UKRAINIAN FORTRESSES
A STUDY OF A STRONGHOLDS SYSTEM FROM THE EARLY IRON AGE IN PODOLIA

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Editor's Foreword

This volume of *Balic-Pontic Studies* presents the results of the latest Polish--Ukrainian studies on the 'fortresses of Ukraine', a name originally used to denote a network of Early Iron Age hillforts in the Ukrainian forest-steppe. The scope of their identification is related to the earlier findings of Ukrainian researchers, who linked the issue of 'fortified settlements' (the so-called giants' strongholds) with the influence of the nomads of the steppes. The Scythians brought East--Eurasian cultural patterns to the Pontic region, which was coetanously colonised by the Greeks. Directly inspiring the cognitive framework of the programme, the findings of Ukrainian archaeologists failed to provide answers to basic questions about the genesis of settlement agglomerations of the 'fortresses of Ukraine' or the way they functioned. Neither did they enable to establish secure dating for this cultural phenomenon.

Diagnostic for the archaeological research on the issue, the site of Severynivka, Zhmerynka Region, Vinnytsia Oblast, was identified as a fortified settlement dating from 'Scythian times' by the 1946-1948 'South-Podolian archaeological expedition' of the Leningrad University led by Mikhail I. Artamonov. The research was continued in the 1960s by Galina I. Smirnova, who analysed the results of M.I. Artamonov's earlier research, and in the 1980s by B.M. Lobay. Intended to determine the typochronology of the hillfort, the investigations did not furnish any detailed information about the context of the settlement base.

The presented Polish-Ukrainian 'Podolia programme' was carried out between 2009 and 2015, under the grant of the Institute of Archaeology of the National Academy of Sciences of Ukraine; the Institute of Prehistory (now the Institute of Archaeology) Adam Mickiewicz University, Poznań, Poland; the Poznań Prehistoric Society; and from 2013 also the National Science Centre under the grant: *„Fortece Ukrainy. Badania nad systemem grodzisk z wczesnego okresu epoki żelaza na obszarze Podola"* [*The Fortresses of Ukraine. The studies on the system of the Early Iron Age hillforts in Podolia*] (No. UMO-2012/07/B/HS3/01917).

In addition to excavations that were aimed at examining the fortifications of this diagnostic fortified settlement and producing archaeological and bioarchaeological sources, this programme included also an innovative (in terms of its methodology) geospatial prospection. Providing the first summary of the issue of the

fortresses of Podolia, this collection of papers offers a prologue for further research, mainly into the way these Late Bronze Age/Early Iron Age hillforts of the forest-steppe zone functioned in the settlement space.

This volume discusses the results of such outlined research programme in two cognitive dimensions. The first – general, macro spatial – looks at the geography of the settlement in right-bank Ukraine (part 1). The other one is source-related. It seeks to identify the concept behind the settlement in the Severynivka hillfort, a 'test area' for detailed findings, mostly regarding the taxonomy, typochronology and chronometry of the phenomenon of the 'fortresses of Podolia' (part 2).

The papers in this volume of BPS were peer reviewed by Professors Janusz Czebreszuk and Przemysław Makarowicz.

Editorial comment

1. All dates in the B-PS are calibrated [BC; see: Radiocarbon vol. 28, 1986, and the next volumes]. Deviations from this rule will be point out in notes [bc].
2. The names of the archaelogical cultures and sites are standarized to the English literature on the subject (e.g. M. Gimbutas, J.P. Mallory). In the case of a new term, the author's original name has been retained.
3. The spelling of names of localities having the rank of administrative centres follows official, state, English language cartographic publications (e.g. *Ukraine, scale 1 : 2 000 000*, Kyiv: Mapa LTD, edition of 1996; *Rèspublika BELARUS', REVIEW-TOPOGRAPHIC MAP*, scale 1 : 1 000 000, Minsk: *BYELORUSSIAN CARTOGRAPHIC AN GEODETIC ENTERPISE*, edition 1993).

