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Terra multiplex et varia natura. On the settlement patterns of Bactria in the Hellenistic Period

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ABSTRACT
The proposed study aims to investigate the character of settlement transformation in ancient Bactria (upper Amu Darya basin) during the period following the conquest of Alexander the Great. This transformation is addressed by the comparison of settlement development in the two regions of Bactria, its north-western part in present-day Uzbekistan and the so-called Eastern Bactria in present-day Afghanistan, based on archaeological evidence. Attention is devoted mainly to the quantitative analysis of settlement sites attributed by previous researchers to the Achaemenid and Hellenistic periods on the one hand, and the evaluation of settlement hierarchy and spatial distribution changes on the other. The conducted analysis illustrates a massive settlement abandonment posterior to the fall of the Persian Empire. However, the results of the study suggest that the Hellenistic eastern Bactria, commonly associated with a high level of involvement of the new elites coming from outside, also exhibited many traits of structural continuity with the preceding period represented by a general settlement dispersal and reutilization of both, previous fortified centres and irrigation networks. On the other hand, interest in fortification and the settling of new areas at higher altitudes are clearly characteristic of the Hellenistic Bactria as a whole.

KEYWORDS
Central Asia; Bactria; Achaemenid Empire; Seleucid Empire; Hellenism; Settlement Archaeology; Settlement patterns.

INTRODUCTION

The fall of the Achaemenid Empire and the subsequent period of Graeco-Macedonian rule strongly influenced the socio-political situation in a vast area stretching between the Eastern Mediterranean and far-distant regions of Central Asia. Despite its only marginal link to the Mediterranean, Bactria, the eastern outpost of the Achaemenid Empire, which developed in the context of a local idiosyncratic cultural milieu, came after Alexander the Great's conquest into immediate contact with Greek culture and became part of the newly arising Hellenistic world. The relative lack of ancient written sources (See Holt 1988; 1999) on the Achaemenid and Hellenistic period Bactria[1] promotes archaeology to be a fundamental source of knowledge on this region. The impact of the Hellenistic rule on the local material culture has been

1 For the purposes of this paper, Bactria is defined as the upper Amu Darya basin (cf. Gardin 1985; Leriche 2007). Delimited by Hissar, Pamir, and Hindukush and by the Karakum desert, the upper Amu Darya basin is a region well defined not only in terms of geography, but also by a longstanding cultural development that dates back to prehistoric times (Dyakonov 1954, 123; Kuz'mina 1976; Gardin 1985). The precise historical meaning of the term *Bactria* has not been satisfactorily determined so far (Stride 2007, 99); however, it could evolve over time or be polyvalent: 'Bactria can mean geographical region, administrative area or simply the oasis of Bactra' (Leriche 2007, 125). On the recent contributions to historical geography based on both written and archaeological sources, see Rtveladze 2002; Rapin 2013; Gorshenina – Rapin 2021, 197–202.

extensively examined in various forms,[2] nevertheless it is settlement archaeology,[3] which has the great potential to reveal essential data for the reconstruction of the historical development of the Hellenistic Bactria, its internal organisation and land use.

The study of ancient settlement patterns and forms within the context of the cultural landscape was undertaken rather rarely during the twentieth century in Bactria. The emphasis was often placed on the detection and excavation of isolated sites, with only limited interest in their wider surroundings.[4] The study of spatial and functional relations and patterns beyond a simple placement on the map was conducted rather seldom.[5] An important milestone in such studies is represented by the French survey of eastern Bactria led by J.-C. Gardin between 1974–1978 (Gentele 1989; Lyonnet 1997; Gardin 1998), oriented towards the examination of both the close and wider hinterland of Ai Khanum. The current state of archaeological research in Central Asia allows, in selected areas, an analytical evaluation of the large data

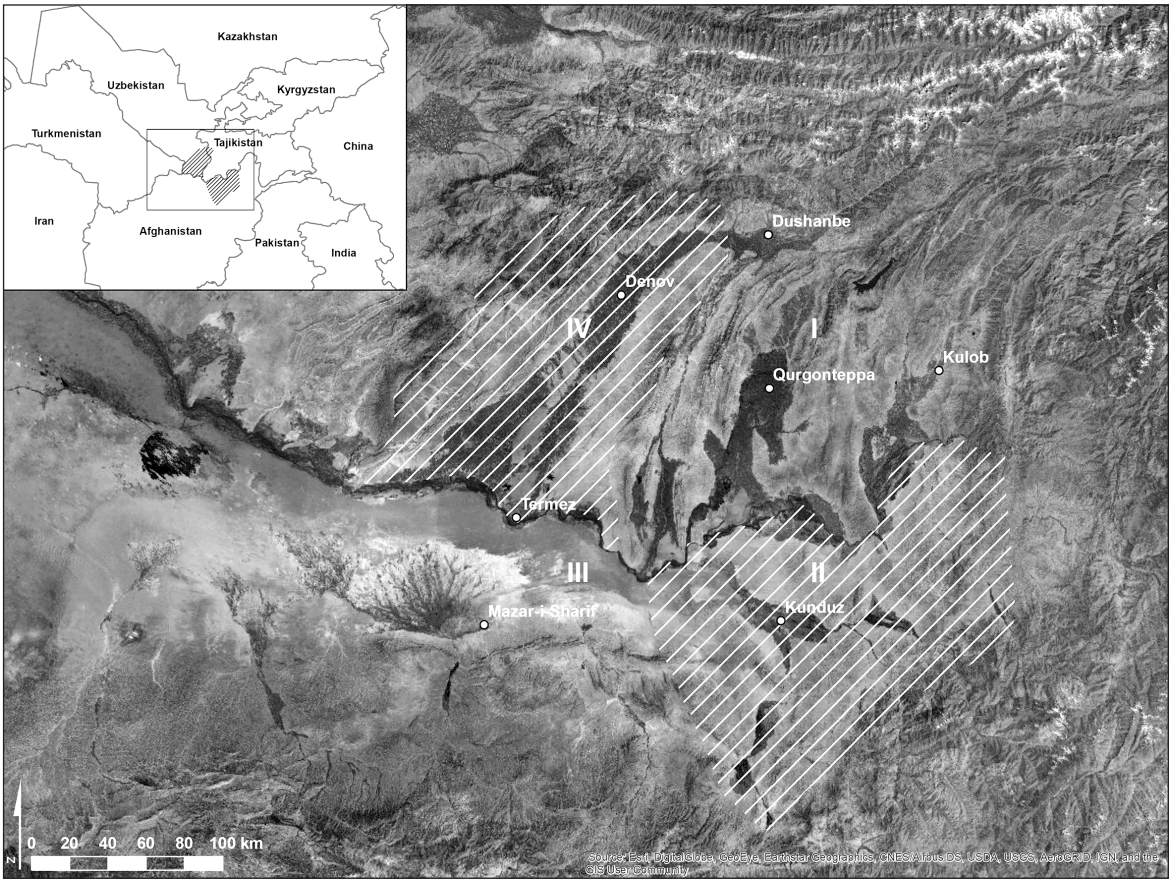

Fig. 1: Bactria. Location of sectors II and IV. Based on Gardin 1985 (basemap: Esri).

2 Cf., among others, papers in Kouremenos – Chandrasekaran – Rossi (eds.) 2011 or Lindström *et al.* eds. 2013.

3 Settlement archaeology as 'a study of social relationship using archaeological data' (Trigger 1967, 151).

4 On the reconnaissance missions in Bactria, see for example Rtveladze 1974; 1976; 1987 (Southern Uzbekistan); Fischer 1967; Kruglikova 2005 (Northern Afghanistan).

5 E.g., Pugachenkova – Rtveladze 1990, 62–82.

assemblages, which is, however, employed so far only rarely. In his unpublished dissertation, S. Stride examined in detail the archaeological geography of the Surkhandarya province in southern Uzbekistan from the Bronze Age to the Late Middle Ages and demonstrated the – up to that point unexploited –potential of such an approach. However, despite the recent rapid progress of modern landscape studies in southern Central Asia,[6] the state of research on the settlement patterns of the Hellenistic period Bactria is, still far from sufficient.[7]

This paper addresses the question of settlement transformation between the Achaemenid and Hellenistic period Bactria (ca. middle of the 6th century – 4th century BC and the end of the 4th century – middle of the 2nd century BC respectively). The variance of this transformation is demonstrated in this study by the example of the two sectors of Bactria (**Fig. 1**), as defined by Gardin (1985, 39), Sector II (so called 'Eastern Bactria', i.e., the basins of Kunduz and Kokcha in present-day Northern Afghanistan) and Sector IV (Surkhan Darya and Sherabad Darya basins, corresponding roughly to present-day Surkhandarya province of Southern Uzbekistan). Synthesizing the results of archaeological investigations conducted so far in the area, the main focus of this paper is on a synchronic and diachronic quantitative comparison of the settlement structure of the periods in question. The structural transformation is demonstrated by the changes in the settlement hierarchy and the distribution of settlement sites within the designated size categories (**Tab. 1**; see below). In addition to quantitative characteristics, the identified qualitative traits (especially positioning, elevation, and signs of fortification) are taken into account. By means of this evaluation, attention is paid to the continuity and discontinuity pattern and possible transfer of settlement strategies between the Achaemenid and Hellenistic periods.

Class	Site size	Number of sites
I	0.002–0.47 ha	208
II	0.49–1.3 ha	57
III	1.4–2.5 ha	30
IV	2.7–4.36 ha	22
V	4.9–7.8 ha	11
VI	8.4–12.5 ha	9
VII	14.0–20.0 ha	8
VIII	25.7–49.4 ha	8
IX	100.0–160.0 ha	3

Tab. 1: Site size classification according to Jenks optimization method. The calculation was performed on the whole dataset of sites throughout Bactria attributed to the Achaemenid and/or Hellenistic periods known to the author.

6 Stride 2005; 2007; Salvatori – Tosi eds. 2008; Buławka 2017; Mantellini 2018; Stančo – Tušlová eds. 2019.

7 The settlement structure and its transformation after the Greek conquest of Bactria has been – based on archaeological evidence – put in account only briefly as a part of broader general studies (Staviskiy 1977; Pugachenkova – Rtveladze 1990; Stride 2004) or a limited number of summarizing articles (Koshelenko – Serditykh 1987; Leriche 2007; Lindström 2021; Martinez-Sève 2021; Stančo 2021a).

The proposed study is based on the analysis of the compiled archaeological dataset[8] containing 544 sites from all over Bactria known to the author[9] dated from the Achaemenid and/or Hellenistic period. The evidence comes from archaeological investigations, both surface surveys and excavations of various extent, undertaken in the studied area since the first half of the twentieth century. Instead of the rather intuitive site typologies employed so far,[10] Jenks optimization method is employed in this study in order to achieve a more objective classification of the studied sites in terms of their size (**Tab. 1**). This basic and common cluster analysis method determines the best arrangement of values into a preselected number of different classes.[11] All the known sizes of the 356 sites (out of the 544 sites gathered altogether)[12] were used for the calculation, which allows for a good synchronic and diachronic comparison of both periods. Nine classes (I–IX) enable a more detailed classification of numerous sites of area up to 1 ha. These small sites represent in total more than 72% of the classified assemblage.[13] By its very nature, this classification is used as a working tool for the purposes of this study and does not represent any attempt to establish a new settlement typology at this point.

The aim of this paper is not to present a complete image of the historical settlement of Bactria with all its particularities, but to outline selected general trends and contribute to a better understanding of the Hellenistic period's settlement. The proposed comparison provides a clear illustration of an unequal settlement development in the two regions concerned and gives supporting evidence of a relatively high degree of structural continuity between the Achaemenid and Hellenistic eastern Bactria.

8 The dataset originates in the updated database employed in the author's master's thesis (Havlík 2018).

9 Throughout this article, a single area of past human habitation activity delimited in space (usually a single *tepa*) is considered a *settlement site*. Some of the sites considered a single settlement in the source literature are therefore in this study perceived as multiple sites. This perception does not contradict the assumption that these *sites* could at some point form a single settlement unit. However, to confirm such a hypothesis, further analysis is required.

10 See Staviskiy 1977, 44; Pidaev 1978, 17 (Kushan period); Koshelenko – Serditykh 1987 (Hellenistic period); Stride 2004, 68–69, 292–294. However, these typologies are based above all on site surface area, and usually apply terms such as 'a village' or 'a city' regardless of evidence of a particular function. See the criticism of such a functional attribution by M. Negus Cleary (Negus-Cleary 2013), who points out that – especially in Prehistoric and Ancient Central Asia – size and urban function of settlement are not necessarily related together.

11 This method is also known as 'Jenks Natural Breaks Classification Method'. Required 'natural' arrangement of values into different classes is achieved by minimization of each class's average deviation from the class mean, while maximizing each class's deviation from the means of the other groups (Jenks – Caspall 1971; Conolly – Lake 2006, 142).

12 Where the size of the settlement changes over time, the larger size was taken into account for the purpose of the calculation. Wherever possible, the site was measured using the GIS. The projected coordinate system WGS 1984 UTM, Zone 42N offers in this case insignificant deviations. Where the direct measurement was made impossible by the current state of preservation, published values were employed.

13 Sites of unknown size have been taken into consideration in graphs as well. 'Sites' identified as artefact scatters that indicate the presence of loci of activity or sites destroyed by subsequent activities also fall into this category (e.g., Tušlová 2019, 71–79).

LIMITS OF THE STUDY

Ancient Bactria extends into the territories of four present-day states (Afghanistan, Turkmenistan, Uzbekistan, and Tajikistan), which experienced different political and economic development as well as employing differing archaeological approaches. In view of that fact, the state of research differs remarkably in the individual regions: Archaeological investigations of eastern Bactria[14] took place in a rather sparsely populated, much better-preserved cultural landscape, where remains of past human activities were well distinguishable and where the prehistoric irrigation network was still partly in operation during the 20th century (Gentelle 1978). In Surkhandarya province in southern Uzbekistan, as well as in other parts of Soviet and post-Soviet Central Asia, archaeologists have often faced a landscape changed beyond recognition by years of mechanized agriculture intensification (see Stride 2004, 130–132; Mantellini – Berdimuradov 2019). The restructuring of fields and irrigation systems and the foundation of new settlements led to the destruction of many archaeological features, settlement sites among them, all over the Surkhandarya province lowlands. This destruction took place prior to the initiation of systematic extensive reconnaissance surveys in the 1960s–1970s (cf. Rtveladze 1974; 1976; 1987). This situation affects an archaeological image of the past occupation of the area in question and makes a statistical comparison of both regions rather complicated. On the other hand, the longstanding favourable political situation in Uzbekistan has allowed the activities of numerous archaeological projects in the last forty years when research in Afghanistan has been possible only under very difficult circumstances.[15]

There is a great qualitative difference between the evidence coming from particular sites: typical tepa sites (*tells*) are multi-period in their character as a rule. Only 27 % of the studied sites throughout Bactria are not superimposed by later (i.e., post-Hellenistic) occupation layers, while only 12.5 % of sites from the dataset were excavated to some degree.[16] This situation has a great impact on data validity and also the accuracy of chronological attribution. Surface surveys in Central Asia offer only rarely more precise dating than those at the level of archaeological cultures or wide historical periods. Sites contemporaneous in terms of material culture revealed by the survey may not necessarily have been occupied at the same time. The image of settlement development is therefore inevitably flattened.

