Excavations on the site of Kale at Krševica near Bujanovac conducted from 2001–2006 have disclosed significant remains of a late Classical/early Hellenistic settlement covering an area of about four hectares. Situated on the north-eastern slope of Mt. Rujen, in the Južna (South) Morava river valley, it dominated the surrounding area. The acropolis with a complex of buildings and other structures, defended by a stone wall and a wide ditch, was located on a plateau. Below it, an outlying settlement sloped down towards the Krševiška reka, a small stream flowing into the Južna Morava, and ended in elaborate constructions with ramparts, stone platforms, and structures for various purposes. The ample archaeological material, for the most part Greek pottery of Attic and north-Aegean origin and coins, shows that the settlement was founded in the early fourth century B.C. and lasted until the first decades, but not later than the first half of the third century B.C. The excavations provide increasing evidence of an organized settlement with urban features which maintained close contacts with the Aegean throughout its existence.1

Even in the first years of excavation it became obvious that, in addition to a large amount of pottery, mostly local products made on Greek models, virtually every trench contained loom weights. Their number increased year by year, and we now have more than a thousand intact and fragmentary examples, of which 1038 pieces are typologically classified. This material provides evidence for the craft of weaving in the settlement in the fourth and early third centuries B.C. 2

Obviously, spinning and weaving, as aspects of domestic craft production, played a significant role in the life of the settlement. Although no more than four or five percent of the overall settlement area has been investigated so far, it seems reasonable to assume that the discovered finds constitute a satisfactory sample representative of all the characteristics of the material. Publication of these finds has been encouraged in part by the results obtained at two sites in Bulgaria – the emporion Pistiros, and Koprivlen – which, given the similar nature of the material, have been very helpful to us.3 Needless to say, the common practice of selective publication of excavated material is an obstacle to more detailed considerations of this important and quite specific craft.

Typologically, the examined material from Krševica consists of clay weights functioning as part of weaving equipment: 895 items coming in three different shapes – pyramidal (A); oval or fiddle-shaped (B); and circular or discoid (C). A separate group includes spindle whorls, a device used in spinning (D); while

3 Бузец 1996; Димитрова 2002. Besides the two signed authors of this contribution, Jovana Tripković and Kristina Penezić, students at the Department of Archaeology, Faculty of Philosophy, Belgrade also worked on the material; photographs by Nebojša Boric; drawings by Nenad Lazarević; geodetic survey by Aleksandar Nikolić; processed by Anja Subotić. The contribution results from the project Metal Age in the Morava Valley (no. 147007).
spools (E), which could have been used for a variety of purposes, are tentatively added to the list of types.

**Type A (Fig. 1; Pls. I–III)**

There are 314 pyramidal weights representing 35% of all the material, as a rule perforated for hanging. The two holes which occur in some cases are the result of careless manufacture and have no particular function. In terms of typological variation, two subtypes have been identified: regular (A1 – Fig. 1. 1–6; Pl. I) and truncated pyramids (A2 – Fig. 1. 7–18; Pls. II–III). Regular pyramids occur rarely (12%), the majority being of the truncated type, the topsides of which often show a groove or intersecting grooves which are marks of use. Although the weights of regular shape with smooth surfaces and sharp edges were certainly mould-made, it is not always easy to differentiate between them with certainty. Some weights deviate from the vertical axis and thus may be described as »tilted«. Some of these were probably also mould-made, but neither in this case is
there any observable regularity. It is quite obvious from the careless workmanship that most were hand-made. Few of the weights were fashioned of refined clay and most contain large amounts of admixtures, from fine and coarse-grained sand to ground stone, and most were fired to a dark brown colour (68%). Red or grey colour, depending on higher or lower temperatures, constitute 14 to 18 percent of the collection. The average height

Fig. 2. Oval or fiddle-shaped loom weights. Scale ca 1:2

Сл. 2. Овальні або віолині стійки, розмір або 1:2
is 4 to 10 cm, and the variation in weight between 40 and 200 g, though most follow a steadily rising curve from ca 40 to 160 g. Larger and more massive items are an exception and may have been used for some other purpose (Fig. 6).

Only three weights may be assigned to the cone-shaped group, and all are coarsely manufactured (Pl. IV. 35–37).