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THE FORTRESSES OF UKRAINE. THE BUILDERS OF EARLY IRON AGE STRONGHOLDS IN PODOLIA

ABSTRACT

The most challenging question regarding the defensive settlements of the Pontic forest-steppe is the reason behind their construction at all and size. The most frequent interpretations centre around two questions: were they to protect from external threats (i.e. the nomads) or were they the result of a carefully planned construction strategy related to the economic and social pressure from the Greek colonies in the Black Sea region? It is also possible that both explanations are true.

Key words: Black Sea region forest-steppe, eastern European forest-steppe, fortified settlements, Podolia, Scythian time

The emergence of hillforts in the Early Iron Age in Ukraine is a cultural phenomenon that eludes comprehensive descriptions or interpretations. As a conglomerate of 'microcosms' of variable sizes and perhaps functions, fortified settlements share two planes: space and time.

The hillforts were constructed in the borderland between the steppe and the forest, the region is defined in the physical geography of Ukraine as the forest--steppe. Much more humid than the steppes, it is taken to be the most optimal

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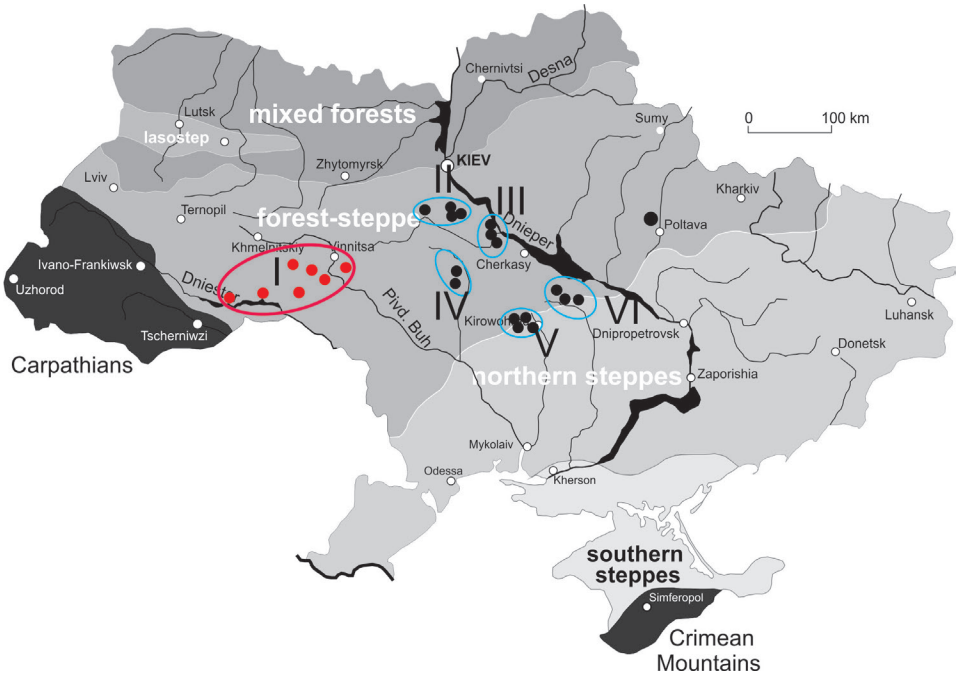

Fig. 1. Natural and geographical zones in Ukraine (source: Zastawnyj, Kusiński 2003, after Makohonienko 2011), with marked concentrations of hillforts. Legend: complexes, I – Podolian complex, II – Khotiv-Khodosiv complex, III – Kaniv-Trakhtemyriv complex, IV – Zhurzhyntsi--Medvyn-Komarivka complex, V – pastoral complex, VI – Motronin complex. 'Complexes' outlined based on Y. Boltryk's definition (1993), modified by the author

habitat for human settlement. The forest-steppe covers the entire central part of Ukraine, from the Carpathian Foothills in the west to the Central Russian Upland in the east (Fig. 1). The boundary between the forest-steppe and the steppe zones runs along the Podilsk-Pervomaisk-Kropyvnytskyi-Kremenchuk-Krasnohrad-Chuhuiv line [Zastawnyj, Kusiński 2003: 90]. The region is in large part covered by typical chernozem with high humus content, perfect for agriculture [Kamawski 2003: 90-91; Makohonienko 2009; 2011: 24, Fig. 4]. The fortified settlements have a long history in the region, yet they did not become a common occurrence until the Early Iron Age [Daragan *et al.* 2010].

