

The Economy of the Don Communities – Driven by the River or by Land Routes?

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This paper deals with the connectivity of the communities that lived along the Don River system (western part of the modern Russian Federation) from the late 7th to the early 3rd century BC (fig. 1). Since Ionian Greeks founded a trading post at the mouth of the Don in the last quarter of the 7th century BC,¹ there has been a regular demand for pottery and metal objects produced in the Greek cities around the Aegean and Black Seas along the entire Don River system.² In previous studies I have concentrated on the Greek objects in order to analyse the cultural connections of the Aegean world with the Eurasian steppes.³ By considering the people's social practices, it became evident that the Greek objects were used in completely different ways than known in the Greek world. Instead, they were fully incorporated, always in the same way, into the local structures of the inhabitants of the Don River system. In this context, the delta provided a border zone between the Aegean/Black Sea world and the steppe zones of Eurasia, in which objects were accepted but, cultural concepts of the Greeks were rejected. I concluded that the exchange of the Greek objects was performed within a self-organised system of the people living on the Don, and that these objects thus prove regular contacts between these Don communities. That now leads to the question, of how these communities organised their connections – were they driven by the rivers or by land routes?

By offering a much more suitable way for the distribution of cargoes than land routes, the function of rivers as transport routes is often taken for granted. Even if this hypothesis is true in many cases,⁴ it depends strongly on both the dynamic ecosystem of the riverine landscapes as well as on the social and economic habits of the people involved. In the case of the Don in the period from the late 7th to the early 3rd century BC, some issues challenge the silent assumption of rivers as the most probable routes of communication. In the following, I will show this in detail and approach the topic in three steps: 1) a brief description of the natural environment of the Don River region in relation to the distribution of known archaeological sites. 2) a short overview of the general appearance of the settlements with a focus on finds providing information about the economic foundations of the Don River communities. 3) a comparison of the results so far with a GIS based least cost path analysis, calculated by B. Weissová.⁵

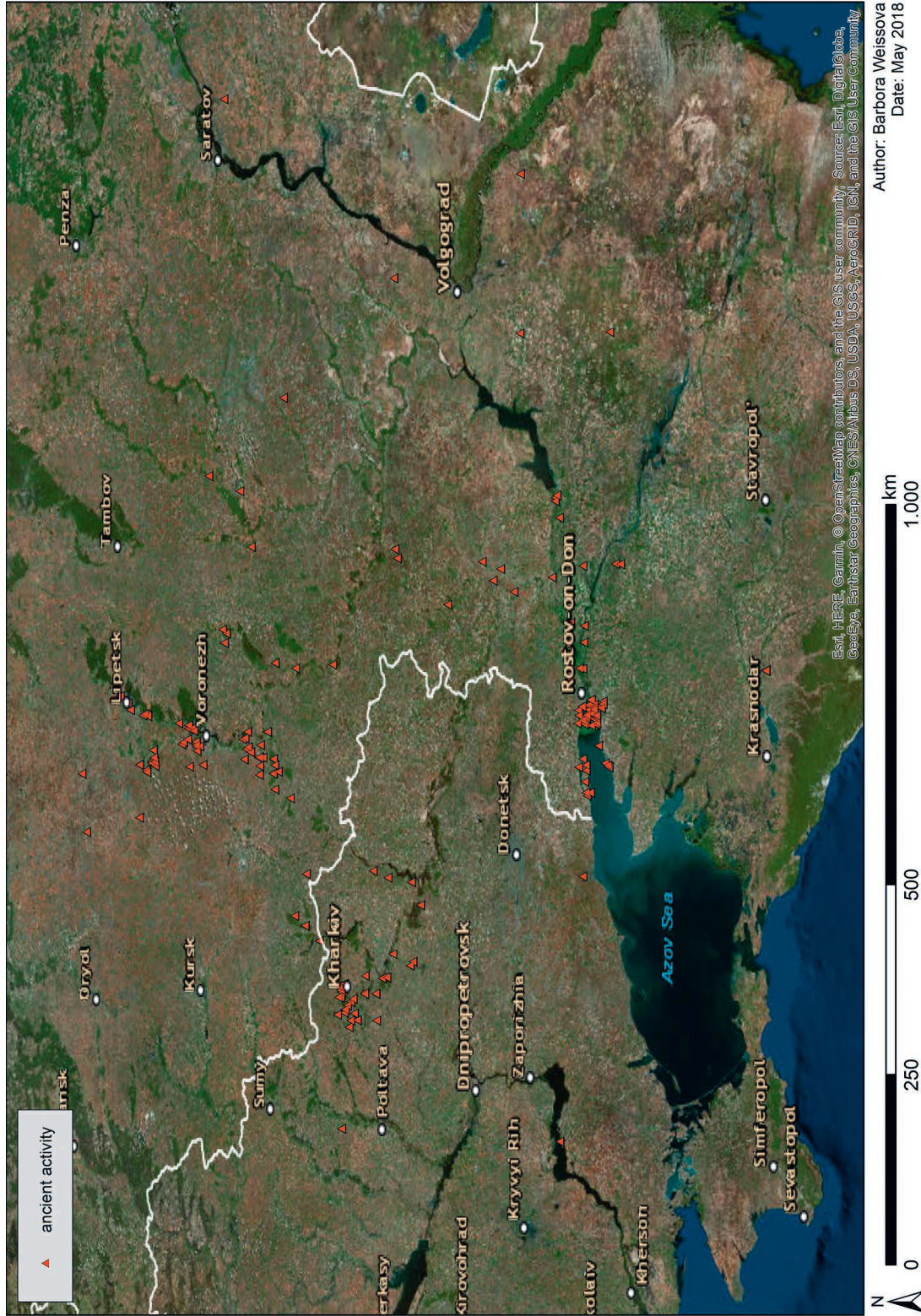


Fig. 1: Region of the Don River system.