Stratigraphical superposition poses a difficulty for this study also in terms of the estimation of the spatial extent of the studied sites and the assessment of their possible morphological traits. In the case of small sites with no signs of fortification, no major differences can be expected throughout the occupation span. However, in large multi-period sites, an appropriate appraisal of the character of their individual phases becomes problematic without an extensive excavation. Following Gardin's approach (Gardin 1995; 1998), in the case of multi-period sites where the precise morphology of a particular period has not been confirmed by an excavation to date, the characteristics of the current site were taken into account for the calculation.

Regarding the attribution of archaeological sites to the particular periods in question, it has already been discussed extensively (Francfort 2005, 316–324; Lhuillier 2018) that there have been many uncertainties with the precise identification of the 'Achaemenid' period within

14 Archaeological data on this sector are almost completely limited by the results of a survey led by J.-C. Gardin between 1974 and 1978. See, however, also Fischer 1961; 1967 and Kohl 1978.

15 See for example Stančo 2019, 29 for an evaluation of the progress in site recognition in Sherabad oasis during the last fifty years.

16 The degree of excavation stretches from trial trenching to uncovering the whole settlement. Remarkable differences can be observed, especially in the case of aged projects, or in the quality of particular excavations as well.

the conservatively developing local cultural complex of Yaz II–III (Middle to Late Iron Ages). Pottery assemblages of these phases were sometimes automatically and wrongly labelled as corresponding to the Persian rule in Central Asia (Lhuillier 2018, 258).[17] While according to the current state of research, the Yaz III phase definitely included the Achaemenid period (see the elucidating discussion in Lhuillier 2018, 258–260; cf. Mokroborodov 2015), pottery shapes of this phase were highly probably still in use even after the Seleucid takeover of the area (cf. Lyonnet 1997, 148–149; Lyonnet 2012). At this point, the only way to compare the Pre-Hellenistic settlement situation (i.e., the situation directly preceding the Greek rule in Bactria) with the settlement of the Hellenistic period for the purposes of quantitative analysis, is to confront the assemblage of sites yielding the material culture of the Yaz III phase[18] with those sites which yielded the material culture of the Hellenistic period. Well aware of the outlined precautions, the term 'Achaemenid period' is used throughout this study as corresponding to the Yaz III phase in terms of material culture.

With respect to the described limits, the ideas developed in this article should be understood as possible tendencies of the examined settlement transformation, reflecting the current state of archaeological research. The large-scale comparison of site assemblages as a whole within the wider chronological frame, employed predominantly throughout this study, indeed simplifies the highly complicated processes. Still, being aware of this fact, this approach has the potential to identify general trends in the past settlement strategies.

SECTOR II: VALLEYS AND PLAINS OF EASTERN BACTRIA

THE PRE-HELLENISTIC SETTLEMENT STRUCTURE

The so-called eastern Bactria (**Pl. 1/1**) consists of a group of plains and mountain valleys, the extent of which naturally delimits the individual settlement zones situated predominantly on the alluvial plains along the Panj left bank tributaries, including among others the Kunduz and Kokcha Rivers. In total, 78 sites were identified and attributed by B. Lyonnet (1997) to the Iron Age Phase III.[19] They are rather sparsely distributed on the irrigated plains and in the mountain valleys. Based on the presence of a series of small sites along the river streams flowing through the narrow valleys, a certain degree of regional-level interconnectedness can be supposed. An exceptionally dense settlement distribution emerges only on the plain of Dasht-i Qala, dominated by the fortified site of Kohna Qala near the confluence of the Panj

17 Ceramic material from a great proportion of the studied sites has not been revisited recently, nor even published at all, which can clearly influence the general image of the period's settlement considerably – a fact of which the author is well aware.

18 Cf. Masson 1959 and the Iron Age Phase III in Lyonnet 1997, 112–119. The original chronology of Masson was replaced in the recent past by a lower chronology in favour of a much larger timespan of Yaz I–III cultures (for a summary see Lhuillier 2018, 258–259).

19 The sites were gathered in accordance with the attribution of B. Lyonnet (1997, 102–119), who distinguished three-phase-based dating with Phase III roughly corresponding to the Achaemenid period, and not the broader two-phase-based dating proposed by Gardin (1998, 21–25). The discrepancy between the 68 or 70 sites attributed to Phase III by B. Lyonnet (1997, tab. XVI:2) and the 78 sites proposed for sector II in this article is due to the revised counting of sites, where – unlike the source – one single tepa corresponds to an individual site. Similarly, there is a discrepancy between the number of sites of the Hellenistic period. The final number also includes the results of the survey of P. L. Kohl (1978) and excavation of H.-P. Francfort (2013) in the Dasht-i Qala plain.

and Kokcha Rivers. The majority of the sites in sector II (see **Fig. 2**) are small, having an area up to 0.47 ha (class I; 39.7 %),[20] while there are 16 sites (20.5 %) exceeding 1 ha in size and only 7 sites (8.9 %) exceeding 4 ha (class V and above).

Within the identified Iron Age Phase III occupation, only a very small proportion (7 sites – 9 %) of sites bear signs of fortification in sector II.[21] All of them exceed an area of 4 ha. The two largest ones, Kohna Qala (ca. 30 ha) and Bala Hisar of Kunduz (ca. 29 ha), fall even into class VIII.[22] On the other hand, the two remaining large sites (Dasht-i Qala n° 448 and site n° 413: classes VII and VIII respectively) did not reveal any sign of fortification and seem to be in this period rather open villages or continuous settlement areas.[23] The seven fortified sites are located, each in a different plain or a mountain valley. The only exception is the smallest fortified site, Choq Tepe (1.7 ha; Gardin 1998, n° 485) located about 12 km from Bala Hisar of Kunduz. Being placed on dominant positions within each plain, the fortified sites seem to be situated rather aside from the settlement clusters or on its edges. Based on Gardin's data (Gardin 1995; 1998), this organization occurs in the case of Kohna Qala, Bala Hisar of Kunduz, and Kurgan Tepe in the Taluqan plain, while the settlements of Khwaja Hafiz, Kafir Qala, and Deh Nahr-i Jadid A do not seem to be accompanied by such a group of smaller sites at all.[24]

As mentioned above, the most numerous cluster of the Phase III period sites in this sector is located on the plain of Dasht-i Qala (see **Pl. 1/1**), where in total 28 sites flourished.[25] 27 unfortified sites are concentrated along the channel system, a part of which had been in operation already in the Bronze Age (Francfort 1989, esp. 57–58; Gardin 1998, 45–46), and which witnessed extensive development during the Iron Ages (Lyonnet 1997, 108–115; Gardin 1998, 45–46, fig. 3.9; Francfort 2013; Gardin 2001). This settlement area was situated virtually under the control of Kohna Qala, a semi-circular double-walled settlement with a citadel in the central part, located on the promontory just above the shore of the Panj River. The distance between the minor settlements and the fortified Kohna Qala, which is considered the administrative centre of the plain before the foundation of Ai Khanoum (Gardin 1998, 45–46; Martinez-Sève 2015, 22), stretches between 0.5 and 19 km.

20 The 28 sites of unknown size could be mostly characterised as the smallest. Predominantly, it is the case of sites marked by Gardin as *maison isoleé*, *fermé isoleé*, or *site amorphe* (see Gardin 1998, 41–45, fig. 3:2–3), which would make the two smallest classes an even bigger majority within the assemblage. The exception is site n° 499 near Ishan Tup (Gardin 1998, 80), a pottery scatter stretching over an area of ca. 16 ha corresponding to activities of an uncertain character.

21 Note that none of these sites have been investigated by excavations, and all of them were affected by a later occupation in some way. Gardin (1995; 1998), however, associated the fortification of these settlements with the Pre-Hellenistic periods of occupation.

22 In Pre-Hellenistic Bactria, only Bala Hisar of Balkh (ca. 100 ha within the circular wall) falls into class IX. See Lhuillier 2018, 261, 266 for possible extramural occupation in this period with references.

23 *Zone d'habitat* in the case of n° 413 (Gardin 1998, 42), *plusieur aire d'habitat continu (hameau ou village)* in the case of the site Dasht-i Qala 448 (Gardin 1998, 50).

24 Being one of six similar-sized unfortified sites distributed linearly along the ancient water channel (Gardin 1998, 83, fig. 10:24), the site of Choq Tepe differs again from the general pattern.

25 Counting together 26 sites mentioned by B. Lyonnet (1997, fig. 37, tabl. XVI(2)) and tepas n° 106 and 111 excavated by H.-P. Francfort in 1977 (Francfort 2013, 159–161).

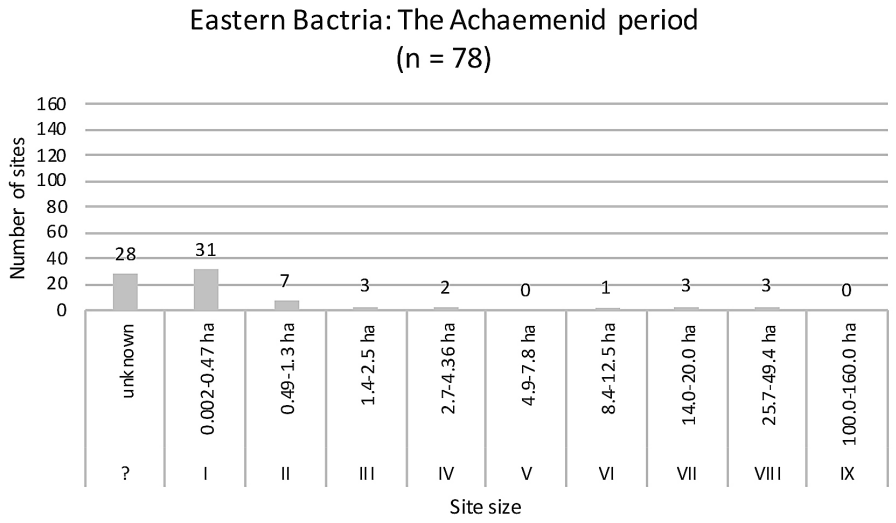

Fig. 2: Histogram showing the sizes of sites in sector II (eastern Bactria) in the Achaemenid period. Based on the attribution to the Iron Age Phase III (Lyonnet 1997).

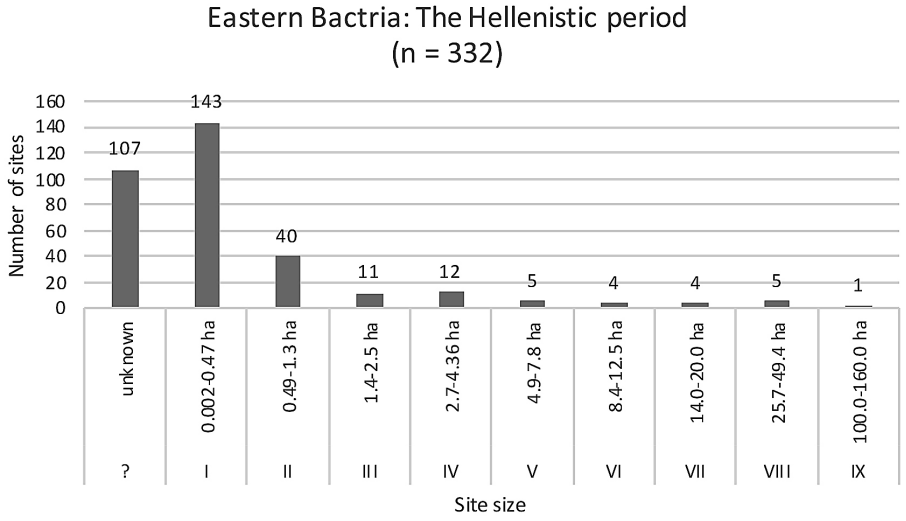

Fig. 3: Histogram showing the sizes of sites in sector II (eastern Bactria) in the Hellenistic period.

SETTLEMENT TRANSFORMATIONS IN THE HELLENISTIC PERIOD

Unlike the elaborate chronology of Ai Khanoum, which has been recently reworked and modified in favour of a later, Seleucid, dating of its foundation as a city (Lyonnet 2012; 2013),[26] the nature of the data coming mainly from surface surveys does not allow one to outline settlement dynamics within the Hellenistic period in great detail (Lyonnet 1997, 148–149). The sites attributed by Gardin's team to the Hellenistic period (**Pl. 1/3**) belong rather to the

26 According to Lyonnet (2012, 158–159), an earlier Greek presence, especially in the area of the citadel, cannot be ruled out, however not in the extent and character of the later city.

Graeco-Bactrian period – most likely after the eastern campaign of Antiochus III – which is indicated by the presence of grey-black ware (Lyonnet 1997, 148; cf. Lyonnet 2012; 2013; Martinez-Sève 2021, 229), and evidence of settlement processes related to the end of the fourth century BC is missing or remains only badly detectable at all.[27] According to Lyonnet, it is highly improbable that the whole region was deserted after Alexander's conquest. Instead, as already mentioned above, she formulated the hypothesis of a continual usage of the traditional local pottery simultaneously to the newly introduced shapes in the Hellenistic period (Lyonnet 1997, 149), which makes a part of the settlements of this period virtually invisible for archaeologists.

Concluding the results of the survey, it is possible to observe a continuity with the Hellenistic (Graeco-Bactrian) period in the case of 46 of the 78 sites distinguished for the preceding period (**Fig. 6**; **Pl. 1/2**). At some point between the end of the fourth century and the course of the third century BC, 32 sites (41 %) were probably abandoned. Half (16 sites) of the abandoned sites fall under the smallest class of size up to 0.45 ha, or under the category 'unknown size'[28] (12 sites; 37.5 %). There is only one fortified Phase III site, where the occupation continuity is most probably broken: Khwaja Hafiz A (Ball 2019, n° 594A; Gardin 1998, n° 546). The other fortified sites of the preceding period appear to remain in function in some way. The settlement clusters in their vicinities were affected only partly by this abandonment (cf. Gardin 1998, 42, 78–79). Material collected by Gardin's team in the most extensively inhabited settlement zones (i.e., north of Kohna Qala and north of Kunduz) could indicate there an unbroken continuity of occupation (cf., Lyonnet 1997, fig. 37–38; Gardin 1998, 42–44, 78–79, fig. 3.9–3.10, 10.22). On the other hand, the most significant abandonment was observed by Gardin in the case of rather sparsely distributed sites in the valley of Taluqan, along the Rud-i Shahrawan, or on the plain of Imam Sahib. In these areas, however, new sites flourished nearby in the Hellenistic period (Gardin 1998, 68–71).