All hillforts described as 'Early Iron Age' or 'Scythian' are dated roughly the same time. There is no sufficient biological data to establish a detailed scale in calendar years comparable to that created for the Biskupin-type fortified settlements in Poland [Ważny 2009, Harding, Rączkowski 2009]. A general inter-

pretation of the typological features of archaeological evidence suggests that the fortified settlements were erected sometime between the mid-7th century BC and the 5th century BC; this two-hundred-year-long period saw the emergence and collapse of most of them. The main research problem, however, is that the dating is dramatically imprecise, thwarting clear answers to issues such as this one: did the emergence of Greek colonies on the northern coasts of the Black Sea precede the establishment of hillforts or were these phenomena coetaneous? Assuming that most colonies sprouted up in this area around the mid-7th century BC (Olbia – 644 BC, Borysthenes – 7th century BC, Tyras – 656 BC, Istros 656 BC; Hammond 1994), even a slight correction of the dating of the hillforts to the early 6th century BC (or the late 7th century BC) would permit us to put the two processes together into one cause-and-effect sequence. This issue, however, is pending further research, including a detailed analysis of the sources and their chronology. The process of contacts was characterised by great dynamics. In recent studies, Ukrainian researchers have pointed out that ancient pottery was found as early as in assemblages dating from the Phase Zhabotyn III of the Chornolis culture, presumably dating from the early and mid-7th century BC [Daragan 2004: 131-132]. We will elaborate on the issue in other parts of the paper.

A recent book on the settlement of the Chornolis culture prepared by Ukrainian and Moldavian scholars [Daragan *et al.* 2010] has collated different views on the fortified settlements in the Ukrainian forest-steppe. These have also been briefly discussed in the context of the study of the Early Iron Age settlements in Podolia [Ignaczak 2012].

The former summarises all of the hypotheses formulated until that time. The development of the fortified settlements in the forest-steppe between the final Bronze Age and the Early Iron Age was divided into three distinct phases. The first phase included hillforts of the Chornolis culture dating from the 10th century BC; the second embraced the upland fortified settlements of the Chornolis culture; and the third phase started with the emergence of giant hillforts in the 6th/5th century BC[1]. Assuming that there was an evolutionary transition between various forms of defended settlements [Daragan *et al.* 2010], this hypothesis does not provide an explanation for the genesis of the so-called giant hillforts, first appearing in the forest-steppe zone in the 6th century BC.

In the Ukrainian and Russian literature, this problem has so far been explained using four key interpretative concepts. According to the earliest hypothesis, referred to as the centralisation concept, the fortified settlements were built by local populations threatened by the arrival of Scythian invaders [Artamonov 1948: 179; Terenozhkin 1961: 40; Ilinskaya, Terenozhkin 1983: 260], while the process itself was related to the advanced socio-economic development [Shramko 1987:

[1] A simplified version of the chronological system was adopted in the dating of the Ukrainian and Moldavian scholars, but at present the dating of the beginnings of the fortified settlements in the forest-steppe area to the 6th century BC seems plausible.

30; 1999: 50]. Sergey Skoryi argued that hillforts were first erected once the local population had been conquered by the Scythian tribes. The result was the establishment of a political 'union' (federation) in the forest-steppe region. In this case, the hillforts were the joint work of the local population and the invaders, protecting them from the pressure of other steppe nomads [Skoryi 1990: 96]. In this hypothesis, the forest zone would be distinct from the proper steppe, which is still a haunt of the Nomadic Scythians.

With time more data was amassed and the interpretation accordingly modified (the so-called second concept of S. Skoryi). The Scythians arriving in the forest steppe area were now assumed to have previously conquered the tribes of other nomads – the Cimmerians (who were there earlier), and later became the rulers of that area, enslaving the local agricultural population [Skoryi 2001: 67-71].