1.

On the way from the sources south of Moscow to the Sea of Azov, the Don traverses vast forest massifs in the wooded steppe as well as the wide-open fields of the grass steppe. Steppe zones develop in places where the long-standing average of rainfall is insufficient to support forests. This causes a comparatively low quantity of water. The soils can be fertile, but they need to be irrigated. The grass steppe yields a diversity of herbaceous plants and grasses and is therefore well suited for keeping grazing animals. The forest steppe forms a transition zone between the grass steppes and the temperate forests. It includes grassland as well as forests or individual groups of trees. The climate in the Eurasian steppes is continental with hot summers, cold snowy winters and prevailing winds.

The entire course of the Don can be divided into three parts (fig. 2):⁶ 1. the upper reaches from the source to the inflow of the tributary Voronezh 2. the middle course, where the Don descends to the east to the Tsimlyansky Reservoir and leads from the forest- to the grass steppe; and 3. the lower course, where the Don flows slightly to the west to the large delta into the Sea of Azov. The Don collects the waters of many tributaries. Among these, the Voronezh, the Khoper and the Seversky Donets form the largest ones.

The landscape within the forest steppe zone is characterised by rocky, densely wooded shorelines, which are up to 50m high on the western banks. The eastern banks of the Don provide treeless, shallow floodplains with predominantly sandy soils. In the grass steppe zone, the landscape varies from gently sloping elevations, which are up to 300 m high at the middle reaches to fertile meadows at the lower reaches of the Don. As in the northern sections, the banks can be differentiated in a hilly west side and a low, sandy east side. In spring, when the water level rises, the flatlands are flooded.

In this environment, population density developed during the course of the late 7th to the early 3rd century BC in different areas with varying intensity. Three main categories of sites can be distinguished: settlements, burial fields and separated burial mounds (*kurgans*) (fig. 2). The flat hilltops at the upper reaches of the Don and the Voronezh formed excellent places for settlements. The same is true for the watersheds between smaller tributaries, especially around the Tichaya Sosna, Potudan' and Devitsa at the middle reaches, where numerous burial fields and settlements were found (fig. 3a–b). The vast areas of the flatter eastern banks were almost uninhabited. Just a few sites were found scattered along small rivers. Also, the grass steppe zone, in which only isolated burials are found, was almost empty. Solely in the delta was a further dense cluster of sites established. These were lined up in serried rows directly at now dried up rivers.

Chronologically, two phases can be distinguished (fig. 2): From the 7th to the 6th century BC there were just a few spots in the whole territory. In the area of the lower Don, the lack of settlements, except for the Greek trading post at Taganrog, is striking, whereas *kurgans* were built in quite large numbers. In the forest steppe zone, on