**Type B (Fig. 2; Pls. IV. 38–47; V)**

There are 432 examples of the fiddle-shaped type, making them the largest group (48%). All were handmade, which means that individual users could shape the clay in any way they saw fit. This is the main reason why the typological account of these highly functional artefacts of simple workmanship is confined to basic features with some measure of variation. Laterally, they show shallower or deeper finger-made depressions producing a shape reminiscent of a fiddle, and in most cases, a perforation, while only a smaller number (19%) have a front-to-back hole (Fig. 2. 20–21; Pl. V. 60–62). Their faces vary from flat surfaces to deep oval impressions with fronts bearing finger imprints. They usually have a saddle-shaped depression on the top, but use-wear marks in the form of one or more grooves, or sharp cuts, are also observable. They do not differ essentially from the pyramidal weights in quality, and in most cases (78%) were fired to dark brown. The height varies from 2 to 10 cm, while the weight ranges between 50 and 130–140 g with no significant fluctuation (Fig. 6).

**Type C (Fig. 3; Pls. VI; VII. 72–76)**

The discoid weights constitute a heterogeneous group of 149 pieces (17%) of varying size. Their basic features are a circular shape, and a central or peripheral hole. The cross-section is more or less markedly lentoid, but in some cases one surface is flat, the other convex. They usually have a single perforation, but pieces with two holes in the upper part also occur. The latter usually have the shape of a truncated circle and differ from the other discoid pieces (Fig. 3. 3; Pl. VII. 74–75). Their diameters vary from 5 to 8 cm, and larger examples only occur as an exception (Fig. 6).

**Type D (Fig. 4; Pl. VII. 77–85)**

In contrast to the relatively large number of loom weights, spindle whorls are an infrequent occurrence (22 examples) showing the usual circular shape with a central perforation. They are more or less regularly lentoid-sectioned, or have flat surfaces, and, rarely, a shallow lateral circumference groove. In terms of qua-
lity and colour, they display the same characteristics as the weights described above. The diameter ranges from 3 to 5 cm.

**Type E (Fig. 5; Pl. VII. 86)**

The spools appear in simple shapes as befitted their purpose. There are 118 items of similar size and a length varying between 6 and 7–8 cm. Because of their highly varied usefulness, they are only conditionally added to the artefacts classified as textile-making tools, although they are often published together with loom weights.

A number of loom weights bear different marks or stamps, which could only have been made by individuals, probably members of family production units. In some cases, these may have been «trademarks», or marks of ownership, and in others, their role was simply decorative, as shown by irregular or hatched incisions, semicircular impressions, dots made with a pointed tool, or X-shaped incisions. Another group includes circular or oval stamps impressed into soft clay. In some cases representations are discernible (impressed intaglios), but almost all such designs are worn beyond recognition. Three loom weights, each of a different type, bear a deep-stamped circular mark inscribed with a cruciform pattern (Fig. 1. 9; Pls. II. 19; V. 50; VII. 73). At first sight very similar, if not identical, all three come from different parts of the site. A separate category comprises loom weights imprinted with coiled wire, probably a fragmented piece of jewellery. A fiddle-shaped loom weight bears an omega-shaped imprint, which may be interpreted as the letter, but it seems more likely that a deformed pendant of similar shape was used (Fig. 2. 3; Pl. IV. 39). A quite irregular pyramidal weight is impressed on all four sides with coiled wire, possibly a fragmented smaller pin (Fig. 1. 12; Pl. II. 18). Finally, seven weights of all types (three from the acropolis and one from the suburbium) bear unmistakable M-pinhead impressions (Fig. 1. 4, 7, 10; 2. 14, 15; 3. 1; Pl. II. 12–13; V. 55; VI. 63). The upper part of one of these examples shows an M-pin impression just like a weight from the site of Gradiste–Negotino, FYR Macedonia (Pl. II. 12). This may suggest the popularity of this type of jewellery, widespread in the Balkans in the fourth century B.C., but however obvious, such analogies are hardly relatable to one another directly. Apparently, the inhabitants of all settlements engaged in this craft had to meet their needs by themselves. Therefore attention should be called to a pyramidal loom weight, retrieved from the acropolis, stamped with the letter Ė (Fig. 1. 5; Pl. I. 5), which occurs in the same form on several vessels from Krševica attributed to a local pottery whose output was intended to meet the settlement’s needs.