Formulated by W. Murzin and R. Rolle, the third hypothesis assumes that it was the Scythians themselves who erected fortified settlements in the late 7th and early 6th century BC, thus becoming the bearers of political power in the forest--steppe zone. The conquered population constructed giant hillforts for the conquerors, with large areas of empty space, supposedly used by the nomads to put up their yurts. The conquered population would have occupied the remaining parts of the hillforts, providing nomads with food and crafts [Murzin, Rolle 1996: 181-182]. This idea was criticised by S. Skoryi, who believed that several factors could have stimulated the emergence of the fortified settlements, be it internal or external, yet they must have been related to the Scythians' invasion into the forest steppe area [Skoryi 2003: 72].

The last, fourth hypothesis refers to the interpretative idea of fortified settlements for refugees providing shelter in the event of danger. The idea would be supported by the remoteness of the fortifications from the borders of settlement, which made it easier to survive following the evacuation, in case of danger, deep into the region [Grechko 2010: 28].

All interpretations lead to one conclusion: the phenomenon of great hillforts of the Ukrainian forest-steppe is still pending explanation. First, we need to determine the character of relations between the nomads and the local population. There is no doubt that the topography of all 'giant hillforts' is alike; they are similar regardless of their location. The problem becomes all the more striking if we relate it to the very complex cultural situation prevailing at the time in the area of the Ukrainian forest-steppe, which on the one hand was under the influence of Greek colonisation and on the other, under the pressure from the nomads.

1. THE CHRONOLOGY OF THE HILLFORTS. THE CASE OF THE SEVERYNIVKA HILLFORT

The excavated hillfort of Severynivka is a typical example of an Early Iron Age defensive settlement. Despite the suggested multi-phase occupation at the site, interrupted by fire (the result of an alleged invasion – Artamonov 1955: 85), archaeological research provided arguments for the hypothesis claiming that its construction was carefully planned in a single creative act; four phases of construction were identified.

Complex processes involved in the construction of the fortified settlement were observed in two cross-sections through the rampart. In its southern part, the rampart was relatively low (not more than 3 m-high). It seems that it took three steps to construct it (due to a convenient location of the structure, i.e., in the elevated zone). 2.65 m in height (from the ground) and up to 20 m in width, the rampart consisted of a layer of loess clay of varying colours and consistency. The inside of the foundation of the rampart was piled up in the hollow, which formed after soil had been dug out for the rampart. The depression was reinforced with stones from the inner side. The stones were overlaid by burnt clay (the process of burning the ground was probably associated with preliminary work preceding the construction of the rampart). The excavated ash layer contained small amounts of stones and charcoals. Earlier studies interpreted this as the evidence that the fortress was destroyed by fire (as a result of aggression – Artamonov 1955: 85). The rampart was erected directly above the clay layer on the pre-prepared base (important for its formation was the removal of the humus layer).

From the outside, the base of the rampart smoothly passed into a dry moat. From the south-east, the moat was preceded by three smaller construction ditches. These secured the layers of piled up earth from the outside. The presence of ditches suggests that the construction of the rampart was a four-phase undertaking. Such a system of constructing ramparts over ditches is observed also in similar Early Iron Age fortified settlements, e.g., in Kamianske.

Rescue excavation in the open central space of the hillfort (Figs. 2, 3) produced several structures that were dug into the ground. Although their location directly next to the hillfort fortifications hindered observations (due to the material displacement resulting from the ablation process on the rampart), the excavations uncovered the remains of probably two dwellings and six storage pits (for representative specimens, Fig. 4). Their fill deposits yielded numerous settlement-related artefacts, including four Scythian arrowheads, a glass bead, an iron pin, a fragment of Greek pottery, three bone cheek pieces and numerous potsherds.

A wide range of metal artefacts were recovered from the cultural layer and feature a date back to the first half of the 6th century BC [Boltryk *et al.* 2011: 41].

The bone cheek pieces come somewhat earlier on the scale of time. They fall within the style of the Kelermes[2] kurgans' horizon, starting from the mid-7th century and continuing until the first quarter of the 6th century BC. As such, they can be cautiously related to the chronology of bronze arrowheads. Devoid of direct formal analogies in the forest-steppe area, the cheek pieces copy the functional patterns found in the defensive structure of Nemyriv [Smirnova 1996]. Found in pit 4 among the economic waste (food), the artefacts were largely destroyed, with their fastening holes heavily worn. This obviously suggests that before being discarded as rubbish, they had been in use for a long time.

