

NS 7

RECHERCHES ARCHÉOLOGIQUES



L'INSTITUT D'ARCHÉOLOGIE
DE L'UNIVERSITÉ JAGELLONNE DE CRACOVIE

RECHERCHES ARCHÉOLOGIQUES
NOUVELLE SERIE

**L'INSTITUT D'ARCHÉOLOGIE
DE L'UNIVERSITÉ JAGELLONNE DE CRACOVIE**

**RECHERCHES ARCHÉOLOGIQUES
NOUVELLE SERIE 7**

KRAKÓW 2015

© Copyright by Institute of Archaeology of the Jagiellonian University, Kraków 2015

RÉDACTEUR EN CHEF

Marek Nowak

SÉCRÉTAIRE DE LA RÉDACTION

Marcin S. Przybyła

COMITÉ DE RÉDACTION

Jan Chochorowski, Krzysztof Ciałowicz, Ulla Lund Hansen, Renata Madyda-Legutko,
Vjacheslav I. Molodin, Ewdoksia Papuci-Władyka, Jacek Poleski, Pál Raczky, Paweł Valde-Nowak

RÉDACTEURS DU SUJET

Wojciech Blajer, Janusz Ostrowski, Krzysztof Sobczyk, Joachim Śliwa

COMITÉ DE LECTURE

Ruth Balnkenfeldt, Ján Beljak, Tomasz Bochnak, Klaus Cappenberg, Adam Cieśliński, Jan Jílek, Stefan
K. Kozłowski, Andrzej Michałowski, Jan Schuster, Marián Soják, Jarosław Wilczyński, Marzena Woźny

ÉDITEURS DE LANGUE

Piotr Godlewski, Aeddan Shaw

MAQUETTE DE COUVERTURE

Wydawnictwo i Pracownia Archeologiczna PROFIL-ARCHEO Magdalena Dzięgielewska

MISE EN PAGES

Wydawnictwo i Pracownia Archeologiczna PROFIL-ARCHEO Magdalena Dzięgielewska

EN COUVERTURE

Plaque commémorant 150 ans d'éducation dans le domaine de l'archéologie à l'Université Jagellonne,
dans l'hall du siège de l'Institut d'Archéologie UJ à Collegium Minus

ADRESSE DE LA RÉDACTION

Instytut Archeologii Uniwersytetu Jagiellońskiego, ul. Gołębia 11, PL 31-007 Kraków
mniauj@interia.pl; mszprzybyla@gmail.com

www.farkha.nazwa.pl/RechACrac/

www.archo.uj.edu.pl/RechACrac/

La version originale des Recherches Archéologique Nouvelle Serie est la version papier

“Recherches Archéologiques Nouvelle Serie” est régulièrement sur la liste dans The Central European
Journal of Social Sciences and Humanities

ISSN 0137-3285

Publikacja finansowana przez Uniwersytet Jagielloński
Cette publication est financée par l'Université Jagellonne

CONTENU

ÉTUDES

Jan Chochorowski: <i>150 years of prehistoric archaeology at the Jagiellonian University</i>	7
Joanna Jędrzyk, Tomasz Wagner: <i>The Kroczycka Cave – the history of research in the light of the most recent interpretations</i>	37
Małgorzata Byrska-Fudali, Marcin M. Przybyła: <i>Wooden artefacts from site no. 2 in Modlniczka</i>	61
Bartłomiej Rogalski: <i>The Roman Period in the Lower Oder region – issues of the Lubusz group</i>	77
Armin Volkmann: <i>Archäologisches Informationssystem (AIS) zur bodendenkmalpflegerischen Archivierung und Forschung: Fallbeispielhafte Anwendung zur Identifizierung der Besiedlungsdynamik der Oderregion von der späten römischen Kaiserzeit bis zum Frühmittelalter</i>	119

RAPPORTS

Małgorzata Byrska-Fudali, Tomasz Fudali: <i>Investigations conducted in 2014 at the settlement in Kryspinów, site no. 3, com. Liszki</i>	145
Joanna Zagórska-Telega, Jacek Pikulski, Anita Szczepanek: <i>Excavations on a multicultural site I at Michałowice, Czarnocin commune, Świętokrzyskie province, season 2012</i>	157

Joanna Jędrzyk¹, Tomasz Wagner¹

The Kroczycka Cave – the history of research in the light of the most recent interpretations

Abstract: The Kroczycka Cave is an archaeological site located in southern Poland, in the Krakow-Czestochowa Upland. The history of exploration of the site began in 1936, when miners found forty skeletons inside the cave. The discoverers also found artefacts dating back to the Early Migrations Period and pottery connected with late phases of the Lusatian culture. However, the Kroczycka Cave has not been investigated on a larger scale so far, which results in hitherto discoveries bringing more questions than answers. It is important to emphasise that this is the first paper to present the full history of studies on the Kroczycka Cave in the light of recent interpretations. The paper also brings the analysis of the episodes of Late Holocene occupation both inside the cave and in the plateau in front of the entrance, followed by the discussion of several possible interpretations based on the location of the site and the distribution of artefacts discovered there over the 20th and 21th century. Furthermore, the study presents the geographical and environmental context of the site, as well as a range of analogies from other cave sites in Europe. It is concluded that the lack of precise analogy makes determining the function of the Kroczycka Cave itself and its surroundings very difficult. The present paper provides a basis for further investigations.

Keywords: Kraków-Częstochowa Upland, cave, mortuary practice, Kroczycka Cave, Lusatian culture, Early Migrations Period

Introduction

Studies concerning the so-called cave settlement in Holocene are still at an early stage in Poland. Most of the research undertaken since the 19th century has focused on the “Diluvial era”, i.e. the Palaeolithic, and the Kraków-Częstochowa Upland is no exception here. The studies on the settlement that flourished in the Polish Jura during the Neolithic and Early Bronze Age have also been relatively abundant and the issue is present in archaeological literature. The same cannot be said, however, of the transformations that took place during the development of the Lusatian and Przeworsk cultures, and which led to the formation of a very specific type of settlement in the Kraków-Częstochowa Upland. The focus of this paper is the Kroczycka Cave, situated in the northern part of the Polish Jura, in the Częstochowa Upland. No regular

¹ Institute of Archaeology, Jagiellonian University, 11 Gołębia St., 31-007 Kraków, Poland; joajedryk@gmail.com, tomaszwagner@interia.pl

archaeological excavations have ever been conducted inside the cave, which on the one hand makes the site unique, but on the other hand results in controversy concerning the interpretation of finds made in the cave since the 1930's. The history of the exploration of the site, presented here sometimes in considerable detail, offers an excellent illustration of the discussed problems and contributes to the discussion on its function in relation to other cave sites in Europe.

Archaeological sites in the Kroczyce Rocks

The Kroczycka Cave (also known as the Żurowski Cave or the Cave in Kroczyce) lies in the Częstochowa Upland, in the area of the Kroczyce Rocks, on the south-western slope of the Popielowa Hill (Fig. 1). In older books and tourist maps the site was often erroneously shown as situated on the neighbouring Lysak Hill or Pośrednia Hill (e.g. Wrześniński 2006, 246). This was allegedly a deliberate action taken to prevent the cave from being vandalised. Although the access to the cave is difficult and the site is far from tourist trails, it is nevertheless frequently visited. In terms of administrative division, the site is situated in the village of Kroczyce Okupne in Kroczyce commune, Zawiercie district. Some of the older publications incorrectly mention it as site 3 in the village of Kostkowice (Cyrek 1997). In Kazimierz Kowalski's catalogue, the cave was given the number 444 (Kowalski 1951, 402), in another catalogue developed in the 1980's it is listed under number V.B.41 (Szelerewicz, Górny 1986, 120), while in the catalogue of the Polish Geological Institute the site is designated as J.Cz.III-06.23² (Mikuszewski 2010). Currently the entire area of the Kroczyce Rocks is part of the Natura 2000 Special Area of Conservation: *Ostoja Kroczycka*.

