Research Article

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The Routes of Neolithisation: The Middle Struma Valley from a Regional Perspective

<https://doi.org/10.1515/opar-2020-0170>

received January 14, 2021; accepted June 20, 2021

Abstract: The frontier position of the Balkan Peninsula, next to Anatolia and the Aegean, emphasises its key importance for the study of the Neolithisation processes taking place in Europe during the seventh–sixth millennia BC. A look at the distribution of most Early Neolithic sites along the submeridional alluvial plains of its central mountainous part often leaves the impression that the valleys of the Vardar, Struma, Mesta and Maritsa rivers functioned as natural corridors, allowing for the rapid advance of the farming way of life towards the interior regions of Europe. However, comparative analysis of the distribution patterns of specific diagnostic components of Early Neolithic cultures, such as white painted pottery, anthropomorphic figurines and miniature “cult tables”, from the Early Neolithic settlements in the Middle Struma Valley, southwestern Bulgaria, namely Kovachevo, Ilindentsi, Brezhani, Drenkovo and Balgarchevo I shows a rather unexpected direction and dynamic of cultural/social contact during this crucial period.

Keywords: Early Neolithic, Balkan Peninsula, white painted pottery, anthropomorphic figurines, cult tables

1 Introduction

Some of the enduring questions related to the Neolithisation of Europe concern the identity of the actors, the exact timing and mechanisms of transfer of a number of domestic plant and animal species and advanced technologies, as well as certain beliefs and practices that originated in the Near East. Intensive research on both sides of the Marmara Sea has demonstrated that despite the common genetic origin and the geographic proximity of the populations that inhabited northwestern Anatolia and the Balkans, their respective material cultures are so different that the former most likely did not play a decisive role in the Neolithisation of the latter (Özdoğan, 2016). This shifts the focus to the importance of the maritime networks in the Aegean dating to the Mesolithic (Reingruber, 2017). Newly discovered Early Neolithic settlements in northern Greece (Karamitrou-Mentessidi, 2014, pp. 47–48; Urem-Kotsou, Papaioannou, Papadakou, Saridaki, & Intze, 2014, Figure 1) show that farming in this region appeared just as early as in Thessaly and southern Greece – ca. 6600/6500 BC (Maniatis, 2014, pp. 207–212) (Figure 1), requiring a revision of the well-established theories regarding the timing and the mechanisms which enabled the Neolithisation of the Central Balkans (Maniatis, 2014, pp. 211–212; Reingruber, 2017). This attracts renewed interest to the role of the valleys belonging to the larger rivers as potential ecological corridors and conduits for the Neolithic way of life to reach the interior of

Special Issue: THE EARLY NEOLITHIC OF EUROPE, edited by F. Borrell, I. Clemente, M. Cubas, J. J. Ibáñez, N. Mazzucco, A. Nieto-Espinet, M. Portillo, S. Valenzuela-Lamas, & X. Terradas

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Figure 1: Cultural groups/territories with white-painted pottery in the territory of the Central Balkan peninsula with data of approximate dates of inception. (1) Northern Greece 6600/6500 BC (Karamitrou-Mentessidi, 2014; Maniatis, 2014; Urem-Kotsou & Kotsos, 2017); (2) Veluška Tumba-Porodin cultural group 6100/5900 (Naumov, 2015); (3) Podgori I-Vashtëmi cultural group (no data, Bunguri, 2014); (4) Anzabegovo I-Vršnik cultural group 6300/6100 BC (Naumov, 2015); (5) Sandansko-Petrich plain (Kovachevo group?) 6200/6100 (Higham et al., 2011); (6) Nevestino group (no data); (7) Gălăbnik group 6000 BC (Görsdorf & Bojadžiev, 1996); (8) Slatina cultural group; (9) Karanovo I culture 6000/5900 BC (Görsdorf & Bojadžiev, 1996; Nikolov, 2000) (*M. Grębska-Kulow, P. Zidarov map*).