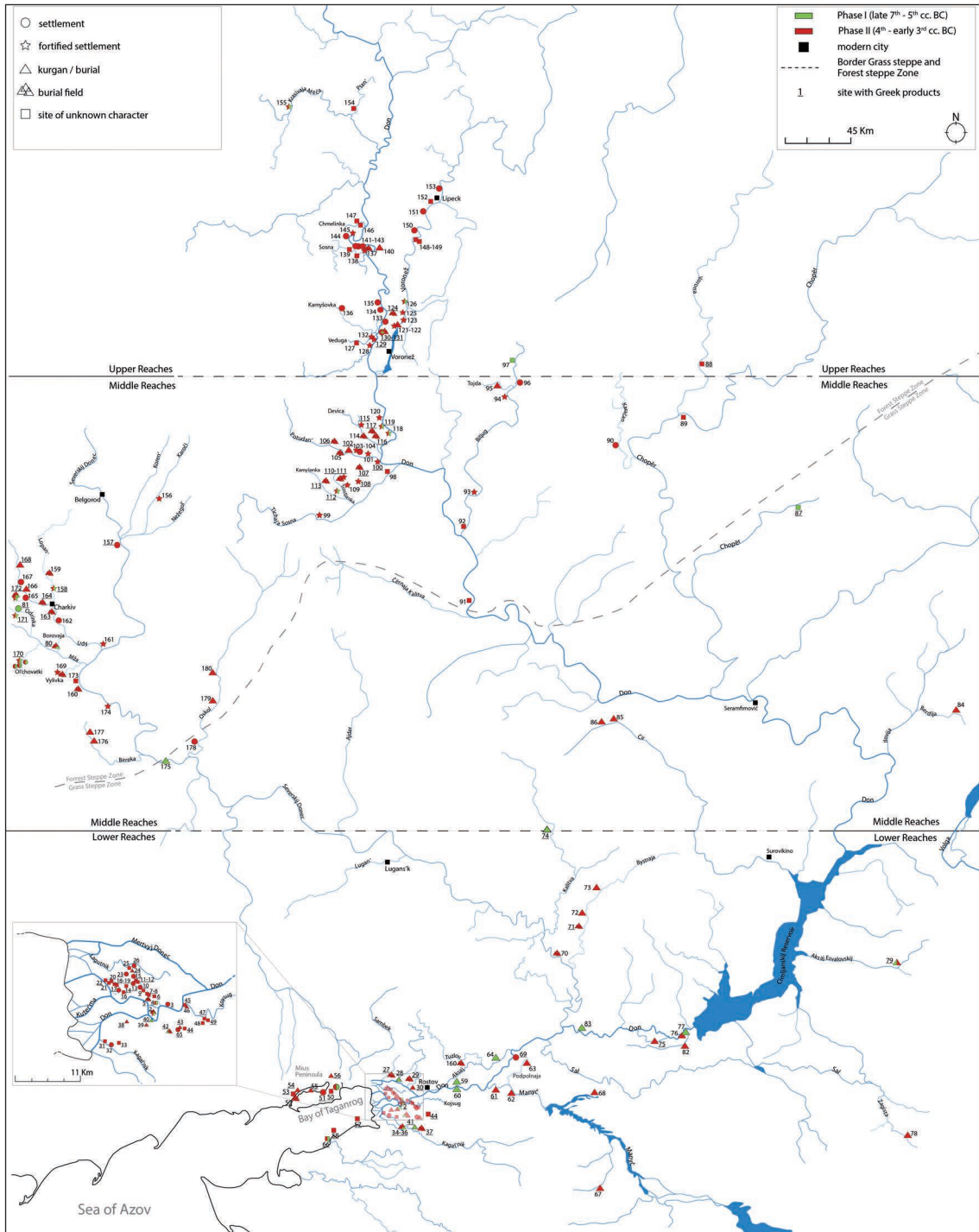


Fig. 2: Map of the Don River System with ancient sites.

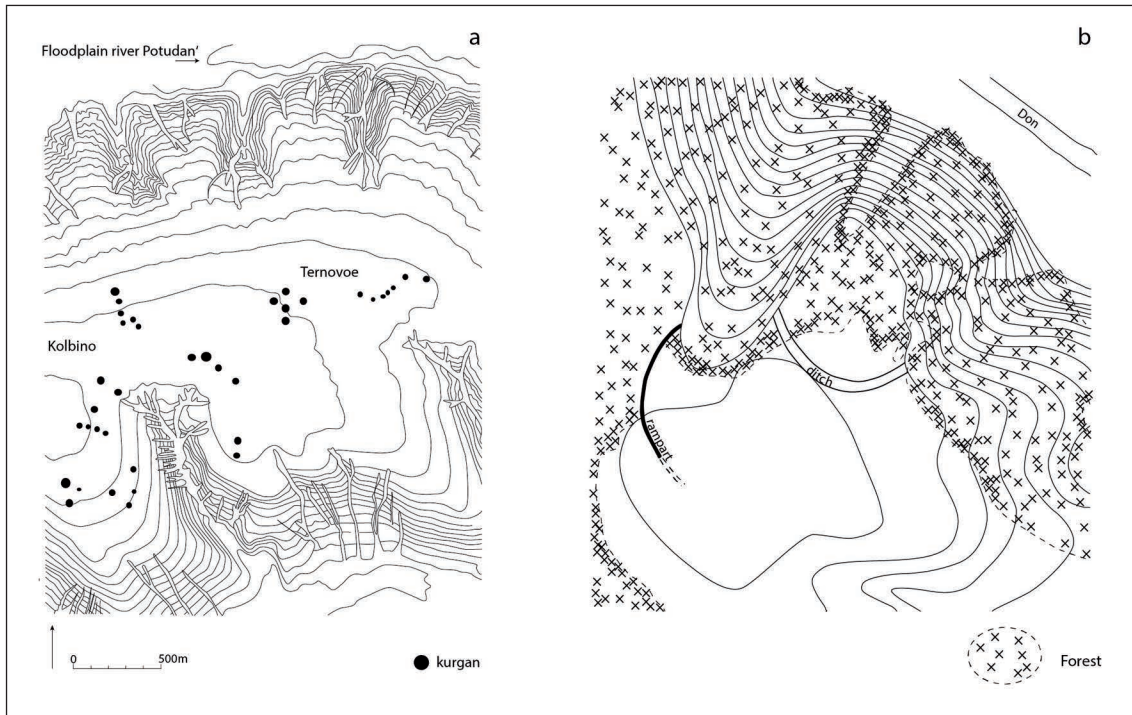


Fig. 3: a) Site map of the burial field Ternovoe-Kolbino (107) and b) of the settlement Titchikha (118).

the contrary, a few settlements are known, but contemporaneous burials appear very rarely. Within the 5th and especially within the 4th century BC the density of sites increased rapidly, and clusters developed in several areas. With regard to the vast empty territories in the grass steppe, the impact of the different conditions of grass and forest steppe for the choice of settlement sites becomes evident. However, the overview of the distribution of sites in relation to the topography shows that nearly all of the sites from the 7th to the early 3rd century BC are situated at riverbanks and clustered in areas of narrow watersheds. Thus, the vicinity to a watercourse was of crucial significance.

Extensive paleo-geographical investigations to reconstruct the ancient landscape of the whole Don River system have not been carried out yet. It is safe to assume that the watercourse and the hydrological regime of the entire Don River system have generally changed since antiquity. Nevertheless, some clues allow us to open the discussion on the complex interplay of settlement patterns and the landscapes of the Don River system: Major interventions to correct the course of the Don were only carried out in two areas: the construction of the Tsimlyansky Reservoir (1948–1953) and the artificial section of the riverbed within the city of Rostov-on-Don. There are still many old arms of rivers that divide and converge again, pointing to the natural and ancient riverbed in these place.⁷ Furthermore, the paleo-botanical investigations of Kremenetsky showed that the vegetation cover in the Dnepr, Don and Volga basins became similar to today's

after 600 BC.⁸ Historical descriptions and maps of settlements and fortresses from the 12th to the 17th century allow a diachronic comparison in some places, e.g. with regard to forest density.⁹

2.

In the following, I shall deal with the general appearance of the settlements and the preserved find spectra in order to shed light on the economic conditions of the people in the Don River system.