² www.jaskiniepolski.pgi.gov.pl/Details/Information/3604 [date of access: 28.03.2015]



Fig. 1. Plateau in front of the entrance to the Kroczycka Cave. Excavations in season 2015 (photo by R. Kenig)

Apart from the Kroczycka Cave, there also are other archaeological sites in the Kroczyce Rocks range. They were described already in K. Kowalski's catalogue (1951, 400–404), and later mentioned in several other publications (Mazik 2013a, 55–56, and older literature quoted therein). Most recently, the attempt to verify and catalogue the caves in the Kroczyce Rocks was undertaken by K. Mazik (2013a; 2013b). Proceeding from K. Kowalski's catalogue (1951) and the findings of W. Chmielewski (1975), Krzysztof Cyrek from the Nicolaus Copernicus University in Toruń investigated several sites including few shelters on Góra Słupsko (Cyrek 1994a; Krajcarz *et al.* 2014), Krucza Skała Shelter (Cyrek 1994b), Kroczycka Cave (Cyrek 1997), Deszczowa Cave (Cyrek *et al.* 2000; Krajcarz *et al.* 2014), and Złodziejska Cave in Pośrednia Hill (Cyrek 2007). His further research focused on the Krucza Skała Shelter and the Deszczowa Cave, as this was where the traces of Late Palaeolithic hunters had been discovered (Cyrek *et al.* 2000, 56–74; Cyrek 2009, 151–155; Stefaniak *et al.* 2009, 103–104). The excavations in the Krucza Skała Shelter produced fragments of pottery dated to the 13/14th century AD (Wojenka 2012, 26), but most importantly for our discussion, also revealed a Przeworsk culture settlement from the Late Roman Period. The explored area probably covers only a part of the settlement, with the relics of dwellings discovered directly under the overhanging ledge of Krucza Skała; the dwellings yielded two clay spindle-whorls and 84 fragments of *Krausengefässe* type vessels (Cyrek 1994b, 38–41). Late Medieval materials, dated to the 14th or 15th century AD, are also known from the Złodziejska Cave in Pośrednia Hill (Cyrek 2007; Wojenka 2012, 26). In the Góra Słupsko Shelter (so-called Krzemieny Okap in Słupsko) the relics of a workshop producing flint axes were discovered, associated with the Corded Ware culture (Cyrek 1994a; Cyrek 2009, 152–153). On the same hill, in the the Nad Bramą Słupską Cave, traces of occupation dated to the 9–10th century AD were found (Cyrek *et al.* 2011, 49; Wojenka 2012, 21; Krajcarz *et al.* 2014, 26). The latter discovery is undoubtedly linked with the stronghold functioning on the Słupsko Hill, which is dated to the 9–10th century AD based on a hoard of axe-shaped *grzywnas* discovered there (Zagórska-Telega, Bochnak 2001; Rozmus *et al.* 2006; Wojenka 2012, 21). Another important site, representing several different episodes of prehistoric occupation, is the so-called Wisielca Cave (also known as Pod Bramą Cave in Jarzębnik, or as Wisieluch). The excavations in this site, led by archaeologists from Warsaw University, only started in 2013, although the rumours about metal objects and pottery allegedly discovered in large numbers by treasure hunters have been circulating for several years. Among the finds reportedly originating from the Wisielca Cave there is a hoard of metal objects, comprising of a solidus of Emperor Constantius II provided with a loop, about 70 silver denarii, and two A158 brooches along with silver and gold pendants, most likely elements of a necklace representing the Dančeny-Brangstrup horizon, parallels for which can be found in the Cherniakhov and Sântana de Mureş cultures (Dymowski 2007, 54–61; 2011, 89–91). Regular archaeological excavations have brought the discovery of a ceramic assemblage including fragments of *Krausengefässe* vessels and wheel-made sherds, another A158 brooch, an amber bead, a bronze pendant in the shape of a battle axe, a fragment of a bronze belt finial, and rotary querns. All these objects date to the Late Roman Period and the early phase of the Migrations Period. The authors briefly mention the presence of artefacts linked with other periods: the Palaeolithic, Neolithic, Bronze Age, the Lusatian culture of the Early Iron Age, as well as a vast collection of finds of Medieval and Early Modern chronology (Rudnicki, Sobczyk 2013, 69–70). It is also worth mentioning here the accidental discovery made in 2011 by speleologists in the so-called Studnia z Czaszkami in Kostkowice, in the immediate vicinity of the Wisielca Cave, where human remains belonging to no less than three individuals were found at the bottom of a karst pit cave. No artefacts were found. All we can say at the present stage of research

is that we are dealing with an archaeological site of undetermined chronology (Mazik 2013c; Protokół oględzin...)³.

Thus, in the Kroczyce Rocks we have two Neolithic sites (Góra Słupsko Shelter, Wisielca Cave), two Lusatian culture sites occupied in the Late Bronze and Early Iron Age (Kroczycka Cave and Wisielca Cave), and three sites used during the Late Roman and/or Early Migrations Period (Kroczycka Cave, Wisielca Cave, and Krucza Skała Shelter), along with traces of settlement dating to the early and late medieval period. The sites marked on the map (Fig. 2) are those investigated archaeologically. They are distinguished by their characteristic location on the steep slopes running down to what once was the valley of the Białka river, now partially transformed into a reservoir⁴. Both Kroczycka and Wisielca Caves have spacious central chambers, large enough for a man to stand upright. The entrance in both cases is situated in the western slope of the hill and hidden from the sight of somebody approaching the cave from the Białka valley. Despite the fact that the region is densely covered with forest, when standing at the entrance to any of the two caves one has a good view of the small valleys going down to the north, to the bottom of the Białka valley. The Krucza Skała Shelter can also be seen as a relatively large formation. In addition, the Przeworsk culture settlement most likely spreads further beyond the area of the shelter itself. The site is situated near the bottom of the Białka valley, and the rock overhang also points to the north. Such a location of the sites is not a coincidence: it might have had a symbolic dimension or have been related to the access to the nearest water source, crucial for the existence of small cave settlements. At the present stage of research we cannot also rule out that an important factor in choosing the location by people living in the Late Bronze/Early Iron Age and the Late Roman/Early Migrations Period could have been its defensive advantages.

³ Information and unpublished materials provided by courtesy of Krzysztof Mazik.

⁴ The map (Fig. 2) dates to the 1970's, when the Main Line railroad was only in the initial phase of construction, and the reservoirs of the Kroczyce Commune had not yet been built.

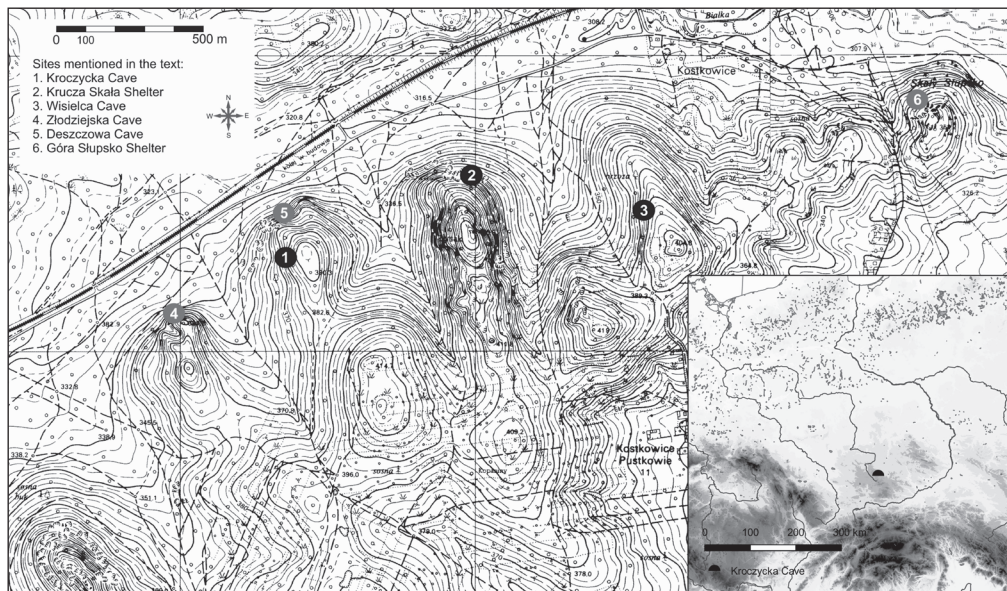


Fig. 2. Archaeological sites in the Kroczyce Rocks region

Kroczycka Cave – the history of exploration

The Kroczycka Cave was discovered in March of 1936 during the works connected with searching for spar (crystalline calcite). The parcel on which the cave is situated belonged to Kwaśniewski family from the Marianka hamlet near Kroczyce at that time⁵. After entering the cave, workers noticed a concentration of human bones, traces of hearths, stone querns and pottery. The discovery was reported to local teachers, who in turn sent the information to Ubezpieczalnia Społeczna and Kasa Komunalna in Zawiercie. By the time the officials arrived, however, local people had already looted the cave for human remains and stone querns. One of the workers, Antoni Cichoń from Podlesice, decided to inform archaeologists from the Jagiellonian University in Kraków about the discovery. In his message he wrote: “*there are two piles containing large number of human bones, along which there is a large hearth and sherds from clay pots, and by the cave wall there is water in a trough resembling a manger*” (Fitzke 1936). On the 25–26th of March 1936 the site was visited by a group of students from the Association of Prehistorians of the Jagiellonian University (now the Archaeology Students Club) led by Jan Fitzke, then a teaching assistant in the Chair of Prehistoric Archaeology in the Jagiellonian University (Fig. 3).

When the archaeologists arrived it turned out that an official from Ubezpieczalnia Społeczna had ordered the water-filled “stone manger” to be broken. The first task of the archaeologists was to recover the artefacts and bones taken by the locals. “*(...) The school headmaster returned several fragments of vessels and a few human jaws. The commune: a few human jaws (3). The district official gave back human jaws, potsherds, and various rotary quern-stones with quadrilateral apertures in the middle. Skulls, several dozen of which were originally found in the cave, could not be retrieved*” (Fitzke 1936). “*From the local postmaster – rotary querns with a quadrilateral aperture in the middle*” – the mentioned querns were taken from the cave and later returned to Jan Fitzke by Józef Ciupała, a post officer from Kroczyce (IKC no 95). The original number of skeletons in the cave allegedly amounted to around 40 (Fitzke 1936; IKC no 95).

The archaeologists searched the cave, too. Inside, they noticed that “*next to the hearths, human skeletons are chaotically piled in three stakes. The thorough inspection of the hearths produced numerous fragments of Late Roman Period vessels, including several belonging to grey pottery*” (Fitzke 1936).