Europe (Krauß, Marinova, de Brue, & Weninger, 2018; Nikolov, 1990, 2017). One of the author's main aims for this paper is to review the state of research regarding the Neolithisation process at a regional level, based on the analysis of finds from all the Early Neolithic sites that have been excavated during the past four decades, and to present here a synthesis of that information. This ensures that the new data from the recently excavated sites of Brezhani and Ilindentsi are placed in a proper position for comparison, both archaeological and geographical.

2 Methods

The authors present some unpublished or little-known characteristic finds from the aforementioned Early Neolithic sites in the Middle Struma valley, including decorated ceramic wares, “cult tables” and anthropomorphic figurines. Following the basic premises of principal component analysis and diachronic network analysis (cf. Furrholt, 2017; Groot, 2019), we seek to identify the changing degrees of “connectedness” between different sites and regions and interpret them as proxies aiding our understanding of the observed patterns of cultural change. As none of the assemblages are published in detail and only Kovachevo and Balgarchevo provided radiocarbon data, we restrain from quantitative estimations and emphasise some qualitative aspects of similarity between them, and the greater geographic region of Macedonia, which is now split by the national borders of Bulgaria, Greece and Republic of North Macedonia. The authors acknowledge that the radiocarbon dating of the included sites is problematic, due to various reasons stemming from aggressive soils and poor preservation. These issues have been taken into consideration where appropriate in the process of developing the site chronologies. Dating methods other than C14 have been implemented to ensure that the lack of radiocarbon data, while regrettable, is not an insurmountable problem.

3 Review of the Evidence

There are 29 Early Neolithic settlements registered in the Struma Valley, but the majority ($n = 23$) are concentrated in the Upper Struma, while there are only six in the Middle Struma area (Figure 2). Radiocarbon dates and comparative stylistic analysis of finds from five of the settlements in the Middle Struma allow their rough dating and synchronisation (Table 1). The sixth settlement, near Ploski, is significantly eroded and known only from surface scatters.

The earliest and most extensively excavated Early Neolithic settlement in the Middle Struma valley is Kovachevo, spanning a chronological timeframe between 6210/6120 and 5450 cal. BC (Higham, Bronk Ramsey, Brock, Baker, & Ditchfield, 2011, pp. 1078–1079; Lichardus-Itten, Demoule, Perniceva, Grębska-Kulova, & Kulov, 2006, pp. 85–86; Thissen & Reingruber, 2017). Its development went through four main periods, distinguished on the basis of stylistic changes in the white-painted pottery assemblage. The first period – Kovachevo Ia – is characterised by motifs of two wavy lines, combined with two straight lines and triple chevrons lined by dots (stylistic group I) (Lichardus-Itten, Demoule, Perniceva, Grębska-Kulova, & Kulov, 2002, p. 121, Pl. 18). These form 96% of the painted decoration (Salanova, 2019, p. 117) and find their closest parallels in some Early Neolithic settlements of northern Greece – Nea Nikomedia and Giannitsa B (Lichardus-Itten et al., 2002, p. 130; Lichardus-Itten, 2009, p. 16) while the motifs in the form of the Greek letter sigma (Σ) (stylistic group H) (Lichardus-Itten et al., 2002, p. 121, Pl. 17.12,4,9) became popular in Veluška Tumba in Pelagonia during the developed phase of this period (Simoska & Sanev, 1975). The earliest anthropomorphic figurines from Kovachevo (Figure 3(1)) with a cylindrical head and a bun-shaped hairstyle (Lichardus-Itten et al., 2002, p. 125, Pl. 22.1–8) found good parallels in the Early Neolithic settlement of Mavropigi in northern Greece (Starnini, 2018, Figures 4 and 5). The earliest “cult tables” from Kovachevo are square, with low, thick legs and a profiled upper board, or with an incised groove in the middle of the board. Their walls are covered with red slip and are (a) without decoration, (b) with white painted decoration or (c) with thin incisions separating the legs from the wall (Figure 4(1 and 4)) (Grębska-

Figure 2: Early Neolithic Settlements in the Struma River Valley, geographical zones and passes in the Middle Struma Valley. (After Chohadzhiev, 2007, map 1).