Broadly speaking, two different types of settlements can be observed. The first type consists of rather small, unfortified villages, composed of loosely arranged dugouts and storage-pits (fig. 4). They provide just weakly defined occupation layers of about 20 to 50 cm thickness with only a small number of finds.¹⁰ The second type differs consid-

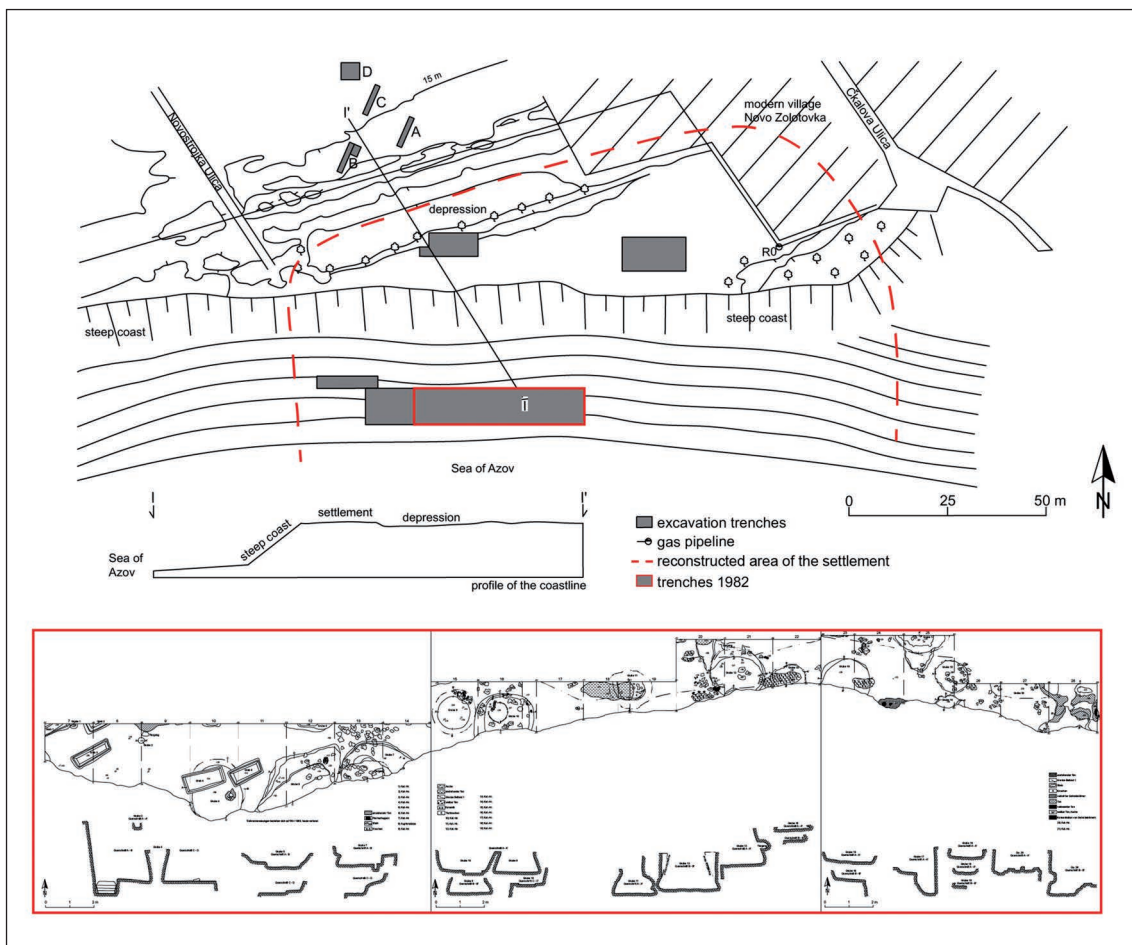


Fig. 4: Site map of the settlement Novo Zolotovka (51) with trenches nos. 7–14, 1982 in detail.

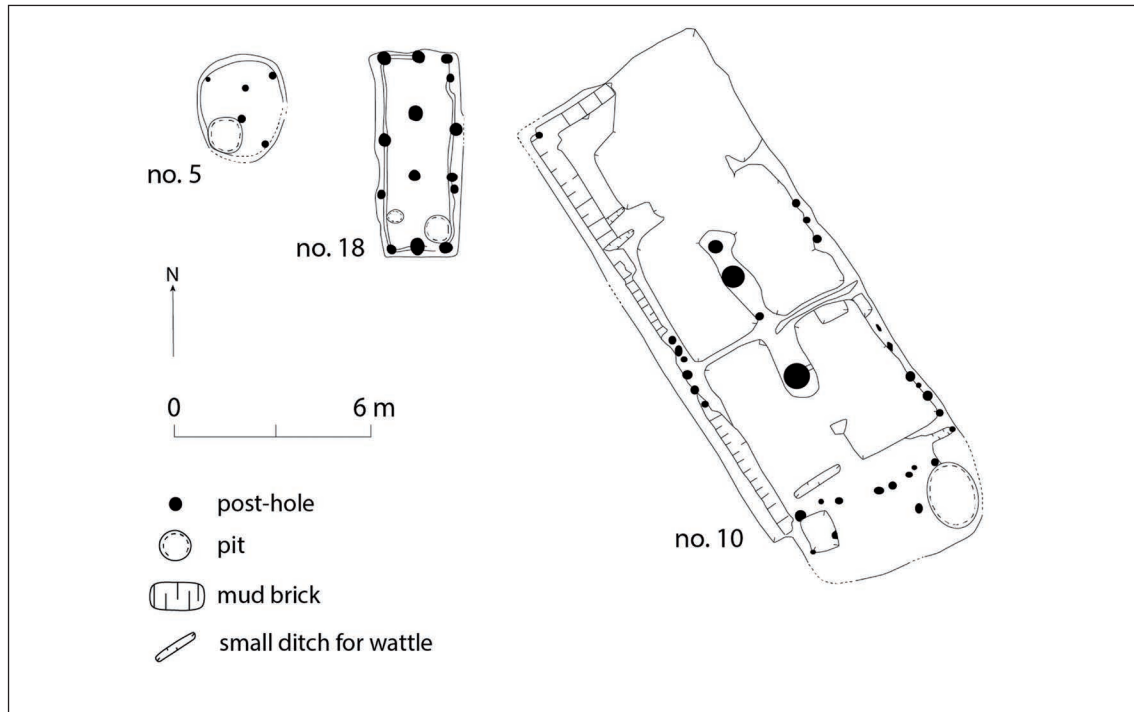


Fig. 5: Settlement Elizavetovka (2): layout of dugout no. 5 and of aboveground houses nos. 18 & 10.