Unfortunately, the mixing of artefacts and bones by the workers and local people, as well as the lack of time and money to start excavations, made it impossible to determine the chronological and cultural attribution of the skeletons. Fitzke decided to name the newly discovered cave after Józef Żurowski, an archaeologist who had died few weeks before (Fitzke 1936; IKC no 95). The name is still used sometimes by archaeologists. The discovery attracted great interest from the press, with newspapers publishing numerous articles about the unusual finds⁶.

The archaeological material and human bones were taken to the Archaeological Museum in Kraków. However, the current place of the bones deposition cannot be verified, as they were most likely lost during the WWII. Alternatively, the human remains might have been buried in the parish cemetery at Kroczyce, as told by some of the villagers. The discoveries of artefacts and bones in the cave have been reported from time to time also in later years, e.g. by Kazimierz Kowalski (1951, 402) in late 1940’s, till the present day.

⁵ Oral information from Józef and Michalina Kotuła from Dobrogoszyce, the current owners of the plot.

⁶ GW nr 93, 1936; IKC nr 94, 1936; IKC nr 95, 1936; IKC nr 107, 1936; Or nr 171, 1936, 65–66; OW nr 11, 1936.



Fig. 3. Photo taken by Jan Fitzke in 1936, showing the interior of the cave with explorers and students from Kraków. Archive of the Archaeological Museum in Kraków

The chronological and cultural determination of the ceramic material from J. Fitzke's excavations kept in the Archaeological Museum in Kraków under the inventory numbers 7316–7320 was undertaken by Róża Mycielska and Ewa Rook (1966). Apart from two clay discs and fragments of one vase (Plate 2: 6), the material in question is chronologically homogenous and should be dated to the Late Roman and early phase of the Migrations Period. The Przeworsk culture potsherds can be divided into two groups: wheel- and hand-made. There is a slight predominance of kitchen ware in the material (represented by ca 10 vessels) including large S-shaped pots and one *Krausengefass* vessel. So-called table ware is represented by fragments of wheel-made goblets and bowls, decorated with polished geometric motifs (Mycielska, Rook 1966) (Plate 2: 3–4). In the collection of the Archaeological Museum in Kraków, recorded under inventory number 7317, there also is the upper quern-stone retrieved by J. Fitzke, and which has already been published several times (Reyman 1936, 170, plate 27: 5; Nasz 1950, 21, 58, fig. 15b, plate 3: 1, 2; Mycielska, Rook 1966, 186; Wielowiejski 1960, 122–124, fig. 43, 46; Wielowiejski 1981, 370, fig. 181: 2). The upper stone (handstone) from the Kroczycka Cave survived in $\frac{3}{4}$; the remaining $\frac{1}{4}$ was kept by the post officer (Reyman 1936, 170). It is made of sandstone and shaped in the form of a loaf of bread. The diameter is 31 cm, and the thickness in the central part amounts to 6 cm. The lower surface is covered with small hollows. Puncturing the handstone with hollows could have been aimed at preventing the working surface from being smoothed, or producing coarse grained flour or grits. The aperture is square, 5.5 cm each side (Plate 1: 10). The stone might have been moved in half-turns or rotated using a handle resembling a crank (Nasz 1950, 47, fig. 15b; Wielowiejski 1960, 123–124; 1981, 370). The find from the Kroczycka Cave was also described by J. Woźny (2014, 321) as one of the symbols of agrarian cult. Rotary querns appeared as early as in the Pre-Roman period, but in the Younger and Late Roman Period they became much more widespread, especially in southern Poland. This coincides with the increase in settlement density in that period and new developments in the technology of cereal processing (Wielowiejski 1981,

333, 370; Rodzińska-Nowak 2012, 128–130). The find from the Kroczycka Cave can be attributed to type VIb, which groups loaf-shaped querns with square apertures (Lies 1963, 320, fig. 8).

The archaeological material deposited in the Museum originates from the vicinity of four hearths discovered among the stone rubble covering the bottom of the cave. Jan Fitzke mentions only three hearths⁷. In his reports he also notes that one hearth was situated “*to the right, near the entrance, and two others in the centre. By the hearths, human skeletons are chaotically heaped in three piles. In the corner by the wall there was a trough-shaped cavity in the rock (...)*” (Fitzke 1936). The artefacts found near hearth no 1 comprised the following: two fragments of clay discs, one vase (5 fragments), one fragment of a graphite-coated vessel, and four tiny sherds from S-shaped pots. Those uncovered around hearth no 2 included a rotary quern, ten S-shaped pots (71 fragments, including 5 secondarily burned sherds) and one *Krausengefass* vessel (87 fragments). The material from hearth no 4 consisted of 12 fragments belonging to three wheel-made vessels. According to the Museum’s inventory, in 1971 it was realised that box no 7319, containing the materials from hearth no 3, was missing. The lack of precise information about the spatial distribution of hearths, human bones, and artefacts makes all the analyses and interpretations of the site’s function hardly reliable.

In the Archaeological Museum in Kraków, recorded under inventory no 7324, there also were bones belonging to animals. In all the hitherto publications they are assumed to be connected with J. Fitzke’s visit to Kroczyce in 1936. However, the information provided on the label suggests that the bones were “*the donation from Mr Münch, August 1937*”. The collection undoubtedly includes the bones of Pleistocene fauna,⁸ but also of domesticated animals, modern or prehistoric (*Sus scrofa* and others). They were supposedly discovered “*in the cave’s corridor*”. Judging from the entire context of the site discovery, and from the fact the Kroczycka Cave has one large chamber with small, narrow corridors around it, it can be concluded that the discussed bones were recovered either during the early speleological exploration or as a result of the subsequent activity of people searching for calcite. No archaeozoological analysis or radiocarbon datings have been carried out as yet, so the scientific value of the mentioned bone material still remains to be verified.

In the 1970’s, samples of human bones were taken from the cave, and which were subsequently analysed for the contents of lead (Pb) and radium (Ra) in the Central Laboratory for Radiological Protection, Warsaw. The aim was to compare them with the samples dated to the Middle Ages and the Modern period. All the analysed bone samples from the cave revealed the lowest concentration of lead (Pb), but with a relatively high concentration of radium (Ra). This led to a rather controversial conclusion that the low lead concentration was due to the not yet much developed metallurgy of that metal in the Roman Period. The relatively high concentration of radium was supposed to stem from the deposition of the bones in a specific cave environment saturated with highly mineralised water, and to some degree also from the higher consumption of bread and cereals, which are the main sources of radium in a diet (Jaworowski, Bilkiewicz 1982, 159–167).

In 1983, a group led by Jacek Wrzesiński (2006) carried out a brief surface survey within the cave. They found human and animal bones, and fragments of pottery dated to the Late Roman/Early Migrations Period. As can be seen from a schematic plan of the cave presented by J. Wrzesiński, the material was found in three “clusters”, not far from the entrance (Wrzesiński 2006, 247). A part of the discovered human bones were subjected to anthropological analysis,

⁷ The discrepancy probably stems from a mistake made in 1936, which we are unable to account for without the access to the documentation from that period.

⁸ Unpublished materials, made available courtesy of the Archaeological Museum in Kraków.

which revealed the predominance of children (nine individuals aged *Infans I* or *Infans II* were identified). In addition, the remains of two individuals aged *Iuvenis* were found, as well as six adults: five men and one woman. Apart from human remains, also the bones belonging to animals were identified, including those of goat/sheep, birds, and single metatarsal bones of a horse. The discovered artefacts comprised several dozen fragments of handmade vessels along with up to 20 wheel-made sherds, a bronze fibula (A.VI.158), and three beads (Wrzesiński 2006, 248–249). The fibula is approximately 4.5 cm long, although its foot is only partially preserved. The bow is oval in section, and the head is provided with a four-coil spring (Plate 1: 1). The fibula belongs to subtype 1 of the Ojców type (Jakubczyk 2014). The group of Almgren's VI one-piece brooches described as the Ojców type is characteristic of the cave sites in the Kraków-Częstochowa Upland. They date to phases C1a till D, although in the context of cave finds from the Kraków-Częstochowa Upland, their chronology should more likely be narrowed down to the final phases of the Przeworsk culture, i.e. phases C3–D (Jakubczyk 2014). The first bead, made of clay, is black and is decorated with red thread forming a zig-zag, framed by two parallel white lines (Plate 1: 5). It represents type 480 of group LVI, which dates to phases B2–D (Tempelmann-Maczyńska 1985, 87). Another bead, made most likely of carnelian (Plate 1: 6)⁹, belongs to group LVII, type 504. Such beads date to phases C3–D (Tempelmann-Maczyńska 1985, 89). The third bead is made of bone and has a light crème-beige colour (Plate 1: 7)¹⁰. Its form places it within group LVII, type 494, which is dated to phases C1–D (Tempelmann-Maczyńska 1985, 88). The potsherds and bone material were left in the cave and covered with a layer of rubble for protection (Wrzesiński 2006, 248). At present, it is impossible to find the place where they were buried.