The most interesting element of the cheek pieces' design is their decoration, somehow referring to the animalistic style in Scythian art. However, the symbols can hardly be related to the decorations found in the steppe. The local variant of production is more likely, which is indirectly confirmed by a substantial number of horn and bone materials recovered from the hillfort, a possible evidence of a production workshop functioning on-site. The excavations produced a striking number of worked artefacts and bone fragments.

The style of the animal representations allows us to narrow the chronology of the cheek pieces to the early 6th century, the dating was further confirmed by the amphora produced in a workshop at Samos. Dated within a slightly wider time frame (mid-7th century – third quarter of the 4th century BC), the amphora does not contradict the findings for the bone artefacts.

Observations of the pottery complement the conclusions regarding the chronology of the hillfort. Previous studies linked the pottery with phase Zhabotyn III of the Chornolis culture, identified and dated it based on the detailed analyses carried out by M. Daragan (2004). This phase was found to date from the beginning of the mid-7th century BC. However, the stylistic elements observed at Severynivka suggest that the archaeological evidence from the site comes from the turn between the late materials of the Chornolis culture (phase Zhabotyn III) and the materials described as the post-Zhabotyn horizon. According to the periodisation of the 'Early Scythian' period, they fall within the horizon known as 'Early Scythian 3' [Medvedskaya 1992], which is manifested by the presence of non-Chornolis vessels, most often decorated with bands of clay applied under the rim and the perforations in the upper part of the vessels. Another element, vases with low-set body (resembling pear-shaped vases) point to Western stylistic provenances in pottery. One example, with wide, horizontally pierced handles, is decorated with perforated holes under the rim. Such vessels have few analogies in 'Early Scythian' inventories. The best documented finds come from the so-called Netishyn ash-mound (*zolnik*), where they are seen as evidence of contacts with the western zone and the Tarnobrzeg group of the Lusatian culture [Samoliuk 2005: 304]. With this hypothesis insufficiently evidenced, we should look for analogies in a group of

[2] This style is represented by symbols of griffins found on the cheek pieces [Boltryk et al. 2011].

materials classified as the so-called Lezhnytsia group, dating from the Early Scythian period [Krushelnytska 1993: 149]. In similar assemblages from south-eastern Poland, such vessel form would be linked with several Pomeranian culture-related phenomena (vessels from the cemetery at Białobrzegi – Czopek 1992, Plate VI).

Attesting to multidirectional contacts, the archaeological evidence recovered from the site does not permit us to definitely link the fortified settlement in Severynivka with phase Zhabotyn III in the development of the Chornolis culture. The vessels more likely fit into the post-Zhabotyn phase – after the mid-7th century BC and closer to the end of the 7th century BC[3].

To conclude, the Severynivka site seems to have been occupied from the late 7th century BC, possibly to the late 5th century BC. Based on analogies, similar conclusions can be made for the hillfort in Nemyriv. As a larger site, Nemyriv has been less thoroughly excavated, which prevents definite statements, yet the pottery and other artefacts bear a marked resemblance to those recovered from Severynivka (including the bone cheek pieces).

2. THE FOREST-STEPPE DEFENDED SETTLEMENTS AND THE HISTORICAL PROCESSES IN EUROPE

The most challenging question regarding the defended settlements of the Pontic forest-steppe is the reason behind their construction and it size. The most frequent interpretations centre around two questions: were they to protect from external threats (i.e. the nomads) or were they the result of a carefully planned construction strategy related to the economic and social pressure from the Greek colonies in the Black Sea region? It is also possible that both explanations are true.

The research activities undertaken in the 'Fortresses of Ukraine' project aimed to establish who and when constructed the defensive settlements and when. At present, some statements can be made regarding the hillfort at Severynivka; we can also possibly attempt a tentative classification of the fortified settlement at Nemyriv. Due to the unclear taxonomic position of other defended sites in the forest-steppe zone, apart from the above-mentioned hillforts, we took sites previously investigated: Motronin [Chochorowski, Skoryi 2006] and Trakhtemyriv [Fialko, Boltryk 2003] into consideration.