During the Graeco-Bactrian period (**Fig. 3**; **Pl. 1/3**), this region witnessed a rapid increase of both settlement density and extent of the settled territory, which has already been well outlined by the French archaeologists working in the area (Gardin 1998, esp. 112–114, 162–163; Francfort 2013, 177; cf. Martinez-Sève 2021, 227–235). In terms of number, the increase in settlement sites is breath-taking. Instead of the 78 sites of the preceding period, more than four times as many Hellenistic period sites have been recorded. In total, 332 individual sites scattered across eastern Bactria. However, more than half of these sites[29] are concentrated on the plain Dasht-i Qala, in the vicinity of Ai Khanoum. This 'carpet settlement' consists mostly of very small sites interpreted by Gardin usually as isolated houses and building clusters (*maisons isolées*, *groupes de maisons*), or less frequently as farmsteads or isolated hamlets (*fermes ou hameaux isolés*),[30] which characterises the prevailing nature of the settlement landscape sprawling between several larger, usually fortified settlements. However, it should be stressed (cf. Gardin 1998, 9–14), that three full seasons (1974–1976) were devoted solely to the survey of Dasht-i Qala plain, while a many times wider area was surveyed within only two seasons (1977–1978). This fact inevitably leads to a bias in favour of the immediate Ai Khanoum vicinity.

27 Material identified with an earlier phase of the Hellenistic period was – besides Ai Khanoum – detected only in the case of site n° 34 on the plain of Archi (Lyonnet 1997, 148).

28 Cf. footnotes 13 and 20.

29 In total 173 sites, counting together all the sites described by Gardin (1998, 41–45, fig. 3:10) including sites of extramural 'semi-rural' zone C of Ai Khanoum (Gardin 1998, 42, fig. 3:4A).

30 In the case of the majority of these sites, information about their precise size is missing (cf., Gardin 1998, 42–43).

In the Graeco-Bactrian eastern Bactria, only 24.7 % of sites exceed the size of class I (up to 0.47 ha), while classes V–IX (4.36 ha and above) represent only 5.7 % of sites in terms of number. The same as in the preceding occupation phase, size classes I and II (up to 1.3 ha) are the prevailing group within the settlement as a whole: These two classes represent 55 % of sites in terms of number. In Lyonnet's Phase III, it accounts for a very similar value, 48 %. When counted together with sites of unknown size, this large group accounts in total for 87 % of the Hellenistic period sites in terms of number. For Iron Age Phase III period sites, it is in total 84 % (see **Fig. 7**). The similarity of proportional representation in the two subsequent periods is remarkable, and despite the enormous (more than fourfold) increase in the number of sites, it could highly probably give evidence for a functional continuity of the eastern Bactrian settlement (see below).

Besides this observation, for the first time in eastern Bactria, a settlement exceeding 100 ha (i.e., class IX) emerges (cf. Gardin 1998, 112–113, 144). The intramural area of Ai Khanoum covers 160 ha, while the area of extramural zone A ('urban') covers approximately the same extent, and zone B ('semi-urban') stretches across ca. 300 ha. The total expanse of both intramural and extramural parts of the city thus surpasses 620 ha. The adding of a third, rather sparsely occupied, zone (C – 'semi-rural'), almost doubles the total urban area (Gardin 1998, 42, fig. 3:4A).[31]

Besides Ai Khanoum, 18 other fortified settlements were occupied in the Hellenistic (Graeco-Bactrian) period, which represents 5.7 % of the total number, a slightly decreased proportion compared to the preceding period (i.e., 8.9 %). A considerable part (11 of 19 sites) of fortified sites falls under larger size classes (V–XI, i.e., sites above 4.36 ha), 5 of them exceed even 20 ha (classes VIII–IX). In addition to the six Iron Age Phase III period sites, where some kind of Hellenistic period activities can be supposed, 13 new fortified settlements emerged, such as the already mentioned Ai Khanoum on the plain Dasht-I Qala, Kafir Qala, Kunsay, and Chim Kurgan on the plain Dasht-i Archi, Ishkamesh Bala Hisar in the Ishkamesh region, or Aliabad south of Kunduz.[32] These settlements extended the already functioning network of fortified central places (cf. Gardin 1995; Gardin 1998, tabl. 18), set up on the irrigation system developing gradually from the Early Iron Age (Gentele 1989; Lyonnet 1997, 112–115, 150–152; Gardin 1998, 109, 111; cf. Martinez-Sève 2015, 21; Martinez-Sève 2021, 222, 227). Moreover, more than half of the newly established fortified sites are located on the places occupied in the earlier periods, either Bronze Age or earlier phases of the Iron Age, which even more emphasize the remarkable longstanding continuity of land use strategies in eastern Bactria. Evidence of continuity is also represented by the developed irrigation system, which in the eastern Bactrian plains was taken over and augmented in the Hellenistic period, apparently to maximize its agricultural potential exploited by newly enlarged rural settlement agglomerations (Gardin 1998, 109–114).

As mentioned above, in terms of spatial distribution, two general phenomena occur in eastern Bactria: the increase of settlement density and the extension of the settled area. The density increase is significant especially in the vicinity of the newly founded Ai Khanoum, which seems to be an attraction point, towards which the small settlements gravitated (Gardin 1998, 46, 112–114). This 'attraction' is especially well visible on the two river plains situated along the stream of Amu Darya to the South-West and North-East of Ai Khanoum, i.e., the

31 Gardin gives slightly lower values. The actual area was counted in the GIS based on his description and sketches.

32 See Ball 2019, nºs 487, 933, 209, 447, 29; Gardin 1998, nº 38, 47, 9, 398. On Aliabad (Tahari Tepe) see Kohl 1978, 68–71.

plains Dasht-i Archi and Dasht-i Qala, where – in terms of number – altogether 69 % of the settlement sites of eastern Bactria (in total 222) are located. The latter, occupied by 173 sites[33] (52.1 % of the sites in eastern Bactria in terms of number) can reasonably be considered a *chora* of Ai Khanoum (Gardin 1998, 112–113, fig. 3:2, 3:3, 6:15; cf. Martinez-Sève 2021, 227–229).

The extension of the settled area occurs in the territories occupied already in the preceding period, such as the mentioned river plains. However, especially noticeable is the colonization of territories occupied so far only sparsely (e.g., the valleys of Rustaq, Kalafgan, and Farkhar), or even those probably unoccupied in the Phase III period.[34] This is the case of the Hindukush valleys – the valley of Ishkamesh (Gardin 1998, 101), Baghlan (Ball 2019, n° 148), and Aliabad (Kohl 1978, 68–71; Ball 201, n° 29). Based on Gardin's data (Gardin 1998, 85–88), areas to the west of the Kunduz River mouth to the Amu Darya appear to be settled for the first time in the Hellenistic period (Gardin 1998, 85–88).

SECTOR IV: OASES OF SURKHANDARYA

THE PRE-HELLENISTIC SETTLEMENT STRUCTURE

The western part of northern Bactria witnessed a different scheme of settlement transformation. Gardin's *Secteur IV* corresponding to the Surkhan Darya and Sherabad Darya basins, is delimited by the surrounding mountain ranges and the Amu Darya River on the south (Gardin 1985, 39).[35] In this sector, 55 settlement sites were attributed to the Yaz III period (**Fig. 4**; **Pl. 1/4**). Among this total number, smaller, most likely unfortified sites of up to 0.5 ha (20 sites of class I) clearly predominate. The majority of 22 sites of unknown size would highly probably come under the smallest classes as well.[36] Only two sites exceed 4 ha (Khaytabad Tepa; class VI, and Jandavlat Tepa; class V; See Pugachenkova – Rtveladze 1990, 25; Leriche 2007, 128; Stančo 2018, 179).[37] Among this site assemblage, there is evidence of a fortification wall in the case of 12 sites[38] (21.8 %), most of which belong to the largest classes present in this sector (classes III–VI; see **Fig. 4**).

33 Including 22 sites within the *semi-rural* zone C of Ai Khanoum (Gardin 1998, fig. 3:4A).

34 Cf. attribution of sites in particular valleys in Lyonnet 1997 and Gardin 1998. With the exception of the valley of Baghlan and Ishkamesh valley proper, where the earliest occupation is dated to the Hellenistic period (Ball 2019, n° 148; Gardin 1998, 101), there is certain evidence for the occupation of these valleys in the Iron Age in general (i.e., ca. 1500–330 BC) without more precise chronological clues. However, sites dated with certainty to Phase III are – in comparison to the Hellenistic period – distributed only very sparsely in these areas.

35 This area roughly corresponds to the present-day Surkhandarya province in southern Uzbekistan, except for the areas to the east of the Babatag mountain range.

36 Cf. footnotes 13 and 20. See for example Stride 2004, n° 541, n° 595, n° 601; Stančo 2018, 178–182.

37 The site of Kyzyl Tepa, situated in the upper Surkhandarya basin, was until recently considered the largest settlement of the Achaemenid period (Sagdullaev 1987; Pugachenkova – Rtveladze 1990, 28–29), however, according to the results of a current excavation of the site and its revised dating (Wu – Sverchkov – Boroffka 2017; Wu 2019, 198–204), the extent of the settled area in the Achaemenid period did not considerably exceed the area of the citadel, while the lower 'town' of the settlement was formed as late as in the Hellenistic period.

38 Most of these sites have been investigated by varying degrees of excavation. Only in the case of Chigatay Tepa and Navruz Tepa (Stride 2004, n° 411, 528) the data comes solely from a surface survey.

The general density of the site distribution enables a certain level of interconnectivity at the regional level (Wu 2018, 210–211). While some rather isolated sites occur in the wide western foothill steppe belt of Kugitang Tau and Baysun Tau (cf. Rtveladze 1975, 265; Rtveladze 1987, 38–39; Sverchkov 2005a, 13–14; Stančo 2016, 81–83; Mokroborodov 2021) and on the south, along the right bank of the Amu Darya (see below), several closely clustered coherent groups emerge on the alluvial plains of the Sherabad Darya (cf. Stančo 2019, 357–361) and of the upper Surkhan Darya (cf. Stride 2004, 291), i.e. in lowland areas, which offer suitable conditions for agriculture (Stride 2007, 105–107). As has been pointed out by Stančo or Wu (Stančo 2018, 178, 184–186; Wu 2018, 207–208), in the case of Jandavlat Tepa and Kyzyl Tepa, a similar dispersal pattern occurs, characterised by a larger fortified centre surrounded by a certain number (twelve in the vicinity of Kyzyl Tepa and six around Jandavlat Tepa) of smaller unfortified settlements (farmsteads?), mostly of size class I. This patterning may also be repeated in the case of the surroundings of Dunyo Tepa,[39] however, there are no traces of fortification of a possible central settlement at all (Stride 2004, 175). It has been described above that in eastern Bactria a similar trend can also be distinguished. On the contrary, this kind of settlement hierarchy is not so apparent in other agglomerations, such as in Bandykhan, where the settlement group consists of two fortified sites similar in size, one is a monumental edifice, highly probably of cultic purpose (Kindyk Tepa, see Mokroborodov 2018), and the other, probably a much smaller settlement, has been destroyed by ploughing (Rtveladze 1976, 95–101; Sverchkov – Boroffka 2007).

An even sparser pattern occurs in the middle and lower Surkhan Darya basins and along the right bank of the Amu Darya. During this period, Khaytabad Tepa (class VI; 10.8 ha. See Leriche – Annaev 1995, 11–13; Šajdullaev 2002, 271–273; Houal 2021, 23–25, 35) seems to be isolated along the almost 100 km long stretch of the river. The lower Surkhan Darya basin was reportedly occupied only by Talitagora, ca. 30 km south of Khaytabad Tepa (Annaev 2018) and a nameless settlement of uncertain extent in present-day Termez (Shaydullaev – Annaev 1989). Sites along the right bank of the Amu Darya such as Shor Tepa (Pugachenkova 1987; Rtveladze 2001) are distributed separately, isolated[40] at relatively large distances (6–12 km as the crow flies).

SETTLEMENT TRANSFORMATIONS IN THE HELLENISTIC PERIOD

At some point during the Hellenistic period, the clearly consolidated and relatively interconnected settlement described briefly above went through considerable changes, defined above all by a massive abandonment of the so far occupied settlements. This is the same as in the case of eastern Bactria, it is hard to determine precisely the duration of this process or associate this abandonment for certain with particular historical events (see below). Evidence for occupation continuity between the supposedly Achaemenid (Yaz III) and the Hellenistic (or rather Graeco-Bactrian) periods was revealed only in the case of 5 sites (i.e., 9.1 %), where it is possible to observe strata of both phases (cf. **Pl. 1/5–7**). In a similar way as in eastern Bactria, this settlement decrease affected predominantly smaller and unfortified settlements. In sector IV, however, this abandonment is even vaster, representing in total 90.9 % of the sites

39 According to Stride (2004, 175), the original area of the site of Dunyo Tepa could be about 3 ha. Because of agricultural activities, it is now possible to trace only two, rather small, mounds. Four pottery scatters were detected at a distance of up to 3 km.

40 Except for the two closely neighbouring sites of Kuchuk Tepa and Pschak Tepa on the south-east of the studied area (Askarov – Albaum 1979; Askarov 1982).

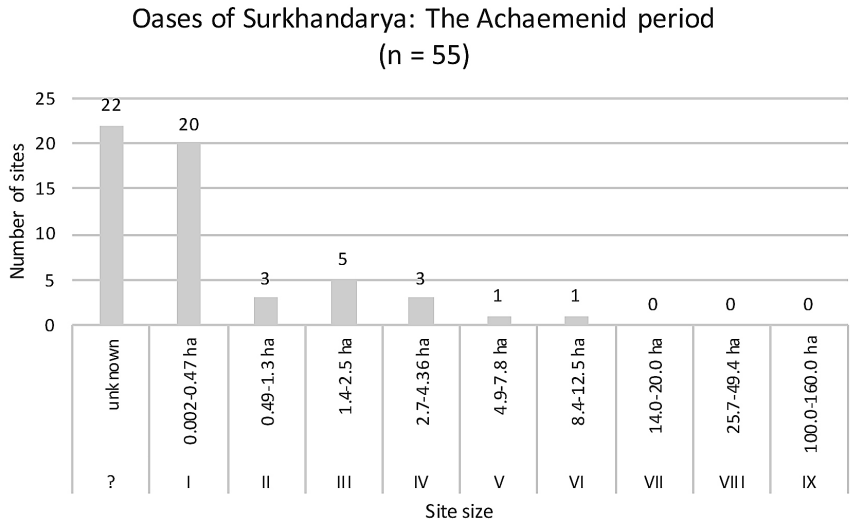

Fig. 4: Histogram showing the sizes of sites in the sector IV (oases of Surkhandarya province) in the Achaemenid period. Based on the attribution to the Yaz III period.