The cave was most likely searched again in the early 1990's by a group of geologists from the Academy of Mining and Metallurgy in Kraków, who collected several fragments of pottery as well as human and animal bones¹¹. Some of the human bones are covered with speleothem. The collection of sherds comprises 12 fragments of the Lusatian culture pottery and 7 fragments attributed to the Przeworsk culture. The Lusatian pottery can be linked with the HaC period thanks to the presence of the large fragment of a tiny goblet decorated with flutes (Plate 2: 1), parallels for which can be found in Z. Durczewski's publication (1948, plate 65: 41). No other distinct forms were found. The Przeworsk culture material is represented by small fragments of S-shaped vessels, most of which are covered with a layer of calciferous speleothem. The size of particular sherds does not exceed 20 cm².

In 1991, during the field-walking survey carried out in the Kroczyce region, nine fragments of pottery were found in the cave (Foltyn *et al.* 1992, 15–16). They belonged to three vessels. The first one, represented by five fragments (mostly of the rim), was a biconical vessel with slightly everted rim. Its outer, coarsened surface was of a brown colour, while the inside of the vessel was black. It was made of clay tempered with sand and crushed stone. The above vessel should most probably be linked with the Lusatian culture. Fragments of another vessel had brown surfaces, with fine-grained mineral temper. Furthermore, a single fragment of a wheel-made vessel with light-brown walls was found (Foltyn *et al.* 1992, 15–16, fig. 11B). The latter two vessels should be attributed to the Przeworsk culture.

⁹ The raw material cannot be identified with 100% certainty.

¹⁰ We would like to kindly thank Dr Jacek Wrzesiński from the Museum of the First Piasts at Lednica for making available the unpublished information and photographs of the beads and the A158 fibula.

¹¹ The materials have been acquired from the Academy and are currently kept in the Institute of Archaeology of the Jagiellonian University. They were made available for the needs of this paper courtesy of Professor Jan Chochorowski.

The first regular archaeological excavations were carried out in 1993, at the entrance to the cave. Professor Krzysztof Cyrek (1997) opened a test trench 2.5×6 m on the plateau, immediately in front of the rock hiding the cave. The exploration resulted in the discovery of an abundant collection of pottery and other artefacts, recovered from the dark layer of so-called Holocene humus. The earliest Holocene-era occupation in front of the cave was linked with the Lusatian culture of the Early Iron Age (Cyrek 1997, 68). The finds were deposited in the Museum of Archaeology and Ethnography in Łódź and recorded under the inventory numbers IP 1/1993–IP 3/1993. They include the collection of 439 fragments of Lusatian culture pottery as well as 477 potsherds attributed to the Przeworsk culture. In the Lusatian culture pottery (Plate 2: 2), pots with coarsened outer walls and smoothed inner walls of black colour are predominant. The Przeworsk culture pottery comprises 21 fragments belonging to two vessels of *Krausengefass* type, 55 fragments from six other wheel-turned vessels (Plate 2: 5), while the remaining sherds come from S-shaped pots marked by uneven surfaces and thick-grained temper. Also with the Przeworsk culture population one should link six clay spindle whorls (Plate 3: 6–11), a glass bead, a tongue-shaped belt finial made of bronze, and two objects made of iron. The glass bead, of green colour, has the form of a star or a five-petal flower (Plate 1: 8). In M. Mączyńska's classification, such beads are described as type 161 of group XVIII and dated to phases C2–D. The discussed beads very often co-occur in the same assemblages with A 158 brooches (Tempelmann-Mączyńska 1985, 41). The tongue-shaped belt finial is made from a relatively thick sheet of bronze and is provided with rivets attaching it directly to the strap (Plate 1: 2). It can be classed as group VI, type 12, variant 2 in R. Madyda-Legutko (2011, 91–92) classification, and dated to phases C3–D. In the Kraków-Częstochowa Upland, the closest parallels for the find from the Kroczyce Cave are the belt finials from the Ciemna Cave in Ojców, from the Dobrodzień-type cemetery in Olsztyn, and a stray find from Filipowice (Mączyńska 1970, 202–205, plate I: 22; Szydłowski 1974, 143–144, plate CLXXIV: f–i, k, l; Krudysz 2012, 199–202, fig. 2). A similar fitting but representing variant 3 was discovered in the Góra Birów site in Podzamcze, dated to phases C3/D1–D3 (Muzolf 1997a, 127, fig. 7: 6; Muzolf 1997b, 190, plate VI: 1; Mączyńska 1999, 28, fig. 11: 7). Such finials were most likely part of larger sets of belt fittings, which also included buckles of group H, i.e. with a thickened, oval frame. Tongue-shaped belt fittings are particularly typical of male costumes, and their distribution is limited mainly to the Przeworsk culture and the West Baltic complex, although the latter group reveals noticeable differences in decoration (Madyda-Legutko 2011, 91–92). The artefact originally regarded as an iron knife with a twisted handle (Cyrek 1997, 68) cannot be clearly identified (Plate 1: 4). This kind of miniature Lance-Shaped metal objects were present in whole Middle and East Europe in the Roman and Early Migrations Period. The twisted handle type artefacts are only known from Slovakia and southern Poland and show a clear transcarpathian connection between this two regions (Schuster 2005, 430–432). The second iron object (not mentioned in the report from excavations), strongly corroded, provided with four irregularly arranged rivets for attachment (Plate 1: 3) probably originates from a bucket (Szydłowski 1984, 84–86; Becker 2006, plate 27:2, 32:2, 51:2, 58). Also objects analogical in terms of raw material and form are known from the Kaplnka Cave in Slovakia where they were interpreted precisely as iron elements of buckets (Barta 1955, 290, plate 4: 6). Although the Przeworsk culture materials discussed above were dated by K. Cyrek to the early phase of the Migrations period, the most recent analysis suggests they should be placed within the chronological frameworks spanning phases C3–D. The whole of the so-called Holocene materials were scattered throughout the cave without forming any clusters (Cyrek 1997, 68). In the course of Cyrek's excavations a single archaeological feature was recorded, too, which perhaps

can be interpreted as the relic of a Late Roman Period hearth. The exploration of lower levels described as “unstructured sand” yielded a collection of 28 flint artefacts associated with the terminal phases of the Palaeolithic (Cyrek 1997, 69).

Furthermore, a radiocarbon date pointing to the Early Iron Age and obtained from a human bone was said to come from the discussed cave (Stefaniak *et al.* 2009, 324–325). In this context, a paper by J. Koj (1999) was referenced but the quoted publication provides no such information. This does not exhaust the list of incorrect information appearing from time to time in the literature. The inaccuracies concern the administrative attribution and localisation of the site, the references to the alleged description of the cave dated to 1932, the date of the site discovery, or adding Józef Żurowski to the list of the cave’s explorers (Cyrek 1997, 67; Koj 1999, 21; Stefaniak *et al.* 2009, 324–325). In fact, Jan Fitzke’s paper (1932, VIII) devoted to the caves in the Polish Jura does not mention the Kroczycka Cave – the author describes only the history of research on the caves situated in the Ojców Jura. Józef Żurowski died in January 1936, two months before the cave was discovered. Jan Fitzke from the Chair of Prehistoric Archaeology of the Jagiellonian University, who investigated the cave with a group of students (being at the same time members of the Association of Prehistorians, JU), honoured his master and former tutor by naming the cave after him (Fitzke 1936; IKC no 95; Gaczoł 2009, 74–75; Wagner 2010, 6).

In the early years of the 21st century, dark-coloured laminae of speleothems from the Kroczycka Cave were subjected to radiocarbon dating. The analysis made it possible to determine the age of the carbon that accumulated in speleothems and which originated from the wood burned within the cave. The samples were taken from dripstone and from flowstone covering the cave’s bottom. One of them produced the date of 3690±140 BP, and second gave the date of 2560±110 BP. However, the chronological determination of speleothems can be disturbed by natural processes such as forest fires, Aeolian transportation of smoke to the cave interior, or the transportation of charcoal dissolved in water and its deposition in speleothems (Gradziński *et al.* 2003, 533–539). The second of the mentioned dates corresponds to the Lusatian culture occupation in the plateau in front of the cave, dated to the Hallstatt period. The older date has no confirmation in the archaeological material thus far, and might potentially suggest an Early Bronze Age occupation.

The most recent research

Thus far, no regular archaeological excavations nor non-invasive investigations have ever been carried out in the Kroczycka Cave’s interior. In 2014, the authors of this paper opened a test trench 2×7 m wide, adjoining K. Cyrek’s trench from 1993. Plans for the future include undertaking electro-resistance and geomagnetic investigations both within and outside the cave, as well as further excavations. The analysis of stratigraphy and spatial distribution of the discovered artefacts have led us to the conclusions confirming the observations made by K. Cyrek (1997) during his digs. The thickness of so-called dark Holocene humus did not exceed 5–12 cm, the two exceptions being a structure that was most likely a post-hole, and a small pit of an undetermined function (feature 1). The discussed layer contained mixed-up artefacts connected with the Lusatian culture of the Late Bronze and Early Iron Age and the Przeworsk culture of the Late Roman and early phase of the Migrations Period. The chronology of the features remains uncertain. The discovered materials include 216 fragments of pottery attributed to the górnośląsko-małopolska group of the Lusatian culture. Most of them are body sherds from large storage vessels, with outer surfaces rusticated or coarsened and smooth inner surfaces of black colour. The occupation of the plateau in front of the cave from the end of Late Bronze Age till Hallstatt C or even D is suggested by the large number of storage vessels and the presence of a single rim fragment belonging to a

small hemispherical bowl, with a smooth, black surface and an inverted rim. The materials also include a collection of 144 fragments of Przeworsk culture pottery, the predominant forms being so-called S-shaped pots, fragments of a *Krausengefass* vessel, and 14 wheel-made sherds. Five spindle whorls (Plate 3: 1–5), complete or fragmentarily preserved, are biconical forms typical of the Roman Period (Wagner *et al.*, 2016). In addition, an amber bead representing type 430 of group XLII was found in the trench (Plate 1: 9). The discussed type dates to phases C1a–D (Tempelmann-Mączyńska 1985, 75).