erably. Above all to mention is the presence of defence systems, constructed of ditches and ramparts with wooden palisades. The housings consisted not only of dugouts but also of more durable aboveground houses with wattle and daub or wood (fig. 5). These vary in their dimension from one to six rooms. The fortified settlements encompassed from around 2 to 20 ha with occupation layers of up to 3 m.¹¹ Outstanding is the settlement of Elizavetovka (2) in the delta of the Don with an area of around 55 ha and a huge amount of finds, including more than 200,000 Greek transport amphorae.¹²

The two types of settlements are arranged in an interesting pattern. The larger, fortified settlements were regularly surrounded by some of the small villages and thus, can be regarded as centres of their local area.¹³ In order to get closer to the economic base of the settlements, I will concentrate on objects associated with food production and have a look at the archaeozoological evidence. The small settlement Novo Zolotovka (51) near the estuary of the Don gives a representative picture (fig. 6a):¹⁴ domestic mammals like sheep, cattle and horses were of major importance, whereas pigs played no part in the production of food. The published results from neighbouring Elizavetovka (2) are well comparable, only the cattle seem to be better represented¹⁵ (fig. 6b). Available data on the middle reaches of the Don show a lower presence of sheep and goats and slightly higher proportions of pigs, but do not differ in the general trend (fig. 6c–d).¹⁶ Although, due to the different analytical methods an exact comparison of the osteological ma-

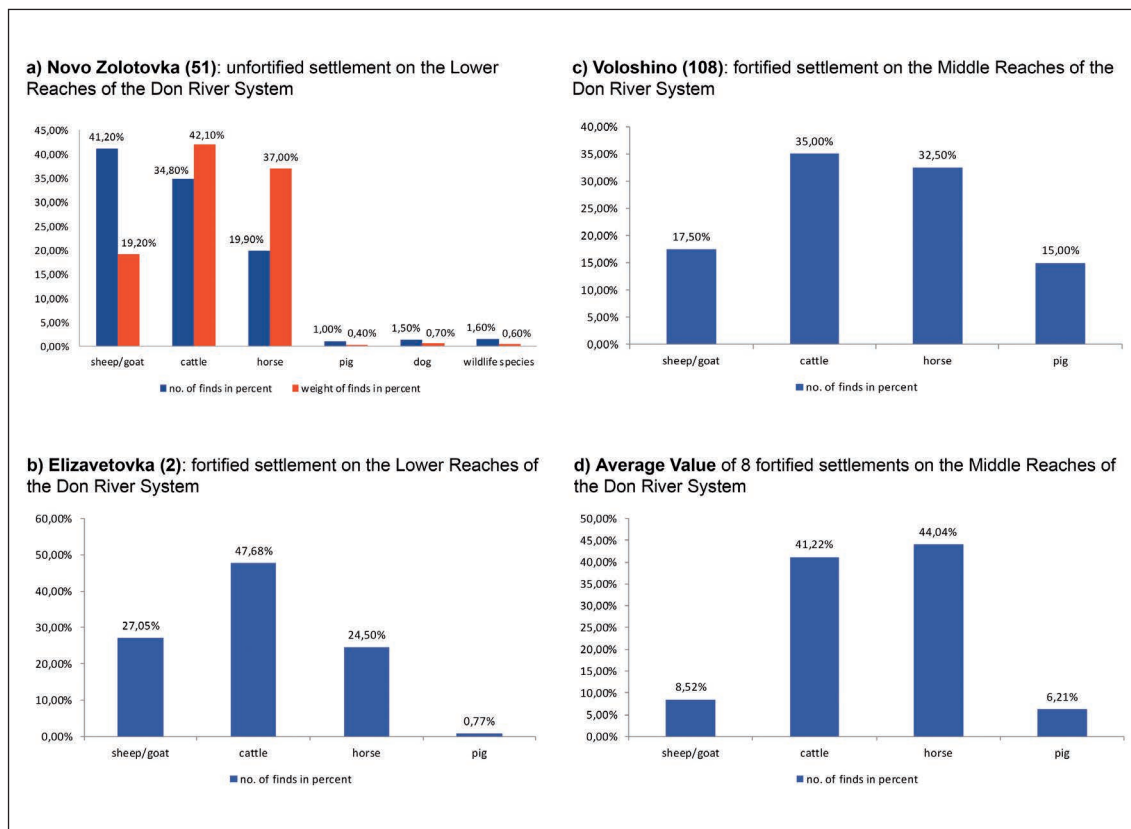


Fig. 6: Statistical overview of the osteological materials of various sites of the Don River system.

materials is impossible, the diagrams do give an indication of the economic situation in the settlements. The strong presence of cattle speaks for a certain role of agriculture. Sedentariness is also reflected in the existence of the large, fortified settlements with their huge number of finds and the fixed architecture. But, concrete evidence for agriculture is rare. Archaeobotanical remains and objects like ploughs, grinding stones and mortars that indicate grain procession were found only seldom.¹⁷ Hence, agriculture was obviously very weakly defined and moreover, in the open steppes threatened by drought. With this in mind, the bones of horses and sheep can be interpreted as part of the herds of semi-nomads and also the low presence of pigs fits well into the picture. The value of sheep and horses scarcely needs any comment.¹⁸ A distinct benefit in the environment of the Eurasian steppes consists in the fact, that they can get at fodder in pasture covered with snow up to 20cm deep. Semi-nomadism is characterised by extensive pastoralism and the periodic changing of pastures during the course of the year. However, agriculture forms a secondary and supplementary capacity.¹⁹ In this context, the small settlements of the first type should be understood as seasonal bases, whereas the fortified settlements were used as permanent residences of another social group.²⁰