Almost all the trenches at Krševica have yielded this class of material, and a certain number of loom weights graphed by height (a), and weight (b)
weights have been collected as accidental surface finds. The greatest number of examples were retrieved from the acropolis, which is to be expected given that this sector of the site has been most thoroughly investigated. On the plateau, which covers more than 3000 sq m, an area of about 500 sq m has been opened in the central zone, revealing a building complex dated to the most recent level, and the total excavated area comes close to 800 sq m. The latter figure includes other zones of the acropolis, where several structures have only partially been exposed. It should be noted that intense construction in so limited a zone caused layer disturbances and, as a result, stratigraphic data are not always reliable. In addition, in the second/first centuries B.C. the Scordisci and their allies used some zones of the deserted acropolis, leaving several pits behind, and in more recent times the site housed a vineyard, which only added to the destruction of the surface layers. This is one of the reasons why none of the trenches has yielded larger concentrations of loom weights, nor have they been found at locations possibly relatable to workshops or working areas. It appears from the stratigraphic data that most finds of this class come from the upper layers, for which a simple explanation may be found: from the end of the fourth century B.C., the settlement’s prosperity, apart from the busy building

Fig. 7. Kale – Krševica, 3D site plan, view from the east

Сл. 7. Кале – Кршевица, сноптуалација 3D, поглед са истоком
activity, was reflected in a rise in population and, as a result, intensified weaving activity. Another zone of the site, an area of less than 300 sq m along the Krševička reka with massive ramparts and associated structures, has yielded 81 pyramidal, 147 fiddle-shaped and 51 discoid loom weights, as well as 6 spindle whorls and 50 spools, mostly in a strip of land at the bottom of the slope. Unfortunately, this large collection cannot be related to any structural context. Namely, immediately above this structural complex begin small terraces of the north-eastern slope, where, as shown by trial excavations and geophysical surveys, the largest portion of the settlement was situated. This makes it obvious that the large number of archaeological finds discovered at the bottom ended there as a result of intense erosion; cultural deposits were washed downhill from higher site zones. According to the preliminary results, the structures at the bottom, labelled »Hydro-Technical Complex«, are a part of the outlying settlement with a quite specific purpose, while residential areas apparently were on the slope (Fig. 7).8 Further excavation in this zone is likely to give a clearer picture of the arrangement and appearance of these structures, some of which, there are grounds to assume, may have been used for the purpose of interest to us.

Yet another piece of information favours the importance of weaving for the settlement. Initial faunal analyses (2002–2004) have shown that the diet of its inhabitants was varied and consisted of not only domesticated but also wild animals (10.43%). They have also confirmed cattle and sheep as the prevailing species. Sheep bones (including a few goats) have been recorded in all trenches, in percentages varying between 26.6 and 43.85, which accounts for more than a third of the whole sample. It follows that sheep husbandry played an important role, with milk and wool as staple products.9 Wool being a major raw material for weaving, the settlement obviously had the necessary resources. So the female population played an essential role in providing the inhabitants with suitable clothes for a continental climate.

* * *

The development of weaving over centuries, with all its technological and cultural modifications, is known well and this is not a place to discuss it in more detail.10 By way of illustration, two examples may be cited nonetheless: late Bronze Age pyramidal loom weights and a vertical loom reconstructed from the archaeological data from a north German site (Fig. 8); and a sixth-century B.C. Attic painted vase showing women, or girls, at the loom, a scene which vividly portrays the atmosphere of a Greek household (Fig. 9). Similarities are evident, and loom weights and other devices, including looms, were a common occurrence at all larger settlement sites, where it was usually women and girls

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8 Popović 2005b; 2006.
9 Blažan 2005.
10 Barber 1991.
that were engaged in weaving.\textsuperscript{11} On this occasion, however, we shall only take a look at some of the similarities and differences in the material recovered from sites in the neighbouring regions on the periphery of the Mediterranean world, such as Thrace, Macedonia and Paeonia. Although most of these sites cover a much longer span of time, almost all include the period coeval with the material from Krševica or with the fourth/third centuries B.C. The volume \textit{Pistiros} I has published the material and relevant data about the textile industry characteristic of this exceptional settlement in the Marica river valley, an \textit{emporion} in the territory of the Odrysian kingdom.\textsuperscript{12} Local distinctiveness and the different percentages of loom weights and spindle whorls set aside, Pistiros is largely similar to the array of finds from Krševica. The differences include, for example, two-holed pyramidal loom weights, parallel grooves on the topside and ornamented spindle whorls, none of which have been registered at Krševica.\textsuperscript{13} Another site is Koprivlen, a settlement in the Mesta river valley. From the published material, the loom weights and spindle whorls seem to be analogous with Pistiros, but they appear more modest, without impressions from intaglios and with few ornamented spindle whorls.\textsuperscript{14} Interestingly, spools, in use from early prehistoric times, have not been included, possibly because they have not been interpreted as part of the weaving equipment. Finds from other Bulgarian sites, such as, for example, Pernik,\textsuperscript{15} or numerous sites in FYR Macedonia, have been published selectively and can merely illustrate the characteristic shapes of loom weights from those parts of the Balkans. More recent excavations of an antique town at the site of Vardarski Rid near Gevgelija (Gortynia) have produced a few common loom weights,\textsuperscript{16} but also an exceptional find. A building with several rooms has yielded an assemblage of 150, mostly pyramidal, loom weights, which