Interpretations

In order to explain the function the Kroczycka Cave played in the Bronze and Iron Age it is necessary to refer to chosen studies on this type of sites from throughout Europe, and representing a broad chronological spectrum. The occupation of caves on the islands and coasts of the Aegean Sea in the Neolithic is linked with the seasonal herding of goats and sheep, less often cattle – these were small flocks, kept more for dairy products rather than meat. According to P. Tomkins (2013, 62–63), the above is confirmed by the analyses of animal bones and the stable isotopes analyses of human bones, which point to a diet based on cereal products. At the same time, these sites were used as places of cult, which is reflected by the specific nature of ceramic materials (with the predominance of thin-walled vessels) and by votive figurines (Tomkins 2013, 64–66). When the Minoan culture developed in Crete, and especially in Middle and Late Minoan Period (2000–1100 BC), the number of cave sites increases and their function changes: the caves, along with the temples built in the open landscape, become the primary places of cult, analogically to later extramural sanctuaries of Ancient Greece (Tomkins 2013, 71–73). The repeatability and similarity of rituals performed in the same caves in various chronological periods, and their deep embedding in the cultural landscape speaks for the permanence of the oral traditions what most important connected with such sites (Tomkins 2013, 67).

In written sources, caves are often mentioned in the context of animal husbandry and cult. Proceeding from Homer's *Odyssey* understood as at least partially reflecting the social reality from before the 8th century BC, D. Mlekuž (2007) confronted the archaeological record with the myth of Cyclops from Book IX. In his opinion, Neolithic people inhabiting the caves of Dinaric Alps and in the eastern coasts of the Adriatic were marked by specific customs and a mode of subsistence which was based on the husbandry of sheep and goats, something which distinguished them clearly from the people of the lowlands. They were to become the protoplasts of the mythological Cyclopes, and described as the “others”, “wild ones”, the people different from the “civilised” inhabitants of the lowlands. According to the same author, a similar social situation emerged in this territory again in the Bronze Age (Mlekuž 2007, 73–76). Some of the cave sites yielded finds interpreted as proofs for their seasonal occupation by mobile groups of herders (Mlekuž 2007, 76–78). Another view widespread in Polish archaeological literature is that during the Bronze Age and Early Iron Age, the territory of the Polish Jura was a marginal zone, sporadically penetrated by people from stable settlement microregions, as suggested by the total number of sites in the Jura being lower than in neighbouring areas (Kadrow 2006; Rydzewski 2006). Due to the lack of sufficient archaeozoological and palaeobotanical data for the Kroczyce Rocks and the entire Kraków-Częstochowa Upland, it is not yet possible to determine the function of the cave sites. Brown and rendzina soils predominant in the area belong to the least fertile soils, making agriculture rarely effective. This is why sheep and goat herding remained the basic branch of the local economy as long as the early 20th century. On the other hand, some of the finds, such as for example the prevalence of large storage vessels (Fig. 4)

among the pottery discovered in the plateau in front of the Kroczycka Cave, possibly point to permanent occupation.

The collection of Lusatian culture artefacts retrieved from the Kroczycka Cave and broadly dated to HaB–HaD is one of the most numerous assemblages in the Kraków–Częstochowa Upland. The site belongs to a horizon of settlement activity that encompassed the entire Kraków–Częstochowa Upland. Towards the end of the Bronze Age, Lusatian culture materials appear in caves, and settlements start to be founded on monadnocks. In the majority of cases the materials are not distinct enough to date them with more precision than within the broad chronological frameworks of the Late Bronze Age and Early Iron Age (Rydzewski 2006). Cave sites rose to prominence throughout Central Europe in the terminal phases of the Bronze and in the Early Iron Age, although their number goes down in comparison with the Neolithic. Similarly, the number of sites used in the Early Iron Age is smaller than in the Late Bronze Age (Peša 2006a, 53). The cave finds geographically closest to the Kraków–Częstochowa Upland are known from the West Carpathians in the territory of the Czech Republic, and include such sites as Býčí Skála, Kůlna, or Čertova Díra caves, where the artefacts dated to the Early Iron Age were found along with human remains (Přichystal 1995; Peša 2006a, 54–55; Peša 2006b, 440–443).

Unfortunately, the human skeletons discovered in the Kroczycka Cave in 1936 were lost and cannot be subjected to anthropological analysis or radiocarbon dating. Their connection with the Przeworsk culture is suggested by just such an attribution of the majority of the archaeological material, and by the fact that the bones were reportedly found together with the artefacts. However, the skeletons cannot be regarded as linked exclusively with the Roman Period, as some of them may belong to the representatives of the Lusatian culture.

The site that shares many similarities with the Kroczycka Cave, both in terms of the archaeological material and in the presence of hearths and numerous human bones dated to the Late Roman and Migrations Periods, is the Kaplnka Cave in the Banská Bystrica region in Slovakia. The first test excavations were carried out there in the early 1950's and produced a large collection of pottery. Among the more distinctive finds one should mention two fibulae representing Almgren's group VI, fragments of bucket fittings, as well as charred cereal grains and human and animal bones, discovered in the vicinity of the hearths (Barta 1955, 286–301). The excavations undertaken in the cave in 1996 yielded similar materials, also dated to the Late Roman and early phase of the Migrations Period. The finds included a spindle-whorl, an iron brooch of A 158 type, a bronze pin from another brooch, as well as a bronze belt finial decorated in the manner typical of the Untersiebenbrunn–Sösdala horizon, belonging to type 13 in R. Madyda-Legutko's classification (2011, 99). The trench opened in front of the cave yielded no materials (Ušiak 1998, 161–162, plate 113–114). Even before 1996, a number of artefacts taken from the cave, including Late Roman Period pottery, were successfully recovered from local people (Ušiak 1997, 179–180, plate 146). The whole of the materials from the discussed site can be dated to phases C3–D2, which is to the period spanning late 4th–mid-5th century AD (Tejral 1988; Madyda-Legutko 2011, 99). In archaeological literature it is widely assumed that sites of that kind could have played a ceremonial, cult role, at least this is how the Kaplnka Cave is interpreted, where human bones revealed traces of trepanation and intentional crushing or cutting, especially among younger individuals. Thus, we are dealing here either with a unique post-mortem cult or anthropophagy. There are more sites with human bones in Slovakia that are interpreted in the similar manner, a good example being the Liskovska Cave (Barta 1955, 291–292; Barta 1961, 23–26; Węgrzynowicz 1982, 156–157; Godłowski 1985, 118; Struhár, Soják 2009).

Another line of interpretation is suggested by the appearance over vast areas of Central European Barbaricum of a horizon of so-called upland settlements in the final stages of the Roman



Fig. 4. Grazing sheep in the Częstochowa Upland region. Source: web page of the Centrum Dziedzictwa Przyrodniczego i Kulturowego Jury in Podlesice (www.podlesice.org.pl)

Period. They are known from Moravia, Slovakia, but also from Poland (Pieta 1991; Muzolf 1997b; Mączyńska 1999; Loskotová 2011; Beljak 2014). These settlements were founded on high and isolated hills, often on monadnocks. They often occurred in the same regions that cave settlements, some of which contained human remains or valuable artefacts (Jiřík *et al.* 2008, 185–209). The interpretation of the mentioned upland settlements remains unclear. They are supposed to have been connected with the broadly understood cultural transformation taking place at the end of the Roman Period and in the early phases of the Migrations Period. These, in turn, are thought to be the consequence of the invasion of the Huns of the territory of Central Europe. In this interpretation, the sites in question would play the role of refuges (Dobrzańska 2006, 519–525; Pieta 2008, 457–480). On the other hand, a considerable growth in the density of settlement can be observed in the Kraków–Częstochowa Upland. The above observation, and the nature of the settlement materials discovered in caves, may point to seasonal economic activity (Godłowski 1995, 118, 132; Dobrzańska 2006, 524).