It is interesting to stress again the complete lack of settlements at the lower Don in the 7th and 6th century BC, where only burial mounds have been erected (fig. 2, phase I). That points to a fully nomadic life-style in this phase, in which extensive mobile pastoralism formed the predominant economic activity. Judged by the increasing number of large stock, the emergence of fortified settlements accompanied by extended burial fields, in the course of the 5th to the 4th century BC, people transformed their economic basis from nomadism to a more sedentary way of life. Nevertheless, agriculture along the river banks has taken up so little of the wide-open steppes that it is very unlikely that there has been a common seasonal use of one ecological zone by agriculturalists and nomads.²¹ Hence, these are two groups within one society, in which all members benefited of pastoral migrations. This result negates the value of the rivers as transport routes. Extensive shipping is inconsistent with the needs of pastoralism of the semi-nomads. Moreover, due to mobility and ownership of horses as transport animals, shipping was even not required. However, interseasonal changes of pasture are mainly determined by the availability of food and water²² and it can thus be assumed that nomads have taken advantage of the river valleys.

3.

I will finally discuss the possible migration routes of the semi-nomads and the role of river courses in the whole system. The clustered location of settlements in different areas suggests that each cluster had its own pasture area, which was probably rather small and located in its surroundings. In the forest steppe, the territories east of the Don with flat meadows were well suited as grazing ground. On the other hand, the Greek objects found all along the Don account for regular contacts between the communities of the delta and those of the middle reaches. Hence, pastoral migrations should also have taken place from south to north within the boundaries of the grass steppe. Promising road-markers can be seen in the scattered kurgans in this territory (fig. 2). Some of these were even visited repeatedly, what is attested by several burial mounds at the same place. In Sladovsky (71) for example, seven kurgans with eight funerals were constructed within around 100 years.²³ Moreover, together with a few neighbouring burial mounds, the burial field of Sladovsky forms a kind of kurgan-avenue along the small river Bystraya Kalitva (70–73). The same can be observed in the area beyond the delta (59–64. 69. 83. 75–77. 82) as well as along the river Oksol in the modern district of Kharkiv (175. 178–180). That strongly indicates two possible itineraries from Elizavetovka as the main trading hub for the Greek objects to the middle reaches of the Don. In the first case, I suggest a route via the Don and the Bystraya Kalitva up to the forest steppes and in the second case via the Seversky Donets and the Oksol to the cluster around the Tikhaya Sosna (fig. 7). In order to reach the places further north from there, it seems likely that the route followed the main course of the Don. To test this hypothesis,