Kulova, 2011, p. 43, Figures 2.1,2 and 8.1). A “cult table” found in Sesklo, Thessaly (Papathanassopoulos, 1996, Figure 269) is similar in shape and decoration, showing continuity between the two regions in spite of their general absence in the intermediate region of western Macedonia.

During the next period – Kovachevo Ib, contacts with the west are best expressed through comparison of the “cult tables” with a square shape and “staircase” legs (Figure 4(2,3,5, and 6)) (Grębska-Kulova, 2011, p. 44, Figures 3.3,5, 6.2, and 7.2), very similar to tables from Vrbjanska Čuka in Pelagonia (Temelkoski & Mitkoski, 2005, pp. 52–55). During the Kovachevo Ib period, new motifs on white-painted pottery like a

Table 1: Chronological framework of the Early Neolithic settlements in the Middle Struma Valley

Calibrated radiocarbon dates (cal. BC)	Periods	Kovachevo	Ilindentsi	Brezhani	Drenkovo, Ploshteko	Balgarchevo
5200–4850	Late Neolithic				II	III
5450–5200	Middle Neolithic	II	II			II
5700–5450	Early Neolithic	Id Ic	I	I		Ib Ia
5900–5700		Ib			I	
6120–5900		Ia				

double “ladder” and triangles hatched with a net pattern appear (styles E and F) (Lichardus-Itten et al., 2002, Pl. 15), without parallels in northern Greece and Pelagonia. Some motifs known from Kovachevo Ia remain in use but are now executed in a different technique – red on red – lacking chromatic contrast (style G) (Lichardus-Itten et al., 2002, p. 125, Pl. 16.4,5,7) and resembling examples from the later Early Neolithic/Middle Neolithic settlement Lete I in northern Greece (Tzavali & Filis, 2004, Figure 7.4,5,8).

A total change not only in the stylistic characteristics of the white-painted pottery but also in the typology of cult objects and flint tool kits took place during the next two periods – Kovachevo Ic and Kovachevo Id. Now the repertoire of the white-painted pottery includes “Karanovo style” (style B) (Lichardus-Itten et al., 2002, Pl. 12.2–6,9,12–15) together with a new type of figurine (Figure 3(17)) characteristic for the area of the Karanovo I culture (Lichardus-Itten et al., 2002, Pl. 22.9,19; Lichardus-Itten, 2017, Figure 2). Moreover, the local form of square “cult tables” become decorated with checkerboard and impressed patterns (Figure 4(7–9)), otherwise typical for Karanovo I culture. Contacts with the area of Karanovo culture are also reflected in the flint industry through the introduction of the so-called Balkan flint (Gurova, 2018, p. 119). It was during period Id that the settlement reached its largest dimensions (ca. 7 ha) and experienced its apogee (Lichardus-Itten et al., 2002, pp. 119–120). The so-called “Karanovo style” is superimposed onto the earlier “abstract-floral” styles in the painted ceramics leading to the formation of the new “Kovachevo style” (style C and part of style B) (Lichardus-Itten et al., 2002, Pl. 12.1,7,8,10,11), combining elements of the two original styles.