Traces of intensive exploitation of cave sites in the late phase of the Migrations Period and in the beginnings of the Middle Ages are known from the Cantabrian Range in Spain, where they are linked with the Visigoths, and partially also the Vandals. This is especially important taking into account that these tribes (the Goths and the Vandals) moved there at the beginning of the Migrations Period from Central Europe, possibly also from the territory of present-day Poland (Strzelczyk 1992, 79–99). In their nature, cave sites in Spain are similar to those known from the Kraków–Częstochowa Upland or to some of the sites in the Slovak Karst – they share a similar, characteristic set of artefacts of a mixed settlement-sepulchral character. It is worth emphasising that some of the Cantabrian caves were also used in the earlier phases of the Roman Period. This, however, applies to single sites only (Gutiérrez Cuenca, Hierro Garate 2007). An important aspect of the cave sites from the discussed region is the occurrence of human remains, dated to the 7th–8th century AD. They are assumed to reflect the changes in burial rite, connected with the episodes of epidemics (Hierro Garate 2011, with references quoted therein). J. A. Hierro Garate (2011, 390–391) notes the tendency to deposit the burials in caves having narrow entrances and corridors, and situating them in the most distant parts of the cave, which might have been a kind of anti-vampire ritual, but possibly also stemmed from the fear of the spread of epidemics. Another ritual often recorded in such burials is the separation of the skull from the corpse after the decomposition of the body (i.e. after the deposition of the burial). For example, in the Las Penas Cave skulls were placed in a minor side corridor forking from the side gallery, and next broken and burned (Hierro Garate 2011, 360). The same author emphasises two facts: the bodies were most likely not buried, as the skeletons were discovered on the surface of the cave deposit (Hierro Garate 2011, 353–354), and the deceased were laid to rest in their everyday clothes, which most likely were

considered contaminated. In some of the caves a broad spectrum of objects of everyday use were found by the body, including tools, weaving equipment, vessels, buckets, sometimes also charred cereal grains. This is very uncommon for the Christian era and cannot be sufficiently explained, for example, with the survival of pagan customs in countryside (Hierro Garate 2011, 390–391). The age structure of the deceased buried in caves differs from that known from typical cemeteries of the period. The vast majority of the remains discovered in early medieval Spanish caves belong to individuals under 30 years old. In some cases nearly half of the burials fall within the range of 10–20 years old (Hierro Garate 2011, 388). Most of these burials date from the second half of the 7th till the first half of the 8th century AD. This corresponds well with historical sources mentioning epidemics in that period. The quoted author mentions two diseases in this context, namely smallpox and plague, but is inclined to link the cave burials with the latter. Epidemics of plague are much better confirmed in written sources, the primary example being the so-called Justinian Plague, which was present until 750 AD (Hierro Garate 2011, 389–390). The deliberate destruction of bones and the occurrence of charred cereals, which were also recorded in the mentioned Kaplnka Cave in Slovakia, are a very interesting phenomena. It cannot be ruled out that the lack of skulls mentioned by Jan Fitzke in his report from the Kroczycka Cave was somehow connected with this kind of ritual behaviour (Fitzke 1936).

In literature, and in popular science literature in particular, one can find many hypotheses about the Kroczycka Cave. It is worth mentioning here the one claiming that the human bones were deposited in the cave in the modern period. The bones were to reflect the activity of a cult led by a Polish Jew named Jacob Frank, which gained some popularity in this area in the 18th century (Roś 1999; 2001). According to another hypothesis, often repeated in tourist guides, the bodies of cholera victims were thrown down to the cave through the cave shaft. These interpretations cannot be upheld in the light of archaeological sources. The cave shaft itself did not form before the second half of the 20th century, and was never mentioned in earlier publications (Fitzke 1936; Kowalski 1951, 402). Thus, the only entrance to the cave originally led through the lower aperture.

None of the presented hypotheses concerning the function of the Kroczycka Cave can be rejected, as the picture of the site is still far from complete at the present stage of research. The available information can be summarized as follows: the caves situated in the Kroczyce Rocks are unique sites distinguished by uncommon assemblages of artefacts; they played a specific role in the cultural landscape in prehistory and continue to do so today; the Kroczycka Cave witnessed several episodes of occupation, as confirmed by the settlement in front of the cave and the presence of burials (?) inside. The Kroczycka Cave finds no precise analogy among the numerous cave sites in Europe, which makes determining the function of the cave itself and its surroundings very difficult. Therefore, there is a need to undertake a broader programme of archaeological investigation and natural science analyses both for the site and for the entire Kroczyce Rocks microregion.

Studies on the Częstochowa Upland region are financed by the Diamentowy Grant programme (no. 0003/DIA/2014/43) conducted by Joanna Jędrzyk under the supervision of prof. Jan Chochorowski.

Jaskinia Kroczycka – historia badań w świetle najnowszych interpretacji

W roku 1936 w jednej z krasowych jaskiń na północy Wyżyny Krakowsko-Częstochowskiej lokalni poszukiwacze kalcytu odkryli około 40 ludzkich szkieletów – miejsce to zostało nazwane przez archeologów Jaskinią Zurowskiego, a później Jaskinią Kroczycką. Liczne zabytki metalowe, szklane i ceramiczne,

kóre pozyskane zostały ze stanowiska, związane są z wczesną fazą okresu wędrówek ludów, ponadto znaczną część fragmentów naczyń łączyć należy z późną fazą kultury łużyckiej. Nigdy na większą skalę nie badano tego stanowiska, a artykuł ten jest w zasadzie podsumowaniem osiemdziesięcioletniej historii poszukiwań na tym stanowisku w świetle najnowszych badań i interpretacji. Wskazując na wybrane przykłady późno-holocenijskiego wykorzystania stanowisk jaskiniowych na terenie całej Europy, próbujemy dokonać analizy śladów osadnictwa odkrytych na plateau przed otworem wejściowym i we wnętrzu Jaskini Kroczyckiej. Ważnym elementem naszych rozważań jest także kontekst geograficzny i środowiskowy, w którym osadzone jest stanowisko i pobliskie punkty osadnicze. Po raz pierwszy też dokładnie przyglądamy się różnym kategoriom zabytków. Studium przypadku przedstawione w niniejszym artykule ukazuje za równo praktyczne, jak i symboliczne funkcje podziemnych struktur skalnych, lecz nie pozwala jednoznacznie odpowiedzieć na pytanie: jaką rolę pełniła Jaskinia Kroczycka? Prezentowany tekst posiada charakter przyczynkowy i jedynie nieznacznie dotyka problemów interpretacji jurajskich stanowisk jaskiniowych użytkowanych w młodszych okresach prehistorii.

References

- Barta J.**, 1955 *Jaskyne Netopierska a Kaplnka v Nízkyh Tatrách a ich rímske osídlenie s antropologickými nálezmi*, Slovenská archeológia, 3, pp. 286–301.
- 1961 *Zur problematik der Höhlensiedlungen in den Slowakischen Karpaten*, Acta Archaeologica Carpathica, 2, pp. 536.
- Becker A.**, 2006 *Die metallbeschlagenen germanischen Holzeimer der römischen Kaiserzeit*, Jahrbuch des Römisch-germanischen Zentralmuseums Mainz, 53, pp. 345–520.
- Beljak J.**, 2014 *Entwicklung der Ansiedlung im mittleren Grantal von der Latènezeit bis Frühmittelalter*, (in:) R. Madyda-Legutko, J. Rodzińska-Nowak (eds.), *Honoratissimum assenus genus est armis laudare*, Historia Jagellonica. Towarzystwo Wydawnicze, Kraków, pp. 391–405.
- Cyrek K.**, 1994 a *Wyniki badań sondażowych na Górze Słupsko (stanowisko 3) w Kostkowicach, województwo częstochowskie, w 1991 roku*, (in:) E. Tomczyk (ed.), *Badania archeologiczne na Górnym Śląsku i w Zagłębiu Dąbrowskim w latach 1991–1992*, Centrum Dziedzictwa Kulturowego Górnego Śląska, Katowice, pp. 26–33.
- 1994 b *Podsumowanie wyników badań wykopaliskowych w Kruczej Skale (stanowisko 1) w Kostkowicach, województwo częstochowskie*, (in:) E. Tomczyk (ed.), *Badania archeologiczne na Górnym Śląsku i w Zagłębiu Dąbrowskim w latach 1991–1992*, Centrum Dziedzictwa Kulturowego Górnego Śląska, Katowice, pp. 222–226.
- 1997 *Wyniki badań sondażowych przed Jaskinią Kroczycką (stanowisko 3) w Kostkowicach, województwo częstochowskie*, (in:) E. Tomczyk (ed.), *Badania archeologiczne na Górnym Śląsku i w Ziemiach Pogranicznych w 1993 roku*, Centrum Dziedzictwa Kulturowego Górnego Śląska, Katowice, pp. 67–71.
- 2007 *Złodzijska Cave (Grotta Lucyny)*, (in:) P. Socha, K. Stefaniak, A. Tyc (eds.), *Karst and Cryokarst. 25th Speleological School. 8th GLACKIPR Symposium*, Sosnowiec–Wrocław, pp. 20–21.
- 2009 *Archaeological studies in caves of the Częstochowa Upland*, (in:) K. Stefaniak, A. Tyc, P. Socha (eds.), *Karst of the Częstochowa Upland and of the Eastern Sudetes. Palaeoenvironments and protection*, Studies of the Faculty of Earth Sciences, University of Silesia, 56, Sosnowiec–Wrocław, pp. 145–160.