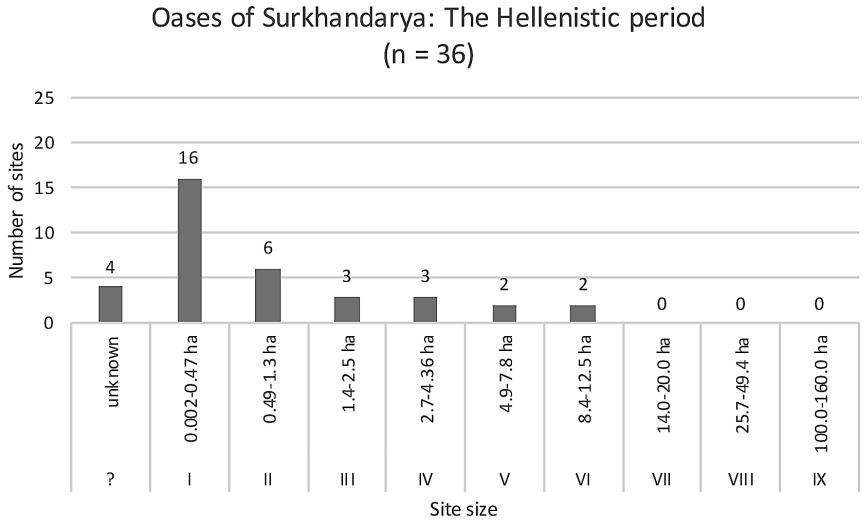

Fig. 5: Histogram showing the sizes of sites in the sector IV (oases of Surkhandarya) in the Hellenistic period. Sites where only the Early Hellenistic occupation is attested were excluded from the calculation.

recognized for the Yaz III period (see also **Fig. 6**). Settlement agglomerations consisting of small sites, described briefly above, almost completely disappeared. By contrast, the largest sites, Khaytabad Tepa and Jandavlat Tepa remained occupied continuously or were reoccupied after a certain period of abandonment (Šajdullaev 2002, 271–273, 326; Stride 2004, 313; Leriche 2013, 139–140).[41]

41 The Hellenistic strata of the stratigraphic trench of Jandavlat Tepa still await a proper examination (L. Stančo, personal communication, August 15, 2019), and it is therefore currently impossible to

THE EARLY HELLENISTIC SETTLEMENT PATTERN? A SURVEY

Compared to eastern Bactria, systematic excavations conducted in the area of present-day Surkhandarya province shed more light on the occupation attributed to the so-called Early Hellenistic period, that is, the late 4th century – the first half(?) of the 3rd century BC. In the recent past, the knowledge on the material culture of this period has been enhanced (Mkrtychev – Bolelov 2006; Sverchkov 2006; 2008; Lyonnet 2012; 2013; Dvurechenskaya 2015) and – although still debatable – the chance of its more precise definition has been raised considerably. However, there is still much controversy surrounding its synchronisation and absolute chronology at the level of individual sites. In the case of many sites, ceramic material is still only insufficiently presented in the form of preliminary reports and studies of a limited extent (see, e.g., Pidaev 1987; Wu – Sverchkov – Boroffka 2017) or even waits for this kind of publication (see, e.g., Abdullaev 2001; Dvurechenskaya 2018b; 2019b). In the latter case, our knowledge is dependent solely on the opinion of a particular archaeologist. Lyonnet's (1997, 149) hypothesis on the possible use of unaltered traditional pottery simultaneously with the introduction of new shapes in selected (garrison?) settlements (see above) is definitely valid also for the Early Hellenistic northern Bactria (cf. Rtveladze 2002, 134). At this point, it would be apparently misleading to present the list of sites where the 'Early Hellenistic' material was identified (**Pl. 1/5**) as the image of the 'transitional period' settlement, hence the following lines should be understood as a brief survey on the current state of research.

A 'transitional period' assemblage was identified in northern Bactria as early as in the 1960s at the eastern mound of Khalchayan called Khanaka Tepa (upper Surkhan Darya basin) by G. A. Pugachenkova (1966, 30–33, 241). She noted strong relations of the material coming from the lowermost layers in several stratigraphic trenches to the late phases of the Iron Age, however, she also noticed considerable innovation in terms of pottery forms and production technology. Associating this material to the period subsequent to Alexander's campaign and to the time of Seleucid rule in Central Asia, she dated the assemblage to the turn of the 4th and 3rd centuries BC. The excavation results indicate that this settlement was most probably occupied throughout the Hellenistic period in the full extent of the mound (9.1 ha; class VI). Pugachenkova did not mention the presence of a fortification in the Hellenistic period, nor the Early Kushan period, which, much better explored – is defined by several free-standing buildings, above all by the uncovered palatial edifice, which was unfortified by its nature (Pugachenkova 1966, 138–143).

Regarding locations where occupation followed on the preceding period, according to recent excavations (Wu – Sverchkov – Boroffka 2017 *contra* Sagdullaev 1987; Šajdullaev 2002), after the destruction of the citadel of Kyzyl Tepa by fire, the settlement was enlarged at the end of the 4th century by a hastily built fortification wall encircling an area of ca. 12 ha. Only few remains of architecture were detected within the walls and the occupation – whose function was probably very different from that of the previous phase[42] – appears to prolong its duration only for a short period of time in this form (Wu – Sverchkov – Boroffka 2017,

distinguish a possible Early Hellenistic occupation of the site. For preliminaries on earlier strata, see Abdullaev 2018. Regarding Khaytabad Tepa, according to Leriche (2007, 128, 132; Leriche 2013, 139–140), French-Uzbek excavations of the site revealed a period of abandonment after the destruction – attributed to Alexander the Great's conquest – and subsequent reconstruction of the settlement in the Hellenistic period. Pottery analysis by Sh. Shaydullaev (Šajdullaev 2002, 319) proves the presence of material attributed to what he calls the transitional period. However, this attribution does not necessarily indicate an Early Hellenistic occupation of the site (cf. below).

42 The destruction of the citadel was tentatively attributed by the excavators to the activities of Alexander the Great's army. The newly established enlargement is supposed to be a temporary camp of

315–317; Wu 2018, 196, 199–200). As far as the satellite settlements of Kyzyl Tepa, abandoned during the Hellenistic period (see Wu 2019) are concerned, in the case of the excavated site (farmstead) of Kyzylcha 6 (Sagdullaev 1987, 29–30), both B.A. Sagdullaev (1980) and Sh.B. Shaydullaev (Šajdullaev 2002, 326–327) pointed out the similarity between the ceramic material discovered at the site and the earliest phases of Khanaka Tepa. However, neither of them associated this phase directly with the post-Achaemenid occupation.[43]

The supposed Achaemenid period occupation in the area of the Old Termez citadel (Pidaev 1987, 87–88) has in the recent past been re-evaluated. Currently, the dating of its foundation during the Early Hellenistic period, under the early Seleucids, is accepted (Pidaev 1991; Pidaev – Leriche 2007, 185–186; Leriche 2010, 157). It has already been pointed out by the excavators that the fortified area of the Hellenistic period Termez did not exceed 1 ha, thus being a rather small fort (class II).[44] Of similar character in terms of both dispositions and position by the river seems to be the site of Kampyr Tepa. The Early Hellenistic occupation phases were identified within the citadel area (0.4 ha; class II) of the later Kushan period town (Mkrtychev – Bolelov 2006; Bolelov 2013) and over the ravine in the eastern part of the lower town ('Living complex'. 0.35 ha; class II. See Dvurechenskaya 2015). According to E.V. Rtveladze and his team, the foundation of this small, fortified settlement situated near the ford over the Amu Darya can be attributed even to the late 4th century BC, suggesting its possible connection with Alexander the Great's campaign (Mkrtychev – Bolelov 2006; Bolelov 2013; Rtveladze 2017a; 2017b), when Kampyr Tepa hypothetically took over the function of the Achaemenid period site of Shor Tepa at a distance of ca. 900 m (cf. Rtveladze 2017b, 21, 43). The earliest phase is evidenced only by the two discovered pit-houses, while the second phase, which can be considered a fort, Bolelov dates to the end of the 4th century – the first half of the 3rd century and relates it to the activities of early Seleucid rulers (Bolelov 2013).

Even smaller (0.1 ha) is the fully excavated fortified part of the site of Kurganzol, situated in the piedmonts of the Baysun Tau mountain range. Together with the adjoining unfortified settlement, the area of the settlement exceeds 1 ha (class II). Based on the ceramic study (Sverchkov 2006; 2008) and the application of dendrochronological and radiocarbon dating (Heussner – Boroffka 2013), the establishment of the fort was pinpointed by L. M. Sverchkov to the very moment of the Graeco-Macedonian conquest of Bactria and proclaimed to be a foundation of Alexander the Great. Ceramic analysis revealed that the stratigraphy of the site was formed by several phases of occupation covering with certain interruptions a timespan between the 4th and 2nd centuries BC. This interpretation was later reassessed by its author in favour of a much shorter occupation of the site, not exceeding 20 years after Alexander's campaign (Sverchkov 2013, 113–120). The Early Hellenistic dating of the site in general is widely accepted (Lyonnet 2012, 117; Dvurechenskaya 2015), however the proposed dating of its foundation and the revised time span of its occupation has been contested (Koshelenko 2015, 207–208; Dvurechenskaya 2015, 196; Stančo 2021a, 266; Stančo 2021b).[45]

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the conquerors or an emergency refuge of local inhabitants (Wu – Sverchkov – Boroffka 2017, 317; Wu 2019, 200). See also footnotes above.

43 Shaydullaev identified the corresponding occupation phase also in the case of two other sites in the valley of Sukhandarya province, i.e., Khaytabad Tepa and a no name site in the area of present-day Termez city. However, he gives preference to the late Achaemenid dating of this pottery complex (Šajdullaev 2002, 326–327).

44 The French-Uzbek research in the area, however, suggests a much larger extent of occupation – or at least past activities – located *extra muros* (Leriche 2010, 160, fig. 10).

45 See Stančo 2021a, 266 for new numismatic evidence from the vicinity of Kurganzol, which could indicate activities contemporaneous or later to the rule of Antiochus I. In the view of the existing

K. Abdullaev (2001, 28–29) briefly mentioned a late 4th century BC date also for the lowest strata of the stratigraphic cut at Payon Kurgan (0.9 ha – class III) located not far from Kurganzol. Leriche (2013, 140–141) proposed the foundation of this highly probably fortified settlement in general to the Seleucids and related it functionally to Kurganzol as a part of a line of control points along the road to Sogdiana (see also Sverchkov 2005a, 15; Sverchkov 2005b, 57). The third of the fortified sites in this area is Uzundara (Dvurechenskaya 2019b), located on the Susiztag ridge overlooking the piedmont steppe valleys where both Kurganzol and Payon Kurgan are located. N. T. Dvurechenskaya (2018b; 2019a) proposed dating its foundation to the end of the 4th century – early 3rd century BC. Again, it appears that it was precisely the early Seleucids who were responsible for the initiation of its construction as evidenced not only by the ceramic material dated by Dvurechenskaya (2018b; 2019a) from the end of the 4th century – early 3rd century BC, but also by the discovered coins of Antiochus I (Dvurechenskaya 2019b; cf. Stančo 2021a, 266–269, fig. 11.11).

Regarding the very limited evidence of unfortified settlements attributed to the Early Hellenistic period, V. V. Mokroborodov (2007; 2021) excavated a farmstead at the site of Gisht Tepa (0.1 ha; class I) in the Pashkhurt valley of the Kugitang foothills. While the first phase is attributed to the late 4th century BC, the second phase of this unfortified settlement is said to be contemporary to the early 3rd century BC material of Kampyr Tepa and Old Termez (Mokroborodov 2021). According to Stride (2004, 175, 186, n° 432, 602), there are two more presumably unfortified sites (Surpa Tepa II and Qira Qira) located in the lowlands of the Upper Surkhan Darya valley, which could be attributed to the 'Early Hellenistic period' based on the pottery assemblage collected by surface survey.

SETTLEMENT STRUCTURE OF THE HELLENISTIC PERIOD

The image of the settlement situation of the Hellenistic period as a whole (**Pl. 1/7**) indicates in the studied part of northern Bactria a clear distinction from the situation of the Yaz III phase. In total, 36 sites of different sizes were recognized, that is, 65.5 % in terms of number compared to the preceding period. Only at 5 (13.8 %) of them is it possible to observe a general continuity between the Achaemenid/Yaz III and the Hellenistic (Graeco-Bactrian) periods: Khaytabad Tepa (Leriche – Annaev 1995, 11–14; Leriche 2013, 139–140), Jandavlat Tepa and Yalangoyok Ota Tepa in its vicinity (Stančo 2019, 362–364), Talitagora in Termez district (Annaev 2018), and the fortified settlement of Dabil Kurgan (see Mokroborodov 2021),[46] all of them located in the southern part of Surkhandarya province. However, the rest of the sites were founded on new, though, not always distant locations.[47]

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evidence for the presence of material with much later analogies than of the Early Hellenistic period (Sverchkov 2006; Sverchkov 2008, 149–164. Cf., Houal 2021, 117), Kurganzol is in this study considered as occupied also after the Early Hellenistic period.

46 According to S. Bolelov, the site was abandoned after the Greek conquest (archaeological material does not witness the occupation of the late 4th/early 3rd century BC) and resettled no earlier than during the 3rd century BC, presumably in the Graeco-Bactrian period (Bolelov 2004).

47 It has already been stressed (Rtveladze 2002, 136; Stride 2004, 313; Rtveladze 2017b, 21; Stančo 2019, 364), that in several locations it is possible to observe a certain trend in the founding of the new Hellenistic period settlements in the close vicinity of deserted sites of the preceding period, such as in the case of Shor Tepa – Kampyr Tepa, Talashkan Tepa I – Talashkan Tepa II, the Yaz III period sites of Bandykhan and the newly founded site of Yalangtush Tepa (cf., Sverchkov – Boroffka 2007, 129).