Based on the analysis of sources, we may assume that the Severynivka hillfort was founded in the late 7th century BC, similar to other 'classic' defensive albo

[3] The chronology is confirmed by a bronze mirror, on the basis of which the fortified settlement was originally dated to the 6th and 5th century BC [Artamonov 1955, Smirnova 1996].

fortified settlements: Nemyriv, Trakhtemyriv and Motronin (in this case from the second half of the 7th century BC – Chochorowski, Skoryi 2006: 83). Such chronology may tentatively suggest that they were founded under the impact of the Greek colonisation on the northern Black Sea coast. In this case, the period of time separating these two episodes would not be very long, from the perspective of archaeology almost imperceptible, for it would have lasted about half the century or even less. However, the evidence, mainly Greek pottery, indicates that a network of such contacts and inspirations did exist. The narrowing of the time interval from the time of the establishment of the first emporia to the construction of the fortified settlements may indicate that the concept of the fortified settlements was supported by the Greeks, and the idea itself hit fertile ground. There is no doubt that the settlement developed with a substantial 'help' from the nomadic communities.

According to the latest hypotheses, the period from the early 7th century BC saw a considerable activation of the nomadic factor in Central and Eastern Europe and subsequently, the settlement systems in several areas underwent dramatic changes. This may be partly due to the fluctuations in European climate: from warm and dry to damp and cool [van Geel *et al.* 1998; Ważny 2009]. This global process, is believed to have begun around 850-760 BC, corresponding to a decrease in solar activity [Swindles *et al.* 2007]. It is now assumed that the decline in this activity left a mark on the climate with some delay. According to some researchers, the areas in question might have experienced that about a hundred years later. We may therefore safely assume that the sub-Atlantic climate, quite severely altering the settlement in the era of the decline of the Lusatian Urnfields (e.g., the depopulation of Biskupin, which is believed to have occurred in 708 BC and a similar dating for other 'Biskupin-type' fortified settlements – Ważny 2009: 72) had a positive effect on the settlement of the Eurasian steppes, which began to be valued as decent areas for settlement [van Geel *et al.* 2004]. The increase of the settlement potential of the steppe region resulted probably in the population displacement in some regions of Europe, which was related mostly to the movements of the nomads.

In the most recent study of the Scythians in Central Europe, this period (the late 7th/early 6th century BC[4]) is identified with the formation of the Vekerzug culture in the area of the Hungarian Alföld. The latter is believed to have formed due to the pressure of the 'Caucasian' wave of the Scythian nomads, activating, for example, the communities of the so-called West Podolian and Transylvania groups [Chochorowski 2014: 27]. Information provided by Herodotus offers an indirect evidence of this inspiration. Herodotus [V; 9] claims that beyond Istern, i.e., north of the present Danube, the Sigynn people had their seat. They are believed to have had Medina (hence Caucasian) roots, as evidenced by the presence of rare sources, the so-called *pintanderas* [Chochorowski 2014: 27].

[4] In a detailed analysis by J. Chochorowski, this is a period between the third quarter of the 7th century BC and the late 7th/early 6th century BC [Chochorowski 2014: 27].

To sum up, the chain of events that might have been anchored in climate change led on the one hand to the dramatic depopulation of the European Lowlands, but on the other hand might have possibly ignited an economic revival in the Eastern European steppe zone. This, in turn, could have led to the migration of the nomads and the establishment of new tribal communities, which – outside their homeland – used the civilisation achievements of local people (see, for example, the Vekerzug culture in Alföld, which comprised local post-Gáva and Kyatice elements – Chochorowski 2014: 27). As much as we can hardly find the traces of invasions associated with the development of the orda in these contacts, based on present interpretation of prehistoric phenomena [Gumilow 2004], some analogies to the medieval Tatar invasion nevertheless automatically come to mind [Świętosławski 1997].