- Cyrek K., Nadachowski A., Madeyska T., Bocheński Z., Tomek T., Wojtal P., Miękina B., Lipecki G., Garapich A., Rzebiak-Kowalska B., Stworzewicz E., Wolsan M., Godawa J., Kościów R., Fostowicz-Frelik L., Szyndlar Z., 2000 *Excavations in the Deszczowa Cave (Kroczyckie Rocks, Częstochowa Upland, Central Poland)*, *Folia Quaternaria*, 71, pp. 584.
- Cyrek K., Krajcarz M. T., Krajcarz M., 2011 *Nowe dane na temat holocenijskich osadów jaskiniowych w Skalach Kroczyckich*, (in:) M. Gradziński, J. Partyka, J. Urban (eds.) *Materiały 45. Sympozjum Speleologicznego*, Ojców, pp. 49–50.
- Dobrzańska H., 2006 *Jura Ojcowska od okresu rzymskiego do początków wczesnego średniowiecza*, (in:) J. Lech, J. Partyka (eds.), *Jura Ojcowska w pradziejach i w początkach państwa polskiego*, Wydawnictwo Ojcowskiego Parku Narodowego, Ojców, pp. 507–544.
- Durczewski Z., 1948 *Grupa górnośląsko-malopolska kultury lużyckiej w Polsce: część syntetyczna (1936–1948)*, Polska Akademia Umiejętności, Kraków.
- Dymowski A., 2007 *Skarby monet rzymskich odkryte w ostatnim czasie na terenie Jury Krakowsko-Częstochowskiej*, *Wiadomości Numizmatyczne*, 51: 1(183), pp. 54–77.
- 2011 *Znaleziska monet rzymskich z terenu Polski rejestrowane w pierwszych latach XXI wieku. Aspekty źródłoznawcze*, Eternum Wydawnictwo z Pracownią Humanistyczną, Zielona Góra, pp. 89–91.
- Fitzke J., 1932 *Znaczenie jaskiń okolic Krakowa i Ojcowa pod względem archeologicznym*, *Kurier Literacko-Naukowy*, 28, p. VIII.
- 1936 *Sprawozdanie z wycieczki do Kroczyce, pow. Olkusz*, Archive of Archaeological Museum in Cracow, briefcase Kroczyce, Archaeological Museum in Cracow (typescript).
- Foltyn E. M., Foltyn E., Waga J., 1992 *Materiały archeologiczne z okolic Kroczyce, woj. częstochowskie*, *Sprawozdania Archeologiczne*, 54, pp. 9–29.
- Gaczol A., 2009 *Jan Fitzke – archeolog, badacz przeszłości Wołynia, muzeolog. Z Wołynia 1936–1939*, Biblioteka „Wołanie z Wołynia”, 63, Biały Dunajec-Ostróg.
- Godłowski K., 1985 *Przemiany kulturowe i osadnicze w południowej i środkowej Polsce w młodszym okresie przedrzymskim i w okresie rzymskim*, Zakład Narodowy im. Ossolińskich, Wrocław-Warszawa-Kraków-Gdańsk-Łódź.
- 1995 *Okres lateński i rzymski* (in:) *Natura i Kultura w Krajobrazie Jury*, 4, Pradzieje i średniowiecze, pp. 113–136.
- Gradziński M., Górny A., Pazdur A., Pazdur M., 2003 *Origin of black coloured laminae in speleothems from the Kraków-Wieluń Upland*, *Boreas*, 32: 3, pp. 532–542.
- Gutiérrez Cuenca E., Hierro Garate J. A., 2007 *El uso de las cuevas de Piélagos entre la época romana y la Edad Media*, (in:) V. Crespo Lastra (ed.), *Catálogo de cavidades del municipio de Piélagos. Actuaciones Espeleológicas 1986–2003*, Ayuntamiento de Piélagos, Santander, pp. 127–137.

GW nr 93, 1936 *Grota w Kroczykach, pow. Olkuski*, Goniec Warszawski: 3. April 1936, 93.

Hierro Garate J. A., 2011 *La utilización sepulcral de las cuevas en Época Visigoda: los casos de Las Penas, La Garma y el Portillo del Arenal (Cantabria)*, MUNIBE (Antropología-Arkeologia), 62, pp. 351–402.

IKC nr 94, 1936 *Kronika Olkuska*, Ilustrowany Kurier Codzienny: 3. April 1936, 94.

nr 95, 1936 *Odkrycie bogatej w zabytki przedhistoryczne jaskini*, Ilustrowany Kurier Codzienny: 4 April 1936, 95.

nr 107, 1936 *Kronika Olkuska: Przypadkowe odkrycie pieczary*, Ilustrowany Kurier Codzienny: 16. April 1936, 107.

Jakubczyk I., 2014 *Die eingliedrigeren Fibeln der Almgrens VI. Gruppe in der Przeworsk-Kultur – Fibeln des Typs A 158*, Recherches Archeologiques Nouvelle Serie, 5–6, pp. 113–218.

Jaworowski Z., Bilkiewicz J., 1982 *Are heavy metals and radium in man related to emissions from coal burning?*, (in:) Health impacts of different sources of energy. Proceedings of a symposium Nashville, 22–26 June 1981, jointly organized by WHO, UNEP, IAEA, Vienna, pp. 159–166.

Jiřík J., Peša V., Jenč P., 2008 *Ein Depot der älteren Völkerwanderungszeit im Elbdurchbruch bei Hřensko und sein kultureller Kontext*, Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege, 50, pp. 185–209.

Kadrow S., 2006 *Późny neolit i wczesna epoka brązu na Jurze Ojcowskiej*, (in:) J. Lech, J. Partyka (eds.) Jura Ojcowska w pradziejach i początkach państwa polskiego, Wydawnictwo Ojcowskiego Parku Narodowego, Ojców, pp. 459–473.

Koj J., 1999 *Stan badań archeologicznych na obszarze ZJPK (teren dawnego woj. częstochowskiego) i perspektywy*, (in:) 9. Sympozjum Jurajskie. Człowiek i środowisko naturalne Wyżyny Krakowsko-Wieluńskiej, Zarząd Zespołu Jurajskich Parków Krajobrazowych woj. katowickiego, Dąbrowa-Górnica, pp. 17–34.

Kowalski K., 1951 *Jaskinie Polski*, 1, Państwowe Muzeum Archeologiczne, Warszawa.

Krajcarz M., Wojenka M., Krajcarz M.T., Cyrek K., 2014 *Wyniki badań wykopaliskowych w Jaskini nad Bramą Słupską w Kostkowicach oraz w Jaskini Deszczowej w Kroczykach, województwo śląskie*, (in:) G. Glanc-Zagaja (ed.), Badania Archeologiczne na Górnym Śląsku i ziemiach pogranicznych w latach 2011–2012, Centrum Dziedzictwa Kulturowego Górnego Śląska, Katowice.

Krudysz L., 2012 *Eine Riemenzunge aus Filipowice, powiat Krzeszowice. Ein Beitrag zum Siedlungsweisen im südlichen Krakau-Tschenstochauer Jura in der frühen Völkerwanderungszeit*, Acta Archaeologica Carpathica, 47, pp. 199–214.

Lies H., 1963 *Die vor- und frühgeschichtlichen Drehmühlensteine im Bezirk Magdeburg*, Jahresschrift für mitteldeutsche Vorgeschichte, 47, pp. 287–323.

Loskotová Z., 2011 *Zur Frage der Nutzung der Höhenlagen im südlichen Bereich der Przeworsk-Kultur am Beginn der Völkerwanderungszeit in Bezug auf die Siedlungen im Jeseníky-Vorgebirge*, Prehled Vyzkumu 52:2, pp. 7–38.

- Madyda-Legutko R.**, 2011 *Studia nad zróżnicowaniem metalowych części pasów w kulturze przeworskiej. Okucia końca pasa*, Historia Jagellonica. Towarzystwo Wydawnicze, Kraków.
- Mazik K.**, 2013a *Historia dokumentacji jaskiń Skał Kroczyckich*, (in:) A. Tyc, M. Gradziński (eds.) Materiały 47. Sympozjum Speleologicznego, Kraków, pp. 55–64.
2013b *Kataster jaskiń Skał Kroczyckich*, Jaskinie, 3:72, pp. 24–27.
2013c *Opis i plan Studni z Czaszkami*, privat archive (typescript).
- Mączyńska M.**, 1970 *Materiały z okresu wpływów rzymskich z Jaskini Ciemnej w Ojcowie, pow. Olkusz*, Materiały Archeologiczne, 11, pp. 199–208.
1999 *Schyłkowa faza kultury przeworskiej*, (in:) A. Kokowski (ed.), Kultura Przeworska, 4, Lublin, pp. 25–53
- Mikuszewski J.**, 2010 *Jaskinie Dolinki Gorzkowskiej, Wzgórz Niegowsko-Mzurowskich, Wzgórz Żarczańskich, Gór Mirowskich, Skał Podlesickich, Skał Kroczyckich oraz okolic Skarżyc i Ogrodzieńca*, (in:) J. Grodzicki, J. Mikuszewski (eds.), Jaskinie Wyżyny Częstochowskiej, 3, Polskie Towarzystwo Przyjaciół Nauk o Ziemi, Warszawa, pp. 273–368.
- Mlekuż D.**, 2007 *Who were the Cyclopes? Odyssey and Neolithic, Eneolithic and Bronze Age pastoralists from the east Adriatic coast and Dinarides*, (in:) M. Blečić, M. Črešnar, B. Hänsel, A. Hellmuth, E. Kaiser, C. Metzner-Nebelsick (eds.), Scripta praehistorica in honorem Biba Teržan, Narodni muzej Slovenije, Ljubljana, pp. 69–83.
- Muzolf B.**, 1997a *Badania wielokulturowego stanowiska na Górze Birów w Podzamczu, województwo katowickie*, (in:) E. Tomczak (ed.), Badania archeologiczne na Górnym Śląsku i ziemiach pogranicznych w 1994 roku, Centrum Dziedzictwa Kulturowego Górnego Śląska, Katowice, pp. 119–131.
1997b *Kultura przeworska na Wyżynie Częstochowskiej*, Prace i Materiały Muzeum Miasta Zgierza, 2, pp. 187–199.
- Mycielska R., Rook E.**, 1966 *Materiały archeologiczne z Jaskini w Kroczycach, pow. Zawiercie*, Materiały Archeologiczne, 7, pp. 185–190.
- Nasz A.**, 1950 *Żarna wczesnodziejowe*, Polskie Towarzystwo Archeologiczne, Warszawa.
- Or nr 171**, 1936, *Jaskinia zapelniona szkieletami*, Orędownik: 25. lipca 1936, 171.
- OW nr 11**, 1936 *Odkrycie groty rzymskiej z III w.*, Z Otchłani Wieków, 11, pp. 65–66.
- Peša V.**, 2006a *Využívání jeskyní v mladší době bronzové až halštatské ve vybraných oblastech střední Evropy*, Památky archeologické, 97, pp. 47–132.
2006b *Jižní boční síň a halštatské využívání Býčí skály v Moravském krasu*, Archeologické rozhledy, 58: 3, pp. 427–446.
- Pieta K.**, 1991 *The North Carpathians at the beginning of the Migration period*, Antiquity, 65, pp. 376–387.
2008 *Höhensiedlungen der Völkerwanderungszeit im nördlichen Karpatenbecken*, (in:) H. Steuer, V. Bierbrauer (eds.), Höhensiedlungen zwischen Antike und Mittelalter von den Ardennen bis zur Adria, Berlin, pp. 457–480.