The settlement situation differs from the Achaemenid period not only in terms of the number and general location of settlement sites, but also in the way of their distribution, the probable character of the individual sites, and the settlement hierarchy in general. The most distinctive phenomenon is the decline of coherent settlement clusters attested in the preceding period. The settlement structure transformed into a rather nucleated pattern, with relatively large distances (usually no less than 5 km) between individual sites. This phenomenon occurs not only in the foothill area, where settlement distribution follows the watercourses of minor rivers, but also in well-irrigable lowland areas. A continuation of the trend in settlement clusters could be assumed in the Sherabad oasis in the vicinity of Jandavlat Tepa. In the Hellenistic period, in total six smaller unfortified (class I–III) sites flourished at distances of up to 9.6 km[48] as the crow flies from the supposed oasis centre (see Stančo 2019, 362–363). Despite this obvious sparse distribution, the presence of such a cluster makes Sherabad oasis, as far as we know, the most densely occupied part of sector IV in terms of number, which only underlines the general low settlement density of Hellenistic period northern Bactria.[49]

In the upper Surkhan Darya basin, two new centres emerged at a distance of about 25 km from each other: Khalchayan and Dalverzin Tepa. In addition to Khalchayan – Khanaka Tepa (9.1 ha; class VI), the second mound, Karabag Tepa (3.6 ha; class IV), was occupied during the Hellenistic period at a distance of no more than 0.8 km. The extent of the Hellenistic period Dalverzin Tepa probably did not exceed the area of the citadel (4.9 ha; class V) of the later vast Kushan town (Pugachenkova – Rtveladze 1978, 12–19; Pugachenkova – Rtveladze 1990, 69–7), however, Hellenistic pottery was detected in multiple places in the 'Lower Town', even in the area of the later city walls. The character and precise extent of the presumably unfortified settlement in this area remain unclear (Pugachenkova – Rtveladze 1978, 26–29). It is possible that Dalverzin Tepa took over the function of both Kyzyl Tepa and Dunyo Tepa at distances of ca. 12.5 and 7 km, respectively, after their abandonment at the beginning of the 3rd century. Since the nearest site situated downstream is Khaytabad Tepa, at a distance of around 70 km, Dalverzin Tepa seems to demarcate the southern boundary of the Upper Surkhan Darya basin in the Hellenistic period. These three well-defined, rather large settlements were accompanied by only three other sparsely distributed smaller ones (classes I–II) in this area.[50]

A comparison of the settlement hierarchy (**Fig. 5**) with the preceding period clearly suggests a certain trend of hierarchy 'equalization', caused in region IV by a significant decrease in the number of small sites, however, also by a slight increase in the number of larger settlements of classes V–VI. The overall settlement image is also transformed by a parallel proportional increase of sites, where signs of fortification were recognized (cf. Leriche 2007, 133; Leriche – Rtveladze – de Pontbriand 2014, 234). In total, there are 17 settlements in this region, which were presumably fortified during the Hellenistic period, most of them inves-

48 On the Talashkan Tepa II at a distance of ca. 16.5 km, considered as a 'border fort' of the oasis taking over the function of Talashkan Tepa I, see Stančo 2019, 364.

49 However, as an exception, pairs of sites occur elsewhere, consisting of one larger site and one rather small 'satellite' site in its vicinity, such as in the case of the citadel of Old Termez and the ca. 1 km distant site of Chingiz Tepa (Leriche 2010, 157), a possible interconnection of which indicates the presence of a pottery scatter between them, on the location of 'Termez – Camp Militaire' (see Stride 2004, n° 131e). A similar constellation occurs in the case of Khanaka Tepa – Karabag Tepa at Khalchayan (Pugachenkova 1966), or Dalverzin Tepa – Jurabay Tepa (Stride 2004, n° 583). This situation could indicate an originally more complicated pattern in lowland areas, the remains of which are not preserved until today.

50 Jurabay Tepa (Stride 2004, n° 583), Kurgan Tepa (Stride 2004, n° 285), and Surpa Tepa II (Stride 2004, n° 432).

tigated by excavations. This proportion (47.2 %) is more than double that of the Achaemenid period (21.8 %).

Besides the lowland locations, where fortified settlements already occurred during the 4th century BC, new walled settlements emerged at several strategic locations such as crossings of the Amu Darya in Old Termez and Kampyr Tepa (on the crossing points, see Rtveladze 2002, 39–66), or mountain valleys of the eastern Kugitang Tau and Baysun Tau piedmonts. It seems that these hilly areas were occupied only very sparsely during the Achaemenid period. Given the fact that the foothills offer only limited potential for irrigated agriculture (cf. Stride 2004, 137, 147), it is possible that exploitation of this region in the form of seasonal pastoralism left only limited or no traces. Outside the Pashkhurt valley,[51] only two Yaz III/Achaemenid period sites were reported. Rather small settlements of uncertain extent (Sultankul Tepa and Mazar Tepa) were located along the upper stream of the Sherabad Darya, nevertheless, Sverchkov (2005a, 13–14) does not mention the Hellenistic occupation of either of them.

During the Hellenistic period, at least ten newly established sites flourished in the piedmonts (cf. Stančo 2021a). Besides small, fortified settlements with a surface area of up to 1 ha which can also be identified as forts or fortresses, such as the already mentioned Kurganzol or Payon-Kurgan (only Uzundara is exceptionally large with its walls encircling ca 2.2 ha; cf. Dvurechenskaya 2019b), and the Iron Gates fortification system[52] (Rakhmanov – Rapen 2003; Rapin *et al*. 2006; Stančo 2021a, 262–279), there is, in the Hellenistic period also clear evidence of small foothill settlements with no signs of fortification such as Gisht Tepa (Mokroborodov 2007; Mokroborodov 2021) or Daganajam Tepa (Stančo 2021a, 256; Stančo 2021b). In the case of these sites, other than primarily a military function must be supposed.

DISCUSSION

The comparison of settlement development in the two described regions offers insight into the nature of the transformation which affected Bactria approximately between the end of the 4th century BC and the middle of the 2nd century BC. The proposed analysis demonstrates that while in the Achaemenid period both examined regions bear similarities in terms of the number of settlement sites and in the proportional distribution of size classes, in the Hellenistic period, settlement patterns differ distinctively in each of them. This diversification apparently reflects the change in settlement strategies and the shift in land use which followed the arrival of Greek rule in the area.

The Pre-Hellenistic settlement pattern appears to be defined predominantly by relatively dense clusters of very small settlement sites, presumably groups of farmsteads, which appear to be, in terms of number, a dominant element of the Achaemenid period cultural landscape. When counted together with sites of unknown size,[53] small unfortified sites represented in both regions almost identically 75–76 % of the sites detected so far (**Fig. 7**), which corresponds to a considerable degree of settlement dispersal, comparable also to the Iron Age in central Bactria (Balkh and Khulm oases, see Sarianidi 1977, 108–111, 116–128, ris. 5–8; Kruglikova 2005,

51 On the past settlement situation in this area, see Stančo 2016; Mokroborodov 2021.

52 On the newly detected possible components of the fortification system in the wider Iron Gates area (i.e., single towers, long walls and enceintes), see Bel'sh 2020; Stančo 2021b. These structures, however, need a further evaluation in terms of their chronological attribution, function, and mutual relations.

53 Cf. footnotes 13 and 20.

326–331, 362) or in Margiana (Salvatori 2008). Among the larger sites, there is a relatively high proportion of fortified ones (**Pl. 1/1**), which – in combination with their usually dominant position in relation to the minor sites – already led several researchers to perceive them to be local (micro-regional) centres (e.g., Gardin 1998, 110–111; Stančo 2018; Stančo 2019, 360–362; Wu 2018, 207–212), to which sometimes a proto-urban or urban function has been attributed (Rtveladze – Khakimov 1973; Gardin 1998, 142–144; Šajdullaev 2002, 332–333). In comparison with contemporary sites in northern Bactria, the size of eastern Bactrian fortified sites is remarkable, in some cases reaching as much as 30 ha.[54] Such an extent – unseen among northern Bactrian sites until the Hellenistic and Kushan periods (cf. Leriche 2007) – represents a remarkable difference between the Amu Darya left and right bank regions in the Achaemenid period.[55]

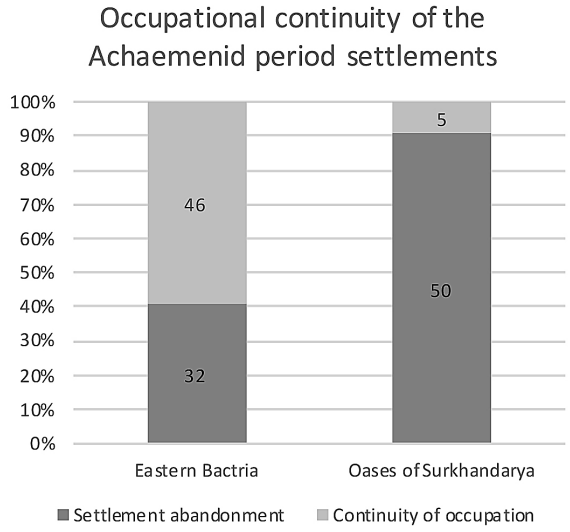

Fig. 6: Graphs showing the comparison of occupation continuity rates between the Achaemenid (Yaz III) and Hellenistic period. Sectors II and IV.

The internal dynamics of the complex transformation that followed are hard to define based on the current state of archaeological research. An inevitably flattened image of the settlement pattern prevents one from identifying partial processes beyond its changes, which could have occurred at a stroke or in the form of a gradual development. This is the case of one of the main features of the described settlement transformation, a high level of discontinuity in the occupation of, especially the smallest, Pre-Hellenistic sites (cf. **Fig. 6**). This break of settlement continuity seems to be striking in the western oases of Bactria, where – in terms of number – more than 90 % of the sites were affected.[56] At some point, the settlement as

54 Kunduz Bala Hisar and Kokhna Qala (cf. Ball 2019 n° 631, 931; Gardin 1998, 41, n° 490).

55 Sites of Bala Hisar of Balkh, Altyn Dilyar Tepa, and Cheshme Shafa (Ball 2019, n° 38, 99; Marquis 2018), all situated in Central Bactria, however, significantly outstrip in size even those of eastern Bactria.

56 Similar figures as in the Surkhan Darya and Sherabad Darya basins (Gardin's sector IV) could also be presented for central Bactria (sector III); see Sarianidi 1977, 110–112, 115–131 and Kruglikova 2005, 326–323, 362–363, who do not mention any Hellenistic period successor to the extensive Iron Age settlement clusters of Altyn-Dashli and Naibabad oases. See also Ball 2019, maps 4–8. In this part of Bactria, continuity between the Achaemenid and the Hellenistic period can be seen only at

a whole started to develop along a new trajectory in the Hellenistic period, being tied with several fortified centres occupied continuously or reoccupied (cf. Leriche 2007, 132; Leriche 2013, 139–140; Rtveladze 2002, 134–136).

Evidence of massive settlement abandonment could be easily associated with Alexander the Great's campaign and the drastic measures taken against the strong resistance of the local population (see Koshelenko – Serditykh 1987, 54; Leriche 2007, 128; Leriche 2013, 139–140; cf. Litvinskij 1998, 49). However, without firm proof that this decrease occurred simultaneously in relation to a single historical event, the attested break in settlement continuity must be placed within a much wider time span. The origins of this discontinuity could be tentatively traced back to a badly known period between Alexander's campaign and a supposed consolidation of the situation under the rule of the early Seleucids. This turbulent period, shaped by the initial conquest and its immediate consequences, repeated rebellions of Greek settlers and subsequent struggles among Alexander's commanders after the king's death[57] must have had the potential to profoundly affect the capabilities of local communities to keep land use unchanged, and could eventually have led to an attested shift in settlement development. The supposed consolidation of the state of affairs under the early Seleucids seems to be confirmed by the numerous new foundations attested for this period by excavations not only in the case of many new sites in northern Bactria (see the overview above), but also by the early building activities in Ai Khanoum related right to this period (Lyonnet 2012; 2013; Martinez-Sève 2015, 26–35). As already well outlined and argued by L. Martinez-Sève (2015, esp. 25–36 with references), a widespread Seleucid involvement can with all probability be related to the coregency or direct rule of Antiochus I. Being a widespread policy related to the city foundations throughout the Seleucid Empire (cf. Kosmin 2014, 192–194. For Central Asia see Martinez-Sève 2015, 27), hypothetic forced population relocations in Bactria (to Ai Khanoum or its vicinity?) could also be a valid explanation for the abandonment phenomenon.

In eastern Bactria, the phenomenon of settlement abandonment manifests itself in a less radical way. A much higher degree of occupation continuity, evidenced here in the case of ca. 59 % of sites in terms of number (**Fig. 6**; **Pl. 1/2**), promotes this region to a specific position within Bactria. It is questionable if this statistic gives evidence for more stable or more favourable conditions which could eventually also lead to the choice of location for the foundation of Ai Khanoum.[58] However, it is possible that the impression of a wider continuity reflects rather later intensive populating of the region in the Graeco-Bactrian period, when its exceptional role is unquestionable (Martinez-Sève 2015, 35–40; Martinez-Sève 2021, 222–229). The major, indisputably urban, settlement of Ai Khanoum served as a politico-economic point of attraction for all the surrounding densely inhabited areas (Gardin 1998, 46, 112–114).

Besides the spatial overlap of the occupation phases at the level of individual sites, we may ask ourselves which other indices suggest structural continuity. It is remarkable that despite the enormous increase in the absolute number of sites in eastern Bactria, the proportional distribution within the designated size classes does not show any significant differences in comparison with the situation in the Achaemenid period (**Figs. 2, 3, 7**). A similar phenomenon can also be observed in the case of the proportion of sites that bear signs of fortification

several sites such as Bala Hisar of Balkh and its close vicinity (Marquis 2018; Lhuillier 2018) or Dilberjin (Dolgorukov 1984).

57 On the impact of Alexander's campaign on the local population, see Holt 1988, 60–69; Holt 2005, 105–114; 125–136; Iliakis 2021. On the settlers' rebellions, see Koshelenko 1979, 181–221; Holt 1988, 89–91; Iliakis 2013).

58 The excavations of a? rural settlements? in the plain of Dasht-i Qala (e.g., Francfort 2013) gives only very limited evidence of the character of abandonment at the level of individual settlements.

(**Fig. 8**).[59] The same as in the Achaemenid period, fortifications are mostly associated with the largest sites (**Pl. 1/1, 1/3**).[60] The number of settlements multiplied and a new centre of so far unseen importance was formed, but the structure as a whole seems to follow the older trends to a considerable degree. This mode of continuity most likely reflects the intensive agricultural exploitation of plains along the rivers, which took advantage of the water channel network developed in all probability to a high level as early as during the Iron Age (Gardin 2001). The rural settlement boom in the wider Ai Khanoum hinterland lies in the very adoption of an already working irrigation system, the existing capacities of which were exploited in an intensified way as evidenced by only a moderate increase of the estimated area of irrigation in the Hellenistic period (cf. Lyonnet 1997, 112–115, 150–152, tab. XVI(2), XX; Gardin 1998, 109, 113–114, tab. 22–23. See also Leriche 2007, 131; Martinez-Sève 2021, 227).[61] As stated by Gardin (1998, 154), the channels which seem to be newly developed in the Hellenistic period consist rather of those less profitable, originated mostly in the completion of Rud-i Shahrawan, an extensive long-term project initiated long before the Greek and probably even the Achaemenid rule in the area (Gardin 1998, 113–114, 151–153; Gardin 2001). Whether completed on the order of new elites coming from outside or conducted under the control of a local (native) authority, this particular achievement required local specialists skilled in such a task (Gardin 2001, 171), and clearly testifies to a display of ideological transfer – continuation of the older local land-use strategy in the Hellenistic period.