As a result, several levels of the nomads' impact on the steppe and the Pontic forest-steppe can be identified, which were probably manifested probably as various forms of contact and the emergence of different adaptations depending on the preferences of the 'conquered population'. According to the exact descriptions provided by Herodotus in the mid-5th century BC, Scythia purportedly extended between the Ister (the Danube) and the Tanais (the Don) rivers, as far as 4000 stadiums (about 700 km) off the coast [Herodotus IV, 51-57]. The area between the Dnieper and Don rivers was occupied by the Royal Scyths. The Nomadic Scythians lived to the north of them, while in the region in the middle and upper reaches of the Southern Bug River resided Scythians-cultivators, *who grow corn, not for their own use, but for sale* [Herodotus IV, 17]. Significantly, the territory on either side of the middle course of the Dnieper River was settled by the Scythians Husbandmen [Herodotus IV, 18], who occupied it between the Scythians cultivators and the Nomadic Scythians [cf. also Chochorowski 1999: 328-330].

The region where the great hillforts were constructed may therefore be identified with the area inhabited by the Scythians cultivators and the Scythians Husbandmen. Assumedly, it can be identified as the hinterland of the area controlled by the nomads (the Royal Scyths and the Nomadic Scythians), who thus exploited the possibilities of contacts with the Greeks living in the colonies. Important for the Scythians were economic benefits [Chochorowski 1999: 325]. This led to the relocation of political centres of their culture from the North Caucasus to the Black Sea region. Allowing the Scythians to control grain trade and derive benefits from delivering slaves to the colonies [Chochorowski 1999: 325], this resulted in a significant increase in the political significance of the Scythians in the 7th century.

There is no question now that the Scythian cultivators and the Scythian Husbandmen were ethnic substrate distinct from the proper Scythians [Chochorowski 1999: 330]. However, the question is whether this population, originating from earlier groups referred to as the Chornolis culture, created fortified settlements in order to improve trade, while emphasising its material and political status. Such motivations seem plausible in the light of recent studies on the defensive settlement system west of the Dnieper River. The spatial concentrations mentioned above

were structured as trade and political centres for the protection of trade routes. Owing to the conclusions drawn from geographical analyses [Ławniczak 2015], we may tentatively divide the hillforts into those associated with rivers, holding the status of trade centres (trans-Dniester and trans-Dnieper) and those located within the watersheds and related to the land transport. Previously discussed hillforts in Severynivka and Nemyriv fit into the latter category. Sitting upon the Southern Bug River, unnavigable along its entire length, the fortified settlements formed the northern line of hillforts connecting the Dniester and Dnieper basins. In all probability, such a system on the one hand secured the interests of traders while at the same time making them independent from an unceasing Scythian threat. A system of trading posts was thus established, based on trade with the Greeks, with the nomads acting as brokers. In the age of considerable variation of nomadic groups, the fortified settlements could have also provided protection from those among them who were not drawn into a far-reaching system of contacts or who could not participate in trade.[5]

Scythian arrowheads found occasionally within fortified settlements may provide indirect evidence of the complexity of these processes. Showing no use-wear, they seem unrelated to any military actions. Were they part of the equipment of the local populations then? In our current state of knowledge, that is improbable. We should rather expect the presence of archers (Scythians?) in the fortified settlements. Settled populations related to the Central European civilisation did not use the bow as an element of their armament. The bow could have possibly been adopted from nomadic communities. This, however, *was not a simple or automatic process [...]. It could have happened [...] on the edge of the zone occupied by nomadic tribes, as a result of long-lasting contacts and* learning*, i.e., the assimilation of foreign cultural patterns* [Chochorowski 2014: 44]. Was it possible while the fortified settlements had barely begun to be erected and in the early phases of their functioning? If it did happen, this must have occurred with a considerable participation of the nomads entering into permanent relations with the inhabitants of the fortresses of the forest-steppe.

Translated by Agnieszka Tokarczuk

[5] In our present state of knowledge or in this present paper hardly can we try to explain whether the real threat from the steppe peoples could be related to the restrictions on access to trade. Based on historical analogies, it can be expected that in each nomadic group there was an organisation system similar to those reported by Gumilow for auls and ordos [Gumilow 2004]. Whether such organised groups somehow managed to control any lucrative trade connections, in opposition to others benefiting from the raids, is still pending further research and critique. However, we may now say that the processes of contacts of the nomads with settled populations were varied, just as their systems of internal differentiation. It is hardly correct to interpret all Scythian-related phenomena as a result of the interaction of a single and culturally homogeneous group.

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