\begin{itemize}
\item \textsuperscript{11} Nevett 1999, 40.
\item \textsuperscript{12} Bouzek 1996; see Pistiros I and II.
\item \textsuperscript{13} Bouzek 1996, Figs. 11. 8; 11. 9; 11. 23.
\item \textsuperscript{14} Dimitrova 2002, Figs. 161–167.
\item \textsuperscript{15} Чапрова 1981, 98–99, Obr. 56.
\item \textsuperscript{16} Karpuzova 2005, 189–190, Fig. 28; for earlier finds, see Соколовска 1986, Sl. 21. 12–22.
\end{itemize}
has led to the logical assumption that this was a weaving workshop.\textsuperscript{17} The published loom weights and spindle whorls from the sites of Isar–Marvinci,\textsuperscript{18} Golem Grad–Prespa,\textsuperscript{19} Trebeništa,\textsuperscript{20} Gradište–Nerezi,\textsuperscript{21} Isar–Studenti~ani\textsuperscript{22} and Kočani,\textsuperscript{23} have helped form an idea of the frequency of these more or less similar shapes. In the upper Southern Morava valley, at the site of Kaci-pup near Preševo, a late Classical/Hellenistic settlement has been discovered with material containing a number of loom weights. These include pyramidal type pieces (some impressed with intaglios), a few spools, but not a single fiddle-shaped weight (Fig. 10).\textsuperscript{24} Whether this is attributable to local distinctiveness or to chance is difficult to say, but the question certainly is interesting given that Kacipup is no more than thirty kilometres away from Krševica, where fiddle-shaped weights form a substantial majority.

The overview of all these sites shows that the weaving tools from Krševica have many analogies in Bulgaria and FYR Macedonia. It is observable, however, that pyramidal loom weights occur in a much broader Mediterranean area, while the fiddle-shaped type becomes increasingly characteristic of the north Aegean, notably Thrace, Macedonia and Paeonia.\textsuperscript{25} The valleys of the Vardar and the Struma carried people and goods all the way to Krševica, where not only this weaving equipment was manufactured but also local »Hellenized« pottery, by far more numerous and more important.

The significance of this, so far unique, settlement in the Southern Morava valley is evidenced by its well-developed industries such as pottery-making and weaving, which in the fourth and early third centuries B.C. were at least capable of meeting the local needs.

\textsuperscript{17} Mitrevski 2005, 60–62, Fig. 55.
\textsuperscript{18} Соколовска 1986, 88, Т. 36; Шурановски 1987.
\textsuperscript{19} Битракова Грозданова 1989, 118, Сл. 28–36.
\textsuperscript{20} Кузман 1985, 50, Т. XVII 11–19; XIX, XX, Т.Е.
\textsuperscript{21} Соколовска 1986, Сл. 5,8–9.
\textsuperscript{22} Соколовска 1986, Сл. 9,15–17.
\textsuperscript{23} Атанасова, Карпузова 2006, 123, Т. XVI.
\textsuperscript{24} Vukmanović, Popović 1982, 201, Т. V. 3–6; Krstić 1996.
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ИНДУСТРИЈА ТЕКСТИЛА НА ЛОКАЛИТЕТУ КАЛЕ У КРИШЕВИЦИ (ЈУГОИСТОЧНА СРБИЈА) У IV–III ВЕКУ ПРЕ Н.Е.