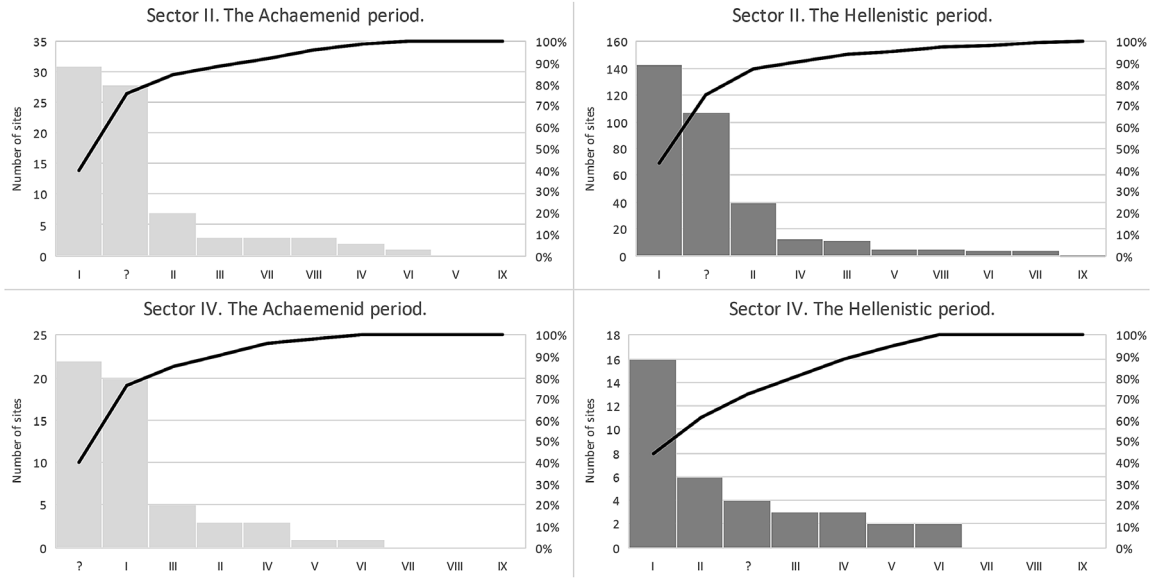

Fig. 7: Pareto charts showing the comparison of the sites' proportional distribution within the defined size classes.

59 Even though the absolute number of fortified sites tripled, their proportion within the assemblage did not change dramatically: it decreased from 8.9 % (7 sites) in the Achaemenid period to 5.7 % (19 sites) in the Hellenistic Period (see above).

60 Cf. Gardin 1998, tab 18. Gardin's table does not include Ai Khanoum, Bus-i Shan (Ball 2019, n° 148) and Aliabad (Ball 2019, 29).

61 According to Lyonnet (1997, tab. XVI(2), XX), the estimated area of irrigated land increased only by 4.7–6.8 % between the Phase III and the Hellenistic period.

On the other hand, rural settlement, consisting mostly of isolated farmsteads specialised in agricultural production was dominant among many regions of the Greek homeland of the Late Classical and Hellenistic periods (see the discussion with references in Whitley 2001, 382–391; McHugh 2017). Employment of a familiar strategy of territory exploitation in the region, where a very similar practice already took place in the Pre-Hellenistic period, would seem to be a logical way to manage the country. The Hellenistic period explosion of dispersed settlement structure, characterised by small farmsteads and villages in the wider hinterland of a newly established large urban centre, represents a widespread trend documented for example in the territories of Northern Levant, which in the 3rd century BC became one of the key regions of the Seleucid Empire.[62] This phenomenon, connected with the decline of many older nucleated tell settlements (cf. summary in Hannestad 2013, 252; Kosmin 2014, 198), is well attested, for example, in the Amuq valley, where the major city of Antioch was founded by Seleucus I (Casana 2007). The settlement dispersal scheme tied to the new urban foundation clearly corresponds to the Hellenistic period transformation of eastern Bactria and especially the Dasht-i Qala plain adjacent to Ai Khanoum. Unlike Northern Levant, in eastern Bactria there is no evidence of a complete abandonment of the old centres.[63] Regardless of the assumed power shift to Ai Khanoum (Gardin 1998, 46), the older large, fortified settlements were in the Hellenistic period incorporated into the newly evolved structure, in which both aspects, the preceding local and the newly coming imperial, seem to have coexisted in some way.[64] In this case, in eastern Bactria, we are possibly witnessing a successful fusion of traditional and foreign aspects of land administration.

It is hard to find any evidence in the north-western part of Bactria for the described phenomena characteristic of eastern Bactria in the Hellenistic period (i.e., the steep rise in site number, foundation of a major urban centre, comparatively higher degree of occupation continuity including proportional distribution of different size classes, and unbroken use of a water channel system). The number of the Hellenistic period sites in the north-western part of Bactria does not exceed that of the Achaemenid period, no clear urban centres comparable to Ai Khanoum were established, and the general degree of continuity is remarkably low at the level of individual sites (**Fig. 6**).[65] In terms of settlement hierarchy, the smallest size classes were still predominant in terms of number (**Fig. 5**), however, in terms of proportional distribution, a certain 'equalisation' trend occurred (**Fig. 7**). This phenomenon – caused by the numerical decrease of the smallest sites as well as the foundation of new sites such as Dalverzin Tepa or Khalchayan – Khanaka Tepa – is noticeable especially in the lowlands (**Pl. 1/7**). Here, sparsely distributed, mostly fortified, sites of larger classes, accompanied rather rarely by smaller ones, are shaping a nucleated settlement pattern, which differs distinctively

62 T. J. Wilkinson (2003, 128–150; Wilkinson – Ur – Casana 2004), however, sees this phenomenon only as a part of a long-standing trend beginning in the Fertile Crescent as early as in the early 1st millennium BC (see also discussion in Casana 2007, 210–212).

63 As for Kohna Qala, despite the fact that the Hellenistic period sherds are less numerous than sherds of the preceding periods, according to Gardin (1998, 46) its complete abandonment in the Hellenistic period cannot be confirmed and some kind of activities on the site in this period must be assumed (Cf. Martinez-Sève 2021, 229).

64 The described transformation of the settlement structure – at least in this case – does not correspond to the general pattern proposed by P. J. Kosmin (2014, 195–199) for the settlement policy employed by the Seleucids during the formation of their realm: No 'technology of forgetting, with exorcism of the pre-Seleucid terrain' seems to be employed here (cf. Kosmin 2014, 195).

65 Such a conclusion could be drawn in the case of Central Bactria as well. See references in footnote n° 56.

from that of contemporaneous eastern Bactria. The occurrence of rather small (classes I–III), often strongly fortified settlements – fortresses spread throughout the hilly piedmonts and along the Amu Darya which could have had only limited models in Pre-Hellenistic Bactria[66] – is characteristic of the territory of present-day Surkhan Darya.

COMMON FEATURES IN THE SETTLEMENT DEVELOPMENT

Despite the outlined differences, there are clearly common features between the two compared regions as well. Using these characteristics, it is possible to trace general tendencies in the settlement transformation and the nature of the Hellenistic period settlement as a whole. These trends seem to be foreshadowed to a certain extent by the general continuity/discontinuity pattern, as well as the character and spatial distribution of the identified Early Hellenistic settlements in northern Bactria. Besides the described remarkably high abandonment rate of smaller unfortified Achaemenid period sites, the emphasis laid on the fortification is clearly characteristic. In region IV, walled settlements represent almost half of the whole number of the Hellenistic period sites (i.e., 17 of 36). In eastern Bactria, this trend manifests itself by the increase in the absolute number of supposedly fortified sites, i.e., from 7 to 19. Nevertheless, the proportion of such sites does not greatly change (from 8.9 % to 5.7 %; see also **Fig. 8**). The increase in the total number of fortified sites could be considered a continuation of such a trend initiated already in the Iron Age (Gardin 1998, 142–143; Šajdullaev 2002) and continued in the Achaemenid period (Lhuillier 2018, 264–267; Wu 2019, 211). Nevertheless, right in the foundation of such fortified settlements and military installations it is possible to presume government involvement, allowing us to outline a master plan designed by new external elites.

The emergence of a considerable number of new fortified sites testified by excavations in northern Bactria can be clearly traced back to the Early Hellenistic (Seleucid) period (see above; **Pl. 1/6–7**). These activities, indicating the need for strongpoints in the landscape, were

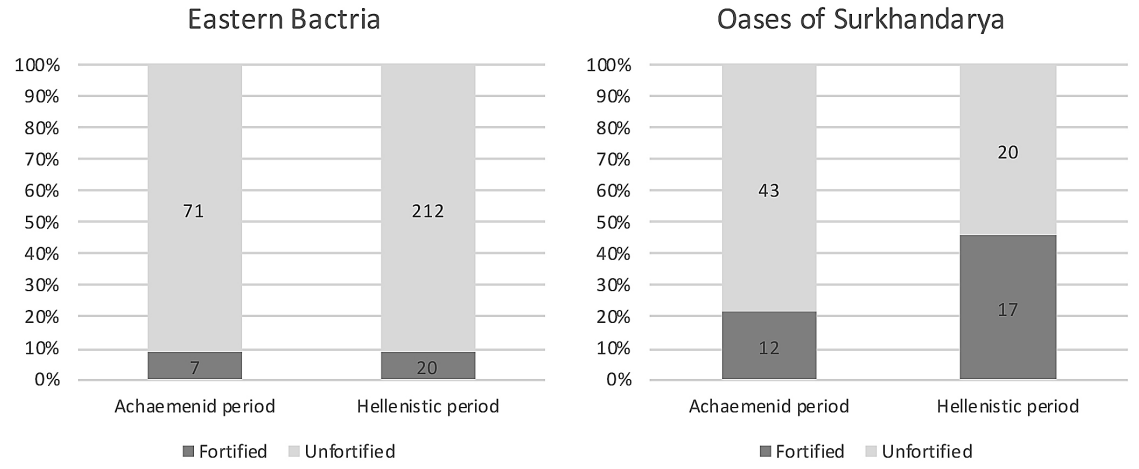

Fig. 8: Graphs showing the comparison of proportional distribution of sites featuring evidence of fortification in sectors II and IV between the Achaemenid and the Hellenistic periods.

66 The closest parallel could probably be perceived to be the small fortified settlement at Talashkan Tepa I; see Šajdullaev 2002, 279–291; cf. Lhuillier 2018, 264–267).

highly probably linked to seizing control over the territory. The same reasons could have motivated new rulers to the continuous occupation of the already fortified lowland sites such as Kohna Qala (Gardin 1998, 42, 46) or Khaytabad Tepa (Houal, 2021, 25) and reutilization – new fortifying – of settlements fortified to a smaller extent so far, such as Kyzyl Tepa phase 2 (Wu – Sverchkov – Boroffka 2017) or Takht-i Sangin (Druzhinina 2016).[67] The attribution of the Lower Town fortifications of Kyzyl Tepa to the Early Hellenistic period suggests an intentional modification of earlier structures in order to enhance their defensive capabilities, possibly due to the transformation of the settlement into a refuge or a military camp (Wu – Sverchkov – Boroffka 2017, 317; Wu 2018, 200–201). The eastern Bactria survey also gives evidence of a possible similar reutilization of settlements dated to the earlier phases of the Iron Age (namely, Phase II), such as Kunsay, Kurgan Tepe A, or Chim Kurgan (cf. n° 9; n° 47, and n° 137 in Lyonnet 1997 and Gardin 1998; see **Pl. 1/3**). The massive enceintes of these sites – even if unoccupied and probably deserted during the Phase III (i.e., the Achaemenid(?) period) – must have offered a considerable defensive potential for any passing army.

The positioning of newly founded settlements reveals a certain newly enhanced landscape preference for locations close to natural pathways, crossing points through physical barriers such as mountain ranges and rivers (cf. Leriche 2007, 133; Martinez-Sève 2021, 239–241). Especially remarkable in the Hellenistic period is the evidence of an intensified occupation of higher altitudes. In the Achaemenid period, most of the settlements were concentrated at altitudes between 400 and 600 masl – corresponding to the lowland alluvial plains – and sites located at altitudes above 800 masl were only very rare. In the subsequent period, low altitudes were still preferred, however, the occurrence of numerous sites in mountainous areas manifests a new interest in previously only sparsely inhabited parts of Bactria, distant from lowland core territories, i.e., Kugitang Tau and Baysun Tau piedmonts (see above; cf. Stančo 2021a; 2021b) or valleys in the northern Hindukush foothills such as Rustaq, Kalafgan, and Farkhar (cf. Lyonnet 1997, 110–114; Gardin 1998, 92–96; Martinez-Sève 2021, 239–243). Some of them are located as high up as 1600 masl, as in the case of the Uzundara fortress or the Kalafgan settlement group. Areas that have revealed no signs of a previous occupation were also newly settled, such as the valleys of Ishkamesh (Gardin 1998, 101), Baghlan and Aliabad (cf. also Ball 2019, maps 4–8).[68]

The distribution of walled sites along river crossings and main natural pathways through the massifs gives evidence for an intensified need for control over the transit routes and movement of people along them, or at least for an intentional manifestation of such a control and display of power. Such a spatial pattern was widely applied throughout the Seleucid Empire (Kosmin 2014, 190–192) and, as outlined above, its establishment in Bactria can be connected directly to the Seleucid administration. As evidenced in the case of many sites such as Kampyr Tepa, Old Termez or Uzundara, this pattern was successfully retaken, adopted, and further developed by later Graeco-Bactrian and – in many cases – to a certain degree even by Kushan rulers in the first centuries AD. It seems that settlement reorganization, which could be attributed right to the early Seleucid rulers (Antiochus I? Cf. Martinez-Sève 2015, 26–33) shaped the character of later, Graeco-Bactrian settlement to a considerable degree.

67 A. Druzhinina (2016, 58), however, does not suppose a defensive purpose of the newly erected walls of Takht-i Sangin 'lower town'. She understands them rather as a monumental building demarcating a border of the settlement.

68 The supposedly Graeco-Bactrian site of Irganakh located in the mountain pass west of Kunduz would also fit this distributional pattern (Ball 2018, n° 442; Martinez-Sève 2021, 241. Cf. Fischer 1961, 14; Fischer 1967, 348, 354). Its dating is, however, based only on the isolated find of a badly preserved column base.