Sometime between 5700 and 5450 BC, a second Early Neolithic settlement – Ilindentsi – sprang up just 35 km north of Kovachevo and 4 km away from the main course of the river Struma (Grębska-Kulova, Kulov, Salanova, Vieugué, & Gomart, 2011; Grębska-Kulow & Zidarov, 2020). Its absolute chronology is confirmed by a single bone sample analysed in the radiocarbon lab at Poznan (Poz – 75992–6510 ± 60 BP) that provided a calibrated radiocarbon date with highest probability ca. 5500 cal. BC. It is located in the low foothills of the Pirin Mountains and shows remarkable similarities with the late periods of Kovachevo – Ic and Id – defined not only through the white-painted ceramics but also through the use of similar techniques for building houses and plastering the floors with white clay, the construction of flat-bottomed ditches and burial practices suggesting that Ilindentsi was settled by groups of “colonists” who left Kovachevo in search of new places to settle. In Ilindentsi, the three styles of white-painted pottery; the “floral-abstract” style with negative–positive elements (Figures 5(1 and 2) and 6(4 and 5ab)), “Karanovo style” (Figures 5(5–7) and 6(6–8)) and “Kovachevo style” (Figures 5(3 and 4) and 6(1–3)) are found side by side. Ilindentsi offered pottery with other chromatic combinations such as red on red, and individual fragments of dark-painted pottery as well as polychrome ornaments (Figures 5(20–22, and 25) and 6(17 and 18)). The red-on-red pottery is paralleled by examples from Gălăbnik, Slatina and Anzabegovo-Vršnik II and III (Bakamska & Pavúk, 1995; Takorova, 2016; Zdravkovski, 2018, Cat. Nr. 38,42). In terms of technique and motifs (lack of contrast and wavy lines), it is also comparable to examples from the late period of the Sesklo culture in Thessaly (Demoule, Gallis, & Manolakis, 1988, pp. 12–16). It is worth noting that the fragments with polychrome painting are different from the style that developed at the end of the Early Neolithic in western Bulgaria (Nikolov, 1993), but resemble somewhat the polychrome examples from Mavropigi in

Figure 3: Antropomorphic figurines: (1 and 17) Kovachevo (*M. Lichardus-Ippen photos*); (2, 10, and 12) Drenkovo; (3, 4, 7, and 9) Balgarchevo I (*M. Grębska-Kulow photos*); (5, 6, and 13–16) Ilindentsi (*P. Zidarov photos*).

northern Greece (Bonga, 2017, p. 379). A few sherds with bitumen (birch tar) coating Figures 5(23 and 24) and 6(19) point to familiarity with this peculiar technology otherwise better known from northern Greece (Urem-Kotsou, Mitkidou, Dimitrakou, Kokkinos, & Ntinou, 2018).

The anthropomorphic figurines also provide valuable information about cultural contacts. There are several types of figurines from Ilindentsi: (a) with a long, cylindrical neck and a head crowned by two “buns” or “horns” (Figure 3(15)), (b) with a flat torso and a head with horizontal “horns” (Figure 3(5)), (c)

Figure 4: Miniature tables: (1–9) Kovachevo (*M. Lichardus-Ippen photos*); (10) Drenkovo; (11) Brezhani; (12) Balgarchevo I (*M. Grębska-Kulow photos*).

bipartite figurines with emphasised buttocks, sometimes decorated with incised lines or impressed dots (Figure 3(13 and 14)) and (d) a variant of a parallelepiped-shaped figurine, rather the torso of a bipartite figurine (Figure 3(6)). Interestingly, many of them find exact parallels in the later Starčevo culture levels at Gălăbnik (referred to as group E1 in Pavúk & Bakamska, 2018, p. 56, Abb. 3.8,9), as well as in Balgarchevo I (Figure 3(3,4,7, and 11)) likewise dated to the late phase of the Starčevo culture (Pernicheva, 2008) and in Anzabegovo-Vršnik II and III (Zdravkovski, 2018, p. 139, Nr. 60) – compare especially the large head made of a mixture of clay and chaff (Figure 3(16)). The figurine with a long neck and “horns” (Figure 3(15)) is reminiscent of a figurine with “buns” from Pelagonia (Simoska & Sanev, 1976, fot. 80), but their earliest appearance may be in Mavropigi (Starnini, 2018, Figures 4, 6.2, and 7.1).

Figure 5: White-painted pottery: (1–7) Ilindentsi; (8–13) Brezhani; (14–16) Drenkovo; (17–19) Balgarchevo I; Red on red-painted: (20–22) Ilindentsi; bitumen covered (23 and 24) Ilindentsi; polychrome painted (25) Ilindentsi (*I. Kulov drawings*).

Figure 6: White-painted pottery: (1–8) Ilindentsi; (9 and 10) Brezhani; (11–13) Drenkovo; (14–16) Balgarchevo I; red on red painted (17 and 18) Ilindentsi; bitumen covered (19) Ilindentsi (*M. Grębska-Kulow photos*).