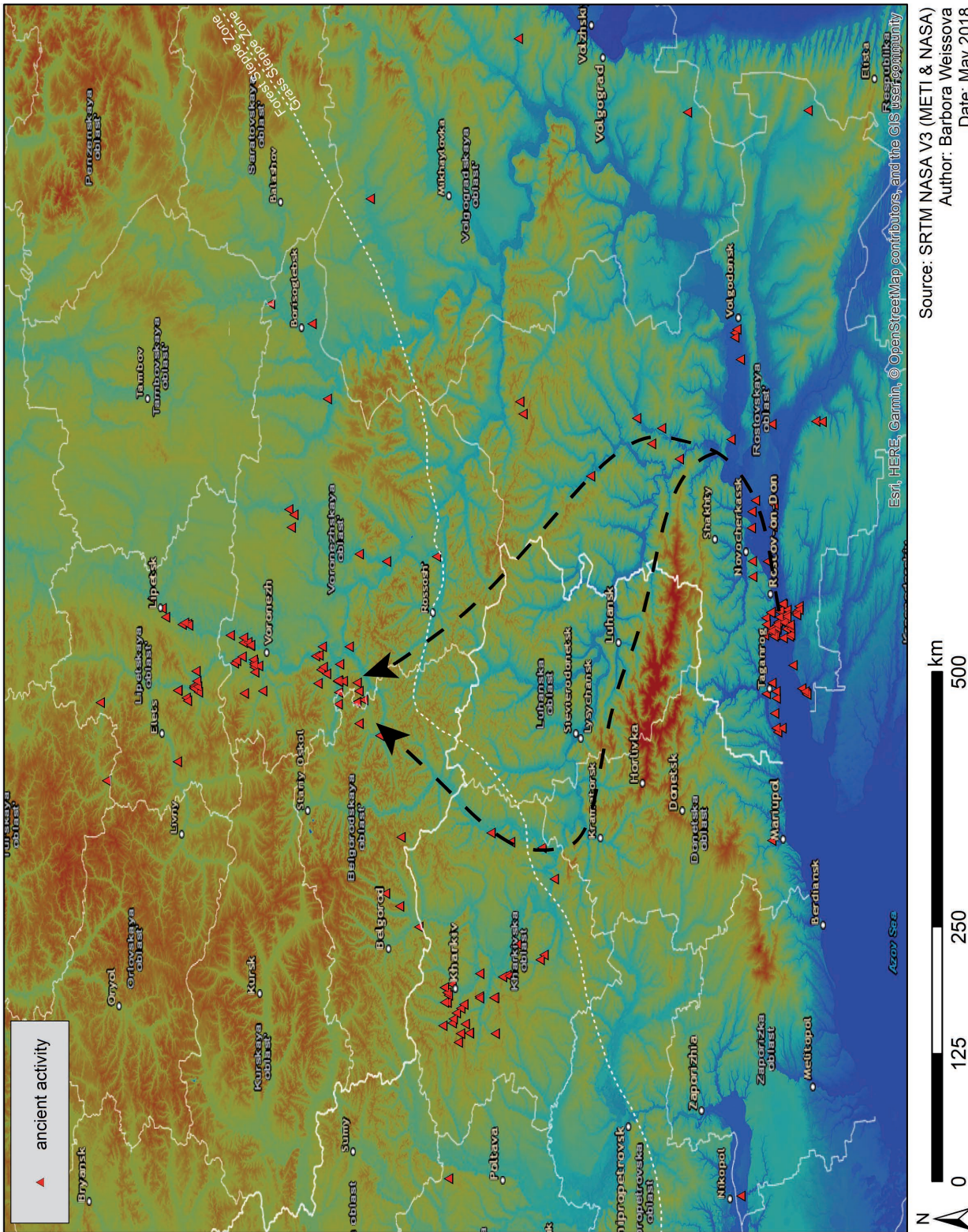


Fig. 7: Map of the Don River system with possible migration routes along kurgan avenues.

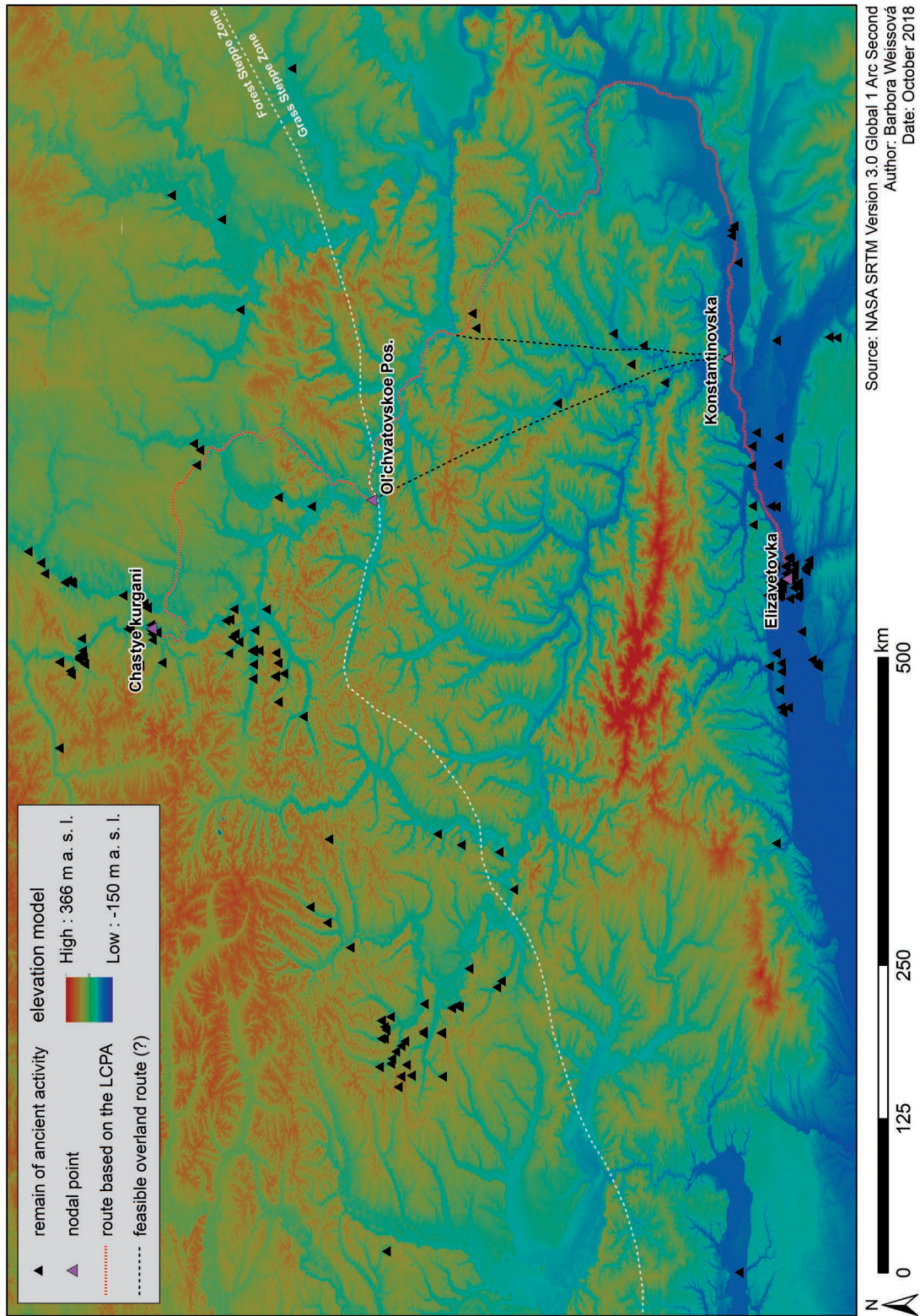


Fig. 8: Map of the Don River system with GIS based (LCPA) calculated routes.