Despite the relatively numerous fortified sites identified in the mountainous areas, recent research in northern Bactria indicates that the settling of these regions was not motivated exclusively by military (defensive) interests as is often suggested (Sverchkov 2005b; Leriche 2007; Dvurechenskaya 2019b). The presence of small unfortified settlements – farmsteads or small hamlets? – in foothill regions (Mokroborodov 2007; 2021; Stančo 2021b) could point to an agricultural or most likely agropastoral exploitation of marginal lands at higher altitudes. This need for control could also be motivated by the very economic and, of course, administrative interest in a channelling of potential trade[69] and transhumance taking place along the routes, where also smaller unfortified settlements were located. The data from the Hindukush valleys of eastern Bactria (Gardin 1998, 101) indicate a similar situation, while the discovery of the – so far unique – site of Torbulok interpreted by the Tajik-German team as a sanctuary (Lindström 2017) reveals the potential of mountainous areas as a place of ritual. Even in the case of fortified sites, functions other than military can be traced archaeologically, such as in the case of Uzundara and a supposed marketplace before its gate (Dvurechenskaya 2018b, 175).

QUESTION OF AN UNEQUAL SETTLEMENT DEVELOPMENT

In the face of the presented comparison, a fundamental question of the eminent discrepancy of settlement development in the two compared regions arises. Based on the current state of research, the influence of an environmental change does not seem to be a plausible explanation. Even in the north-western part of Bactria, new settlements were often established at only a small distance from the old ones (cf. Rtveladze 2002, 136; Stride 2004, 313), which testifies to a rather stable environmental situation. An unequal settlement development seems to have been brought about rather by an intentional decision or a socio-political process. Such a successful decision was clearly the very foundation of Ai Khanoum, a well-chosen strategic location which (cf. Bernard – Francfort 1978; Martinez-Sève 2015) made it – with necessary investments – a focal point of the whole Bactrian scale. It is well known that even though the intensified agricultural exploitation of its hinterland seems to have developed to the form documented by Gardin's survey (Gardin 1998, 38–47) no earlier than during the 2nd century BC (Martinez-Sève 2021, 229), Ai Khanoum was established in its final extent defined by the city ramparts – i.e., as an ambitious large-scale project – as early as during the Seleucid period (Leriche 2007, 141–144; Martinez-Sève 2015, 31). From the very moment it was founded, the city was meant to be an exceptional central settlement.

The different settlement strategy employed by the Seleucids and later by Graeco-Bactrian kings in the north-western part of Bactria does not necessarily indicate a longstanding instability of this region as could be evidenced by the extraordinarily low level of settlement continuity with the previous period. More likely, the network of rather small forts and nucleated settlements could reflect an interest in the control of strategic routes along the Surkhan Darya and Sherabad Darya Rivers without the intention of its intensified (agricultural) exploitation (Leriche 2007, 133), at least not in the same way as in the East. However, as mentioned above, the almost missing evidence of the smallest site classes presence can also reflect severe damage caused by modern mechanized agricultural activities. The view of present-day

69 Though the relatively poor material culture revealed at sites such as Kurganzol (Sverchkov 2008; 2013) does not bring up evidence on thriving commercial activities. The stratified data coming from large and medium-sized settlements in the lowland, which would of course be more suitable as commercial nodes, are on the other hand still missing, being buried beneath later occupation strata.

Surkhan Darya province, and especially its western foothill area, as a military buffer zone (Leriche 2007, 133) dividing the Bactrian lowlands from a potential external threat[70] cannot be ruled out in this regard. However, as outlined above, the increase in the number of fortified settlements and a certain interest in highland locations does not appear to be something specific for the north-western part of Bactria (cf. Martinez-Sève 2021, 239–243). Putting aside these military aspects of the landscape, the strict division between the densely settled core region – the lowlands of eastern Bactria – and the periphery, exemplified here by the present-day Surkhandarya province, could have been simply the result of a socio-economic attraction of the newly established urban centre, and by a shift in the territory administration on a whole-Bactrian scale: In place of multiple local central places attested in the preceding period,[71] in the Hellenistic period, one large central settlement of exceptional significance with its intensively inhabited hinterland seems to dominate the settlement structure (cf. Leriche 2007, 148). This power shift – the imprint of a new politico-administrative regime, which can be ascribed most likely to the Graeco-Bactrian kingdom, though probably with its roots in the Seleucid period – seems to be one of the most significant breaks in the structural continuity between the Achaemenid and the Hellenistic periods.

CONCLUSIONS

This article investigated one of the principal aspects of the Greek presence in Bactria, the impact on the local settlement structure. The transformation following the conquest of Bactria and its integration into the Hellenistic East was exemplified in the two regions: the so-called eastern Bactria in Afghanistan on the one hand and the present-day Surkhandarya province in Uzbekistan on the other. In the Achaemenid period, both regions show strong similarities in terms of density and structure of settlement. After the fall of the Achaemenid Empire, however, both went through radical changes to develop into significantly different settlement areas. Even though the internal dynamics of this settlement transformation still remain rather obscure and understanding its details is severely limited by the current state of archaeological research, its origins can be to a certain degree associated with the early phases of the Greek presence in the area, being probably triggered by the turbulent period starting with the campaign of Alexander the Great and going on at least until the consolidation of the region under the rule of the Seleucids.

The presented statistics broadly support the image of the transition between the Achaemenid and Hellenistic period as a fundamental shift in the settlement development. This shift was probably related to a time of crisis attested by a vast occupation discontinuity reaching in the case of eastern Bactria about 40 % of known sites and in the area of present-day Surkhandarya province even more than 90 %. Throughout Bactria, it seems to have been the smallest unfortified sites which were most affected, indicating that the transitional period did not provide suitable conditions for this kind of, most likely agriculturally oriented, settlement. The Hellenistic material attested in the case of most of the largest fortified sites of

70 In the 'classical' view, this threat was posed by nomadic tribes described in the written sources. For a criticism of this narrative 'at hand' see Leriche 2007, 134–135 or Mairs 2014, 146–176. Cf., Stančo 2021a, 265–266, for a fresh alternative re-interpretation of the borderland fortification system.

71 It does not, however, exclude an internal hierarchy among these centres, which could have been reflected also on a political level as suggested by Gardin in the case of Kunduz Bala Hisar, a possible regional centre of eastern Bactria (Gardin 2001, 173), or Bala Hisar of Balkh, referred to as the capital of Bactria in written sources.

the previous period suggests that these sites were occupied continuously or re-occupied. During the Hellenistic period, the decline of the Achaemenid period dispersed settlement was followed by a settlement renewal and reorganization. In the regions most affected by the settlement abandonment (Surkhan Darya and Sherabad Darya basins), the settlement network was restored only partially in terms of number, and its characteristic nucleation and frequent employment of fortification could indicate that there was a certain need for defence or a need for control behind this reorganization. The situation differs significantly in eastern Bactria, where an extraordinary growth took place resulting in a very dense dispersed pattern, recalling the earlier settlement hierarchy multiplied and augmented by the formation of the so far unparalleled urban settlement in Ai Khanoum, which clearly represents a new (supra) regional focal point and probably also the impetus for the extraordinarily successful settlement activities in its wider hinterland. The high degree of embracement of local cultural traits attested in many aspects in Ai Khanoum and elsewhere in Bactria appears to have been reflected also in the surrounding cultural landscape, not only by the adoption of the earlier network of the irrigation system, but also by the following up of the existing way of land occupation and exploitation in the form of small-sized highly scattered settlements, likely farmsteads or hamlets, and reutilization of older most probably fortified sites (such as Kohna Qala, Chim Kurgan or Kunduz Bala Hisar) within the new settlement structure. Maybe surprisingly, the traits of continuity are well visible mainly right in the core regions of Hellenistic Bactria surrounding the newly established city of Ai Khanoum.

Numerous new foundations or re-foundations (Ai Khanoum among them) associated with the activities of the first Seleucid rulers witness a high level of Seleucid involvement in the area. This involvement could probably be manifested by a policy of intentional settlement reorganization. The location and character of the settlement sites related to this phase (cf. excavated Early Hellenistic period sites in northern Bactria) appear to foreshadow to a certain degree the character and distributional preferences of the Hellenistic period settlement in Bactria as a whole and set the general trends that appear in both discussed regions in the Hellenistic period: 1) a considerable – both numerical and proportional – increase in sites which bear signs of fortification and 2) a new (systematic?) colonisation of marginal, above all mountainous, areas, which were occupied only sparsely or not at all in the preceding period. The increase in fortified settlements could also indicate an increased need for defence or control over the territory (evidenced by the presence of control points located along natural pathways that connect Bactria with the surrounding world such as Kurganzol or Uzundara), nevertheless, excavations of unfortified structures of various purposes (Gisht Tepa, Torbulok) attest a wide range exploitation of the foothill area unseen in the Achaemenid period.

The described situation combining traditional as well as newly introduced settlement patterns corresponds with the general character of cultural interactions in Hellenistic Bactria, characterised to a certain degree also by the coexistence of heterogenous, local and imported, features of material culture (cf. Wood 2011). In a similar way, the Hellenistic period settlement built on old, surviving structures and incorporated them – to varying degrees – into a new settlement strategy, which reflected the different challenges, needs, and advantages of a particular region. The emerging mosaic of old and new brings us back to the title of this paper. In his description of Bactria, Curtius Rufus assesses its character as 'diverse and heterogenous'.[72] The biographer's words delineate rather the environmental conditions of the region. Nevertheless, in light of the proposed evidence, the same heterogenous nature can also be attributed to a certain degree to the image of the Hellenistic period settlement in Bactria.

72 *Bactrianae terrae multiplex et varia natura est* (Curtius, VII, 4.26).

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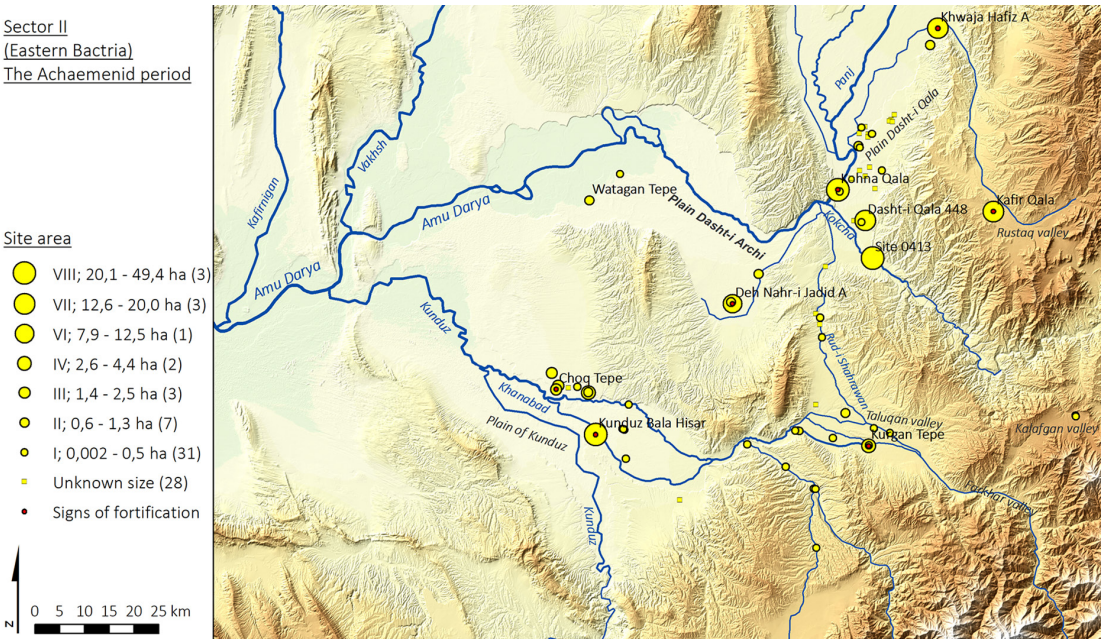
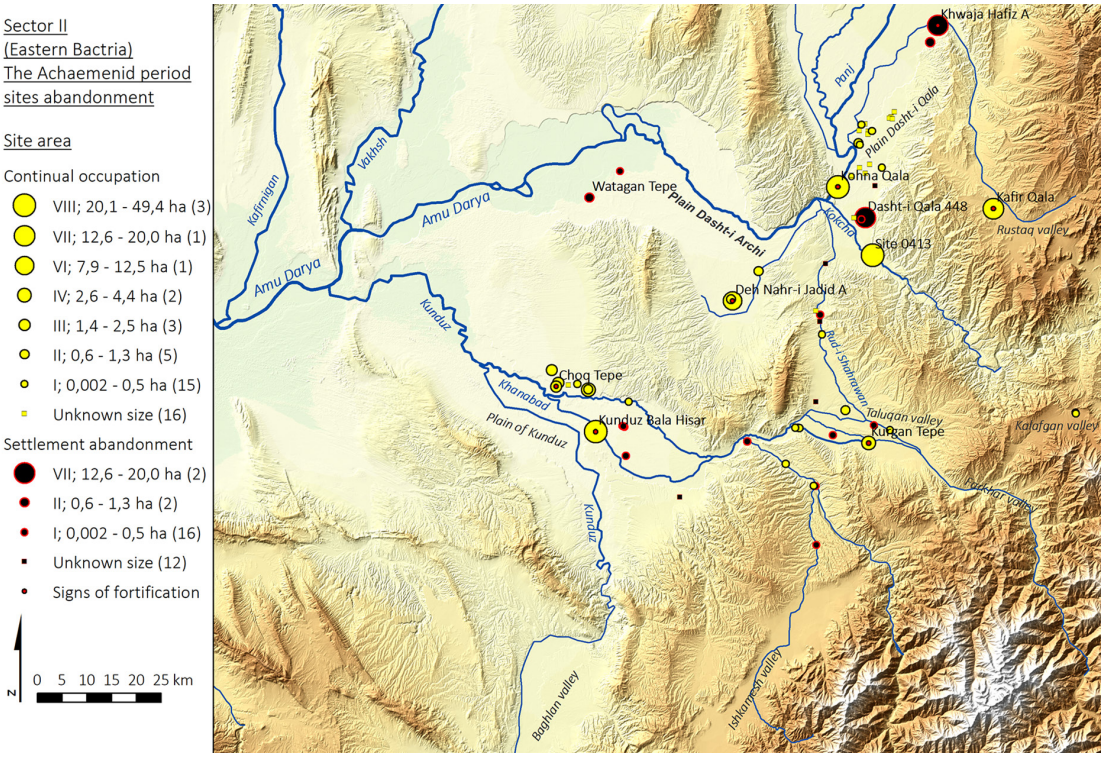
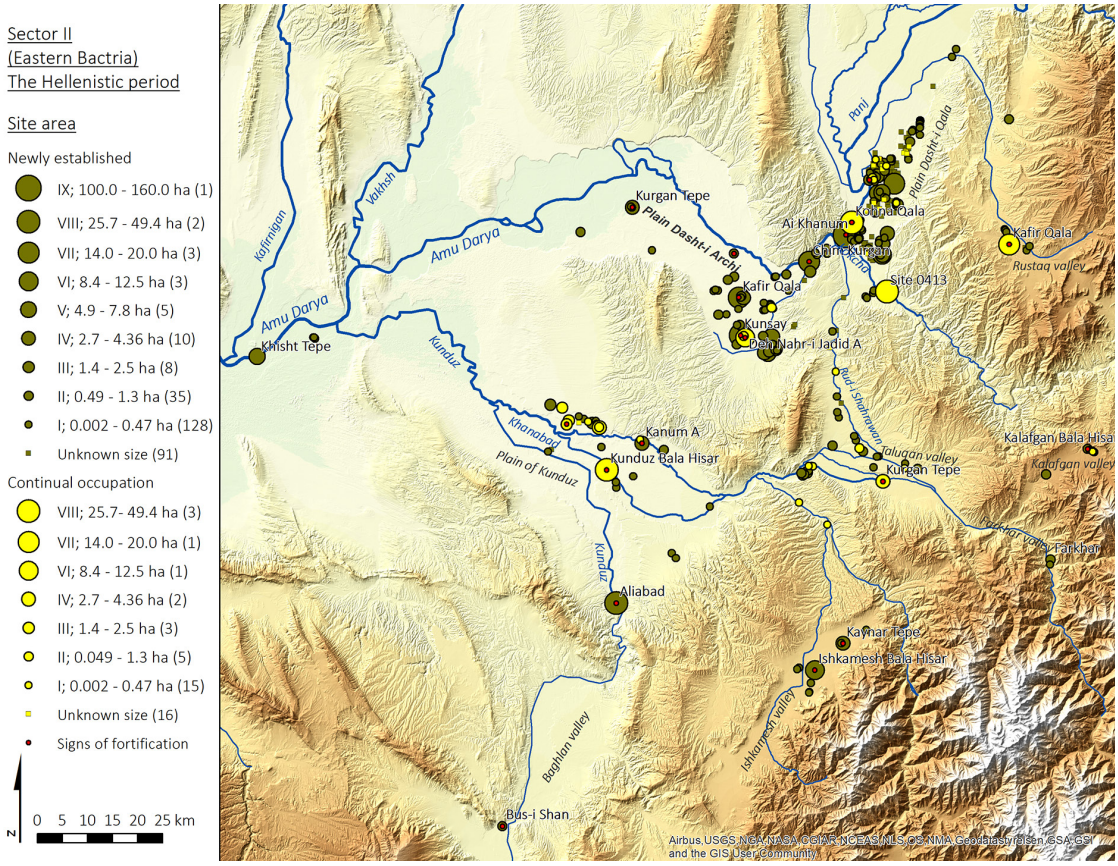