On the northern side of the Kresna Gorge, at 620 m above sea level, near the Predel pass, connecting the valleys of the Struma and Mesta, the Early Neolithic settlement of Brezhani (Grebska-Kulova & Kulov, 2010) is situated. The settlement shows clear contacts to the east with the area of Karanovo I, documented not only through the specific ornamental patterns of the white painted pottery (Figure 5(8,11, and 13); Figure 6(9a and b)) but also through a triangular “cult table” with checkerboard pattern (Figure 4(11)), figurines with a flat torso and a schematically represented face (Figure 3(8)), as well as through the exclusive use of the characteristic Balkan flint. The strong affiliation with the area of the Upper Struma, on the other hand, is indicated through the use of “abstract-floral” patterns complemented by other specific elements in the pottery such as the ring-shaped bases divided into three parts, biconical-shaped bowls, and a specific semicircular groove on the inside of the base (Grebska-Kulova & Kulov, 2010, Figure 2). Brezhani dates to the second half of the Early Neolithic, when the area of the Upper Struma adopted a different ceramic technology characteristic of Starčevo culture, but it seems that traditions of the Early Neolithic “Gălăbni” cultural group continued to develop in Brezhani after they were seemingly abandoned in the Upper Struma.

Drenkovo is situated at an altitude of 550 m in the valley of the Drenkovska river, a right tributary of Struma. It is located near the Delchevski Pass, connecting the valleys of the Struma and Bregalnitsa, and it was inhabited throughout the Early and the Late Neolithic (Grebska-Kulova & Kulov, 2004). The Early Neolithic pottery is extremely homogeneous in terms of technology, shapes, and decoration. The clay matrix often contains organic temper, and both surfaces of the vessels are usually covered with red slip. The shapes are simple – mostly dishes and less often biconical or hemispherical bowls. The white or cream paint is applied as a thick layer, forming geometric or “floral-abstract” motifs (Figures 5(14–16)) and 6(11–13)). A single fragment of a rectangular miniature table is distinguished by its “staircase” legs (Figure 4(10)). The anthropomorphic repertoire from Drenkovo includes bipartite figurines with very schematically shaped legs (Figure 3(10)) and a figurine with a long cylindrical neck and protruding nose (Figure 3(2)). Figurines of this type are known from Gălăbni (Typ A, Pavúk & Bakámska, 2018, pp. 56–57, Abb. 1.3, 2.3), Anzabegovo II (Gimbutas, 1976, Figures 144, 148, and 150), Zelenikovo I (Galović, 1967, T. II–IV) and Mavropigi in northern Greece (Starnini, 2018, Figures 9.3 and 20–36).

The northernmost Early Neolithic site in the area of the Middle Struma is Balgarchevo. It is situated on a high terrace above the river Struma as it enters the Blagoevgrad plain. Balgarchevo is a multi-layered settlement with continuous development spanning a period of several hundred years, from the end of the Early Neolithic (Balgarchevo I) into the Early Chalcolithic (Balgarchevo IV) (Pernicheva-Perets, Grebska-Kulova, & Kulov, 2011). The main feature of the Early Neolithic pottery from Balgarchevo I is the dark-painted decoration (Pernicheva-Perets et al., 2011, Figure 4.39–4.42), while the white-painted decoration is rather scarce and appears mainly in the first phase IA and always in combination with the dark-painted one. The white-painted schemes consist of abstract motifs with a positive-negative effect, spiral meanders and angular patterns ((Figures 5(17–19) and 6(14–16)). The repertoire of motifs matches the “abstract-floral” style popular in the Central Balkans, with some fragments from Balgarchevo finding their closest parallels in North Macedonia among the finds from Rug Bair (Sanev, 1975, p. 218, T. VI) and Zelenikovo I (Galović, 1967, T. II–IV). The anthropomorphic figurines from Balgarchevo I (Pernicheva, 2008) are parallelepiped-shape or with a long cylindrical neck and head, sometimes with horn-shaped projections. Separately found parts of hips with pronounced buttocks (Figure 3(3,4,7,9, and 11)) are typical of the same cultural area. All of them find close similarities in synchronous and earlier settlements in the Struma and Vardar valleys, as well as in northern Greece. The “cult tables” always have a triangular shape, and the earliest are decorated with incised ornaments (Figure 4(12)).