На овом локалитету недалеко од Бујановца током истраживања 2001–2006. године откривени су значајни остаци насеља с краја класичног и почетка хеленистичког периода. Поједини многобројни налази, који припадају IV и првим деценијама III века пре н.е., откривено је преко хиљаду целих и фрагментованих ткачких тегова, приплићена и калемова од којих је обрађено 1038 боље очуваних и карактеристичних примерака. Овом броју треба привлаћити и тридесетак комада из Народног музеја у Врању који су прикупљени и објављени после првих ископавања у Кривечи 1966. године. Основне типолошке одлике овог материјала односе се на 314 тегова у облику пирамиде (тип А – 35%; Сл. 1; Т. I–III), три тега у облику купе (Т. IV. 35–37), 432 овална тега у облику виoline (тип В – 48%; Сл. 2; Т. IV. 38–47; В) и 149 дискоидних тегова (тип С – 17%; Сл. 3; Сл. Т. VI; VII. 72–76). Прпиленци коришћени за прећу заступљени су са само 22 примерка (Сл. 4; Т. VII. 77–85), а 118 комада односи се на калемове који су имали широку примену, али се често објављују заједно са овим врстом налаза (Сл. 5; Т. VII. 86). На извесном броју тегова налазе се ознаке или жигове урезани или утишњу у меку глину, који су представљали „защитне зна-ке“, докаже о власништву, или су имали декоративну улогу.

Приликом ископавања у Кривечи тегови су откривени у скоро свим сондама, али осим мањих концентрација за сада нису откривене веће групе које би могле да се односе на објекте са радним простором, или радницима. Према странографским познавцима највише ових налаза почиње из горњих слојева. По свему суђени од краја IV века пре н. е., поред значајних грађевинских подручја, просперитет насеља огледао се и у порасту становништва, па сходно томе у већем интензитету ткачке делатности. О томе, поред великог броја тегова, доста говоре и палеоантропологи анализе. Показало се да после говечета најстављености врсту чине овце, а вуне је у овом случају представљала једну од основних сировина.

Не улазећи у проблематику ове специфичне делатности, као илустрацију наводимо само два примера. То су пирамидални тегови и вертикални разбој из касног бронзаног доба који је реконструисан према резултатима археолошког ископавања на једном локалитету у северној Немачкој (Сл. 8). Други пример је атичка ваза из VI века пре н. е. са познатом сценом где жене, или девојке раде на разбоју, што живо одсликава нитниму атмосферу грчког породичног домаћинства (Сл. 9). Сличности су очигледне, а тегови и остали прибор, укључујући и разбој, били су уобичајена појава на свим већим насељима где су се обично девојке и жене бавиле ткањем. Материјал из Кривече има бројне аналогије са локалитетима из Бугарске и Македоније, али са све већим бројем налаза стиче утисак да поред пирамидалних тегова, који се срећу на далеко ширем медитеранском простору, овални тегови у облику виoline постају карактеристика северногелатских, и посебно трачких, македонских и пеонских областима. Тако су долинама Вардаре, Струме и даље све до Кривече стизали људи и роба, где се потом израђивао не само ткачки прибор, већ и далеко бројнија и значајнија лока - лине «хеленизирана» керамика. О значају овог за сада јединственог насеља у долини Јужне Мораве, које је одржавао близке контакте са Егејом, поред других налаза сврховне и развијене делатности попут гричарства и ткачког заната који су у IV и почетком III века пре н. е., у најмању руку, задовољавале осnovne потребе становништва.
Plate I – Pyramidal loom weights of regular shape 1–11

Табла I – Правилни пирамидални шевови 1–11
Plate II – Pyramidal loom weights of truncated shape 12–22

Таблица II – Тетови у облику зарубљене пирамиде 12–22

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Plate III – Pyramidal loom weights of truncated shape 23–34

Table III – Тетови у облику зарублене ипрадице 23–34
Plate IV – Cone-shaped weights 35–37; Oval or fiddle-shaped loom weights 38–47

Таблица IV – Тегови у облику купе 35–37; овални тегови у облику виолине 38–47
Plate V – Oval or fiddle-shaped loom weights 48–62

Таблица V – Овални тегови у облику виолине 48–62
Plate VI – Discoid loom weights 63–71

Таблица VI – Дискоидни шеови 63–71
Plate VII – Discoid loom weights 72–76; Spindle whorls 77–85; Spool 86

Таблица VII – Diskoidni тегови 72–76; пръченици 77–85; калем 86