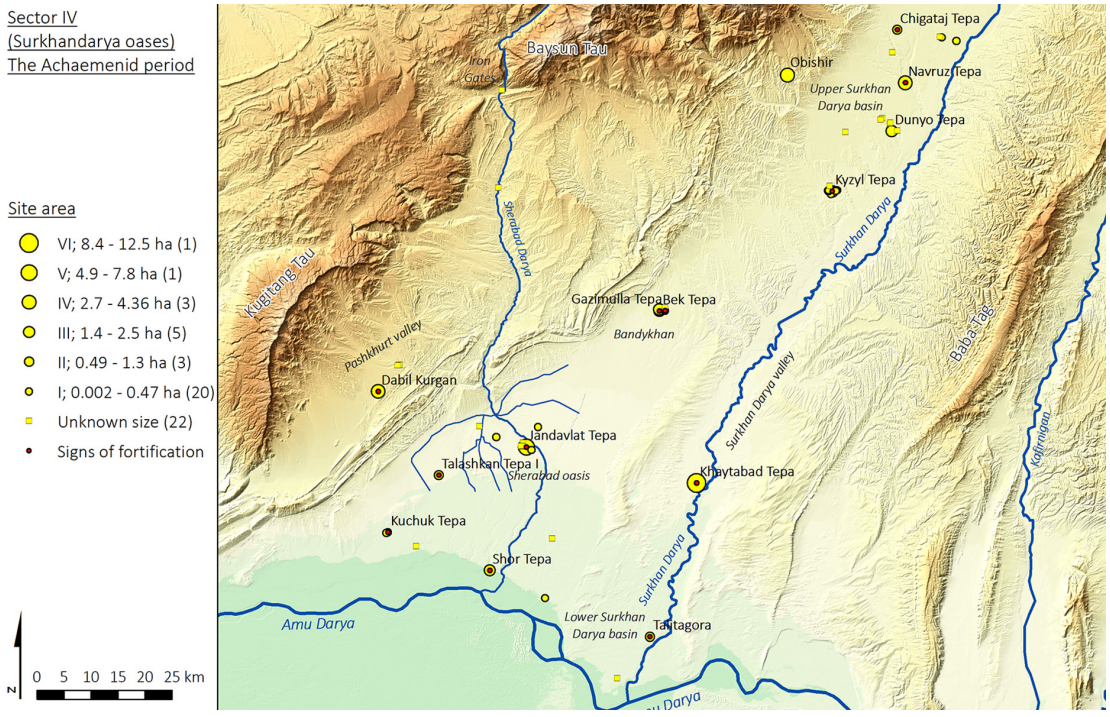
Pl. 1/1: Sector II (eastern Bactria) in the Achaemenid period. Based on the attribution to the Iron Age Phase III (Lyonnet 1997). Distribution of sites within the defined size classes. Map by J. Havlík. Basemap: Esri.



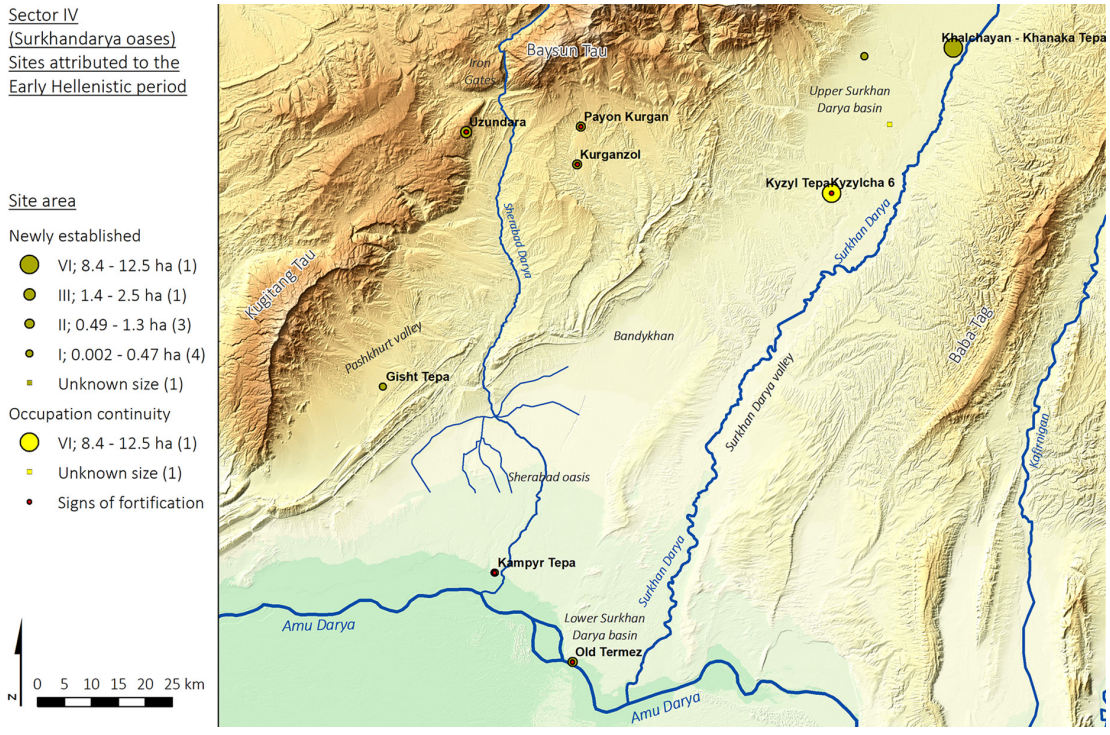
Pl. 1/2: Sector II (eastern Bactria). The Achaemenid period settlement abandonment. Note that the map does not correspond to any particular period of time but reflects the general continuity or discontinuity of occupation between Iron Age Phase III (Lyonnet 1997) and Hellenistic period sites. While the largest fortified sites appear to be occupied continuously, the settlement discontinuity affected mainly the sites of the smallest classes. Map by J. Havlík. Basemap: Esri.



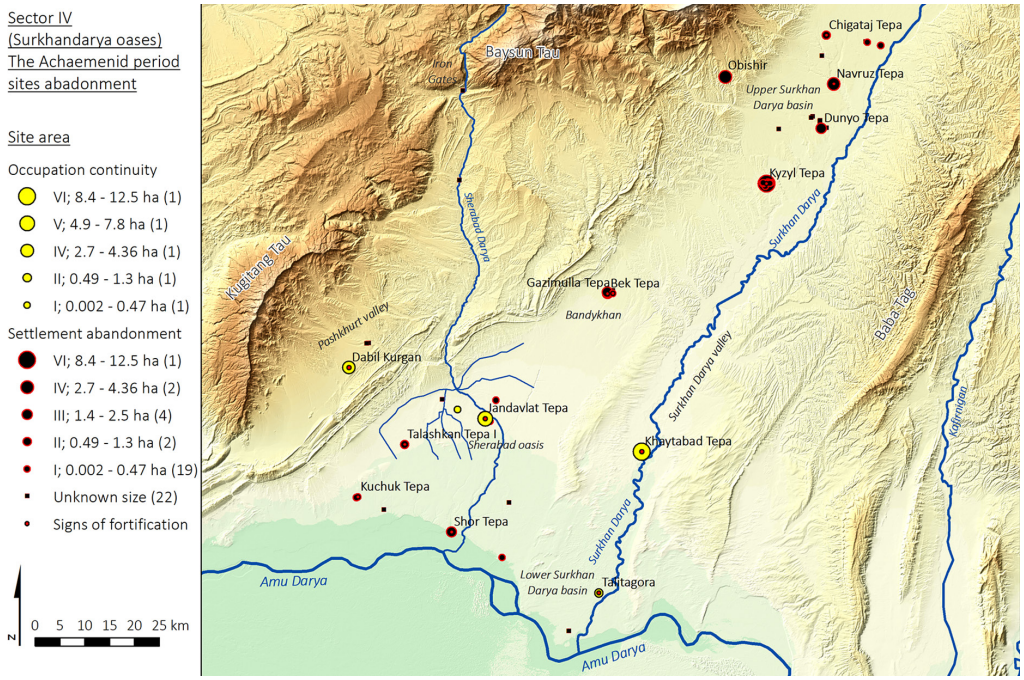
Pl. 1/3: Sector II (eastern Bactria) in the Hellenistic period (corresponding principally to the Greco-Bactrian period). Distribution of sites within the defined size classes. The yellow symbols represent the evidence of occupation in both Iron Age Phase III (Lyonet 1997) and the Hellenistic period. Map by J. Havlík. Basemap: Esri.



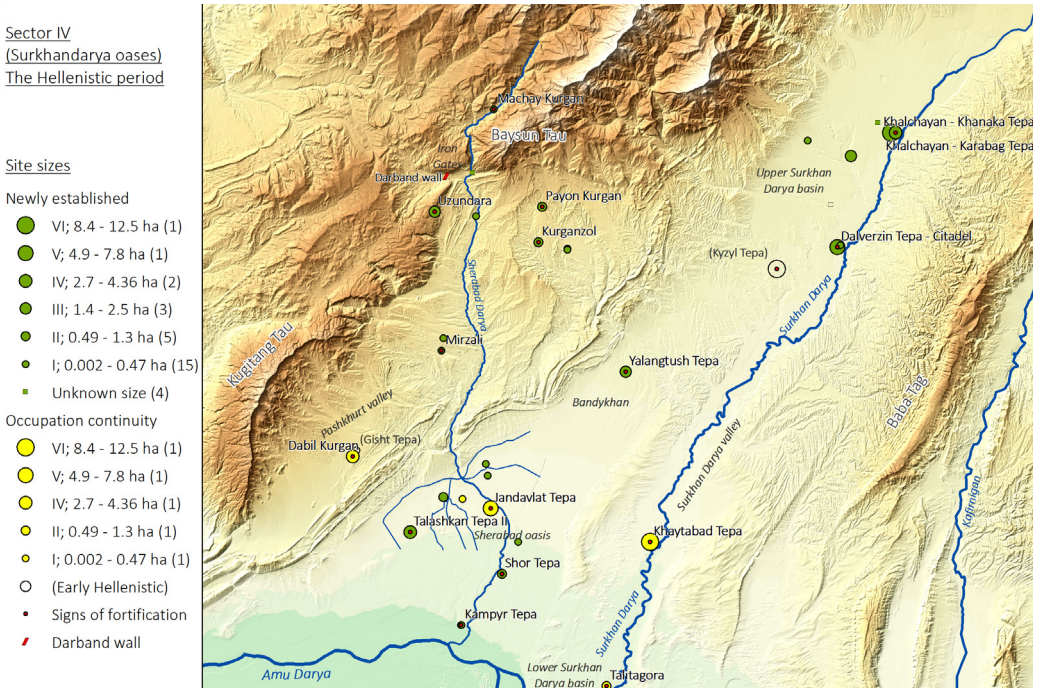
Pl. 1/4: Sector IV (oases of Surkhandarya) in the Achaemenid period. Based on the attribution to the Yaz III period. Distribution of sites within the defined size classes. Map by J. Havlík. Basemap: Esri.



Pl. 1/5: Sector IV (oases of Surkhandarya). Archaeological sites, in which Early Hellenistic period (late 4th–first half of the 3rd century BC) strata have been attested. The map represents the distribution of the sites based on the current state of research, not attempting to depict the transitional period settlement situation. Map by J. Havlík. Basemap: Esri.



Pl. 1/6: Sector IV (oases of Surkhandarya). Achaemenid period settlement abandonment. Note that the map does not correspond to any particular period of time but reflects the general continuity or discontinuity of occupation between Yaz III and the Hellenistic period sites. Kyzyl Tepa, occupied highly probably only until the Early Hellenistic period is represented as 'abandoned' in this comparison. The settlement discontinuity affected most of the sites in the sector mainly the smallest classes of sites. Map by J. Havlík. Basemap: Esri.



Pl. 1/7: Sector IV (oases of Surkhandarya) in the Hellenistic period (corresponding to the 3rd–2nd centuries BC). Note that yellow symbols refer to the evidence of occupation in the Yaz III and Hellenistic period, but not necessarily uninterrupted. Map by J. Havlík. Basemap: Esri.