I performed a comparative study with results of an anisotropic GIS based least cost path analysis (fig. 8). Surprisingly, the proposed routes were always avoided in favour of much longer but less gradient ways. The most feasible path from the delta to the densely populated areas on the middle reaches leads from the delta along the main river course to the Tsimlyansky Reservoir. Once it has passed the reservoir, the calculated route leaves the current riverbed and crosses the tributary Chyr. It meets the Don again just below the border to the forest steppe zone (91: Ol'khvatovskoe Pos.). However, the GIS calculates the ideal solution in terms of effort and expense and is dealing with totally rational acting agents. But people's decisions are motivated by a lot of reasons. Beyond an economic benefit of one route, further appealing factors should be seen for example in places for ritual practices. In this respect, we must not forget the kurgan-avenues. In general, the nomadic migratory routes, even the most firmly established ones, are not necessarily repeated every year.²⁴ Furthermore, since the elevations within the grass steppes do not overreach 360 meters above the sea level and for the most part vary only between 50 and 150 meters above the sea level, the river system certainly was not stable. This can be observed in the section north to the Tsimlyansky Reservoir with the strong eastwards leading loop of the Don and the shortcut in its course offered by the tributary Chyr. Accordingly, also the pastoral routes of the ancient semi-nomads had to change frequently in order to adjust to the current conditions.

Conclusion

It is of course no surprise that the different methodological approaches all emphasise the crucial significance of the watercourses for the ancient people. This is already indicated by the locations of all sites at riverbanks and further demonstrated by the GIS based calculated routes, which mainly run along the rivers. But, as came out of the analyses of the economic basis of the communities, that gave strong evidence for the nomadic to semi-nomadic life-style, the value of the rivers lay not in the function as transport routes. They were rather primarily utilised as water-suppliers for the herds of the nomads and the transport of products was most probably organised overland within the pastoral migrations. Therefore, the ecologic conditions of the grass and forest steppe zones with the extended river system of the Don had major impact on the ancient economies but not in the expected form.

Notes

¹ The settlement is situated at the site of the modern city Taganrog; Dally et al. 2009; Dally et al. 2012.

² In particular, transport amphorae were found in large numbers throughout the region, while tableware like cups, jugs and plates were less in demand. Precious metal objects such as bronze and silver vessels

were found almost exclusively in huge burial mounds in the forest steppe: Medvedev 1999, fig. 56–57; Huy 2019.

³ Huy in print; Huy 2019.

⁴ cf. Salač 2018, 42–43 with examples of travel speed on rivers downstream and upstream from Roman times and the Middle Ages.

⁵ cf. the contribution of B. Weissová in this volume.

⁶ In the following, numbers in bold type indicate the respective sites on the map fig. 2. The complete legend on this map with bibliographical information is published in Huy 2019, table 1.

⁷ Minoransky 2004, 15–18; Schmid-Merkl 2016, 39–42.

⁸ Kremenetsky 2003, 11. 15. 17; c.f. Medvedev 1999, 55–57; Gulyaev 2010, 12–19.

⁹ Wagner 2003, 65–92.

¹⁰ E.g. Novo Zolotovka (**51**): Dally et al. 2012, 190–200; Huy in print; Zamyatino 10 (**142**): Ivashov 2001; Shvedovka (**178**): Liberov 1962, 63. For a general overview of the middle and upper reaches cf. Liberov 1965, 8–10; Medvedev 1999, 59.

¹¹ E.g. Elizavetovka (**2**): Marchenko et al. 2000; Voloshino (**108**): Puzikova 1969, 41–81; Gulyaev 2010, 123–137; Pekshevo (**126**): Medvedev 1999, 79–89.

¹² Marchenko et al. 2000.

¹³ E.g. Russkaya Trostyanka (**110**) was surrounded by 9 villages, not shown here; Semiluki (**129**) and Gubarevo (**132**) were surrounded by 14 villages, not shown here (Medvedev 1999, 57); Ksizovo (**137**) was surrounded by ca. 4 villages (Oblomsky – Razuvaev 2013, 183–184); Chervonosovskoe Gorodishche (**170**), in the Kharkiv region, was surrounded by ca. 13 villages, not shown here (Zadnikov et al. 2003).

¹⁴ The animal bones were analysed by Prof. Dr. N. Benecke (DAI Berlin) and originate from excavations in Novo Zolotovka (**51**), which were carried out in 2008 as part of the German-Russian Taganrog project under the direction of Ortwin Dally (DAI Rom).

¹⁵ Marchenko et al. 2000, 169–173.

¹⁶ Tsalkin 1969, 129 Tab. 1; Gulyaev 2010, 125. 131.

¹⁷ Marchenko et al. 2000, 173–175 tab. 43; Gulyaev 2010, 125. 131–132; Huy in print, cat.nos. O14–O18.

¹⁸ cf. Khazanov 1994, 46–53 also pointing out the important role of oxen as transport animals and the polyfunctional purpose of small stock for the nomads of the Eurasian steppes in antiquity.

¹⁹ Khazanov 1994, 19.

²⁰ Cf. Medvedev 1999, 62 and the discussion at Gulyaev 2010, 130–132.

²¹ Khazanov 1994, 50.

²² Important is also the size of herds, their species-composition and many other factors. For nomads of the Eurasian steppes from historical periods, distances of a thousand kilometres are known: Khazanov 1994, 38. 52. General information on factors influencing travel and travel speed: cf. Salač 2018 with further literature.

²³ Smirnov et al., 1976, 120–121; Smirnov – Maksimenko 1977, 142; Maksimenko 1980, 109.

²⁴ Khazanov 1994, 50.

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Fig. 1, 8: B. Weissová. – Fig. 2: S. Huy. – Fig. 3: S. Huy a) after Gulyaev 2010, 71 fig. 5; b) after Moskalenko – Pryakhin 1969, fig. 1. – Fig. 4: B. Ludwig, S. Huy after T. Panchenko and P. Larenok. – Fig. 5: S. Huy after Marchenko et al. 2000, 97, fig. 20. – Fig. 6: S. Huy a) after Benecke 2008; b) after Marchenko et al. 2000, 169–173; c) after Gulyaev 2010, 125; d) after Tsalkin 1969, 129 tab. 1. – Fig. 7: B. Weissová, S. Huy.

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