the Dronikha burial ground) replace group I on the Don – elongated out on their backs with an orientation to the northeast. Under the pressure of the II group of migrants, the group I goes further east – to the Volga. As we have already said, they leave the primary burial No. 3 in the mound 2 Bykovo II.

In our opinion, proto-Tocharian bring a corded ceramic ornament from the Dnieper to

the Volga, which was characteristic of the Trypillian settlements of Vesely Kut and Vladimirovka [23, p. 110], but was completely absent on the Don and on the Volga, as N. Ya. Merpert quite correctly noted [9, p. 63]. The first signs of corded ceramics are found only in the inlet (secondary) burial No. 4 of kurgan 10 Berezhnovka I (Volgograd region) [9, p. 62]. We refer this burial to the same stratigraphic horizon to which burial No. 3 of kurgan 2 Bykovo II belongs. The later appearance of the corded ornament on the Volga once again confirms the methodological correctness of building the trajectory of migrations from west to east.

Finally, about 5080 BP, bearers of the II burial group (with an orientation to the northeast) come from the Don to the Volga and leave the entrance burial No. 8 in the mound 3 Bykovo II.

Conclusions

So, we saw how the starting and ending points of the Tocharian migration route meet on the Dnieper (Igrensky burial ground, Orlik mound) and the Don (Ivanoburg mound, Dronikhinsky burial ground). This allows us to draw several important methodological conclusions.

1. One should not assume that each archaeological culture of the Eneolithic and Bronze Age was an ethnic monolith, and accordingly one should not try to find for each group of Indo-Europeans (already separated from the language family) an equivalent in the form of a specific archaeological culture. On the contrary, we have seen that the Tocharian group, as an ethnic minority (diaspora), in the course of their migrations alternately merged into foreign archaeological cultures (in the Shipentsy and Nebelivka groups of Trypillia, in the Bugo-Dnieper variant of the East Trypillia culture, in the cultures of the Dereivka and the Sredny Stog, in the Yamnaya culture on the Volga and the Batai culture in Kazakhstan). And only when they reached Xinjiang, the Tocharians formed their own specific archaeological culture - the Cavrigul culture.

2. Based on the analysis, it is worth agreeing with the Russian researcher A. T. Sinyuk, who considered the elongated burials of the Don basin as a separate proto-Repin culture belonging to a kind of ethnographic group [28, pp. 250-251]. Stratigraphically, the Proto-Repin culture lies between the Sredny Stog and the Yamnaya Culture, into which it flows without losing its ethnic identity. Methodologically, the concept of Sinyuk is similar to the proposal of Yu. Ya. Rassamakin to unite a group of elongated burials of the Dnieper area within the framework of the Kvityan culture [30].

3. In essence, we are talking about the fact that those migrants from the Nebelivka group of Trypillia, who stayed on the Dnieper, formed the Kvityan culture during the Trypillian period C I; those migrants who advanced further to the Don, formed the proto-Repin culture (5250-4830 BP), which about 4830 ± 80 BP is absorbed by the newcomer from the Volga-Yamnaya culture. Its bearers first settled Repin Khutor [31, p. 16], and in Ivanoburg blocked the Tokharian burials of groups II-III, making up the IV – yamnaya group [13, p. 61]. Finally, those migrants who practiced the ritual of corpse laying stretched strictly to the east, passing the area of the Yamnaya culture and the Kazakh steppes, came to historical habitats in Xinjiang, becoming the actual Tocharians, known from written sources.

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