4 Discussion

The Early Neolithic settlements of the Middle Struma Valley show a rather complex picture of cultural affiliations and contacts which question the gradient linear model for the spread of the Neolithic way of life from the Aegean towards the interior of Europe (Figure 7). This is illustrated by marked differences even

Figure 7: Supra-regional contacts of Early Neolithic settlements in the Middle Struma Valley (*M. Grębska-Kulow, P. Zidarov map*).

between the two parts of the Middle Struma which are separated by the 16 km long Kresna Pass. At the very beginning of its development, Kovachevo showed very close contacts with northern Greece expressed through the similarities of the material culture (pottery, figurines, ornaments) indicating the possible origin of its first settlers. Interestingly the white-painted pottery, typical for Kovachevo Ia, is not found further north. We can only assume that one of the most important factors attracting the first settlers was the control over the natural passes of southern Pirin – Papazchair and Paril, connecting the Middle Struma Valley to the valley of the Mesta and therefrom to the western Rhodopes, wherefrom the black varieties of flint used in the earliest phases in Kovachevo were provenanced (Gurova, 2018, p. 119). The inhabitants of Kovachevo continued to maintain contacts with the south-west (northern Greece) and the west (the valley of the Vardar, and Pelagonia in North Macedonia) also during the following period – Kovachevo Ib. This connection is best illustrated by the “cult tables” with “staircase” legs, a design that does not have predecessors in Thessaly or in Anatolia. In this period, the white-painted pottery, and especially the very specific “ladder” motif, appear in many other settlements lying to the north, among the most remote being Dzhulunitsa II in northern Bulgaria (Krauß et al., 2014). During Kovachevo phase Ic/d, Karanovo I culture appeared in the Sandanski-Petrich valley (Nikolov, 1996). The nature of contact between the two groups is insufficiently understood, and it is not certain whether the inhabitants of Kovachevo continued to maintain contacts to the west and southwest. The second settlement, Ilindentsi, lies in the upland Pirin zone. Ilindentsi contributes somewhat to an answer for this question by providing an extremely rich spectrum of painted pottery (more diverse than Kovachevo) showing that the settlement maintained intensive contacts

simultaneously to the west, northwest and southwest, confirmed among others by obvious similarities with the settlement near Damjan in North Macedonia through the Klepalo pass (Stojanova-Kanzurova, 2017).

The situation north of the Kresna Gorge is rather different. The ceramic repertoire of Brezhani, which is synchronous with Ilindentsi, is limited to the white-painted patterns characteristics of two main styles – “Karanovo” style and “abstract-floral” (but none of the “Kovachevo” style). The connections with the Karanovo I culture probably took place via the Predel pass, since several Early Neolithic settlements such as Eleshnitsa, Dobrinishte, Belitsa and Yakoruda, are known on its opposite site in the Razlog plain and along the Mesta river. More intriguing is the origin of the “abstract-floral style”, which is clearly present from the very first phase of habitation of the settlement at Brezhani. Several elements in the design of the vessels give us reason to believe that the settlers of Brezhani were affiliated with the Gălăbnič cultural group, but arrived during a period when its former territory was included in the area belonging to – in principal – the Starčevo culture. Without a fine-grained radiocarbon chronology of the respective phases, we cannot be certain whether this could be a result of forceful conflict between the two groups pushing the bearers of the Gălăbnič culture to the southeast, but such a scenario would also explain the appearance of characteristic elements of the Gălăbnič culture at Eleshnitsa in the valley of the Mesta and Rakitovo in the Rhodopes.

The earliest settlement at Drenkovo near Blagoevgrad shows strong connections with the Anzabegovo-Vršnik I culture in the valley of the river Bregalnitsa in North Macedonia, indicating the possible origin and most intensive vector of contacts of its first inhabitants through the Delchevski pass. This assumption is corroborated by independent reasoning about the origin of the Nevestino and Gălăbnič Early Neolithic culture groups in the Upper Struma (Chohadzhiev, 2007). The northernmost Early Neolithic settlement in the Middle Struma – Balgarchevo I – also has elements characteristic only of the “abstract-floral” style and shows close similarities with Rug Bair and the Starčevo culture area, and no elements characteristic for Karanovo I whatsoever.

5 Conclusion

During the past 20 years or so, a number of paleoclimatic studies were attempted in the region, which tried to develop interpretative models based on paleoclimatic and paleoeconomic reconstructions for the period under discussion. However, there are problems with the conclusions drawn by these studies, as they did not take into account the material culture. The results of these studies seem logical if taken in isolation and disregarding archaeological data, upon the consultation of which, they are not supported by the material culture evidence. Such “simplified” models of the gradual and unidirectional progressive distribution of the farming economy do not take into consideration the particularities of the cultural development in the Balkans. When closely examined using the criteria upon which this paper is based, these developments look much more like a patchwork of regionalised cultural traditions with different origins and dynamics of development. To reduce the discussion to one mode of movement in a “one [size] fits all” approach is to discount several important aspects, both geographical and practical, which had a fundamental impact on the spread of Neolithisation. In this paper, the authors have also taken into consideration such aspects as navigability of waterways and ease of movement through passes, especially with accompanying animals, when developing their thesis. Despite its predominantly meridional orientation which could have facilitated the spread of the pioneers of the farming economy, the reviewed archaeological evidence indicates that regardless of the changing vectors of contact – first from west to east through the passes between the Struma and the Bregalnitsa valleys during the first half of the Early Neolithic, and then from east to west during the second half of the Early Neolithic, through the passes between the Struma and the Mesta valleys, the cultural transfer between the neighbouring regions took place primarily across the mountains and not along these river valleys. During the second half of the Early Neolithic we could even argue for movement of population from north to south, but the expected gradual advance of farming economy from south to the north proves the most difficult to detect.

We cannot tell for certain what blocked the movement, but it is noteworthy that none of the later centralised states which occupied the regions, such as the Roman, Byzantine or Ottoman empires, who tended to invest heavily in infrastructure by building paved roads and bridges, left significant traces of such construction in the area dealt with here. Indeed, due to the dangers associated with the passage of the river, earlier known also by the sinister name Kara Su (black water in Turkish), and to the noted roughness of the terrain throughout the recorded periods of history, the transport of people and goods was largely accomplished by caravans of pack animals and river rafts/barges. The overall navigability/and or use of the Middle Struma in this period of prehistory is therefore questionable. The review presented here argues that the hypothesis of the so-called “Struma route” serving as a conduit of Neolithisation between the Aegean coast and the interior is not supported by the available archaeological evidence from the Middle Struma. Moreover, throughout the Early Neolithic, settlements situated along the Middle Struma north of the Kresna Gorge appear under strong western/south-western influence first by the Anzabegovo-Vršnik culture and later by the Starčevo culture, and those to the west of it show no contacts with Karanovo I whatsoever. This is unlike those settlements to the east of it, which indicate that the mountain passes channelled the contacts while the watercourse of the Struma functioned as a barrier to movement rather than as a highway.

Acknowledgements: The authors extend their gratitude to the Balkan Heritage Foundation for supporting our fieldwork at Ilindentsi and the participation in the First Conference on the Early Neolithic of Europe – ENE 2019 held in Barcelona 6–8 November 2019. Also, our thanks go to the reviewers for their useful remarks and comments and to our English language editor Dr Orlene McIlpatrick for her assistance with the final text.

Funding information: The work was financed by Balkan Heritage Foundation, Bulgaria.

Author contributions: Both authors have accepted responsibility for the entire content of this manuscript and approved its submission.

Conflict of interest: Authors state no conflict of interest.

Data availability statement: The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

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