- Přichystal A.**, 1995 *Geschichte des fundes aus der Býčí skála-Hohle und die neueste Erkenntnisse*, Právěk, 5, pp. 11–24.
- Protokół oględzin...**, *Protokół oględzin patomorfologicznych kości znalezionych w Studni z Czaszkami*, privat archive of DM Cezary Kabac, pathomorphologist (typescript).
- Rodzińska-Nowak J.**, 2012, *Gospodarka żywnościowa ludności kultury przeworskiej*, Historia Jagellonica. Towarzystwo Wydawnicze, Kraków, pp. 128–130.
- Reyman T.**, 1936 *Problem ceramiki siwej na kole toczonej na tle odkryć w górnym dorzeczu Wisły*, Wiadomości Archeologiczne, 14, pp. 147–175.
- Roś J.**, 1999 *Tajemnice Jaskini Kroczyckiej*, Zacisk, 16, p. 19.
2001 *Skarby monet w Olkuszu i okolicach*, Olkuskie Stowarzyszenie Kulturalne „Brama”, Olkusz.
- Rozmus D., Szmoniewski B., Troncik A.**, 2006 *An early medieval assemblage of iron artifacts from ‘Góra Słupsko’ hillfort, site 2 at Kostkowice, Zawiercie district, śląskie Voivodeship*, Acta Archaeologica Carpathica, 41, pp. 101–113.
- Rudnicki M., Sobczyk M.**, 2013 *Badania archeologiczne w Jaskini Wisielców w sezonie 2013*, (in:) A. Tyc, M. Gradziński (eds.), Materiały 47. Sympozjum Speleologicznego, Kraków, pp. 69–70.
- Rydzewski J.**, 2006 *Jura Ojcowska w czasach kultury łużyckiej*, (in:) J. Lech, J. Partyka (eds.), Jura Ojcowska w pradziejach i początkach państwa polskiego, Wydawnictwo Ojcowskiego Parku Narodowego, Ojców, pp. 475–486.
- Schuster J.**, 2005 *Lanzettförmige Metallgeräte der Kaiserzeit und der frühen Völkerwanderungszeit im mittel- und südosteuropäischen Barbaricum*, (in:) A. Kokowski (ed.) Monumenta Studia Gothica. Europa Barbarica. Ćwierć wieku archeologii w Masłomęczu, Wydawnictwo Uniwersytetu Marii Curie- Skłodowskiej, 4, Lublin, pp. 427–436.
- Stefaniak K., Nadachowski A., Tomek T., Socha P.**, 2009 *Palaeontological studies in the Częstochowa Upland*, (in:) K. Stefaniak, A. Tyc, P. Socha (eds.), Karst of the Częstochowa Upland and of the Eastern Sudetes. Palaeoenvironments and protection, Studies of the Faculty of Earth Sciences, University of Silesia, 56, Sosnowiec-Wrocław, pp. 85–144.
- Stefaniak K., Socha P., Tyc A., Cyrek K., Nadachowski A.**, 2009 *Caves, rock shelters and palaeontological sites in quarries of the Częstochowa Upland – catalogue of important speleological features*, (in:) K. Stefaniak, A. Tyc, P. Socha (eds.), Karst of the Częstochowa Upland and of the Eastern Sudetes. Palaeoenvironments and protection, Studies of the Faculty of Earth Sciences, University of Silesia, 56, Sosnowiec-Wrocław, pp. 307–354.
- Struhár V., Soják M.**, 2009 *Liskovská jaskyňa – prehistorické sanktuárium v Chočskom podhorí*, Aragonit. Správa slovenských jaskýň, 14:1, pp. 45–50.
- Strzelczyk J.**, 1992 *Wandalowie i ich afrykańskie państwo*, Państwowy Instytut Wydawniczy, Warszawa.

- Szelerewicz M., Górny A.**, 1986 *Jaskinie Wyżyny Krakowsko-Wieluńskiej*, Wydawnictwo PTTK „KRAJ”, Kraków.
- Szydłowski J.**, 1974 *Trzy cmentarzyska typu dobrodzieńskiego*, Muzeum Górnośląskie w Bytomiu, Bytom.
1984 *Naczynia drewniane w późnej starożytności na ziemiach polskich*, Uniwersytet Śląski, Katowice.
- Tejral J.**, 1988 *Zur Chronologie der frühen Völkerwanderungszeit im mittleren Donauraum*, *Archeologia Austriaca*, 72, pp. 223–304.
- Tempelmann-Maczyńska M.**, 1985 *Die Perlen der römischen Kaiserzeit und der frühen Phase der Völkerwanderungszeit im mitteleuropäischen Barbaricum (Römisch-Germanische Forschungen)*, Mainz am Rhein.
- Tomkins P.**, 2013 *Landscapes of Ritual, Identity and Memory. Reconsidering Neolithic and Early Bronze Age Cave-use in Crete, Greece*, (in:) H. Moyes (ed.), *Sacred Darkness. A Global Perspective on the Ritual Use of Caves*, University Press of Colorado, Boulder, pp. 59–79.
- Uściak J.**, 1997 *Nové nálezy z Nemiec z jaskyne Kaplnka*, *AVANS v roku 1995*, pp. 179–180.
1998 *Výskum v jaskyni Kaplnka*, *AVANS v roku 1996*, pp. 161–162.
- Wagner T.**, 2010 *Historia Koła Naukowego Studentów Archeologii UJ 1908–1929–2010*, *Menhir*, 8, pp. 4–15.
- Wagner T., Jędrzyk J., Cyrek K., Czyżewski Ł.**, 2016, *Wyniki badań wykopaliskowych prowadzonych w 2014 roku przed Jaskinią Kroczycką, województwo śląskie*, [w:] G. Glanc-Zagaja (red.) *Badania Archeologiczne na Górnym Śląsku i ziemiach pogranicznych w latach 2013–2014*, Katowice, pp. 44–54.
- Węgrzynowicz T.**, 1982 *Szczątki zwierzęce jako wyraz wierzeń w czasach ciałopalenia zwłok*, Państwowe Muzeum Archeologiczne, Warszawa.
- Wielowiejski J.**, 1960 *Przemiany gospodarczo-społeczne u ludności południowej Polski w okresie późnolateńskim i rzymskim*, *Materiały Starożytne*, 6, Warszawa.
1981 *Przetwórstwo, Kamieniarstwo*, (in:) J. Wielowiejski (ed.), *Prahistoria ziem polskich*, 5, Zakład Narodowy im. Ossolińskich, Wrocław-Warszawa-Kraków, pp. 332–334, 369–371.
- Wojenka M.**, 2012 *Jaskinie Wyżyny Krakowsko-Częstochowskiej w średniowieczu. Wstęp do problematyki*, *Prądnik. Prace i materiały Muzeum im. W. Szafera*, 22, pp. 7–43.
- Woźny J.**, 2014 *Archeologia kamieni symbolicznych. Od skały macierzystej do dziedzictwa przodków*, Wydawnictwo UKW, Bydgoszcz.
- Wrześniński J.**, 2006 *Archeolog w jaskini*, (in:) J. Lech, J. Partyka (eds.), *Jura Ojcowska w pradziejach i początkach państwa polskiego*, Wydawnictwo Ojcowskiego Parku Narodowego, Ojców, pp. 245–250.
- Zagórska-Telega J., Bochnak T.**, 2001 *Ein depot mit frühmittelalterlichen axtförmigen Eisenbarren aus Kostkowice, Fst. 2, Gde. Kroczyce, Woiw. Śląskie*, *Acta Archaeologica Carpathica*, 36, pp. 39–47.

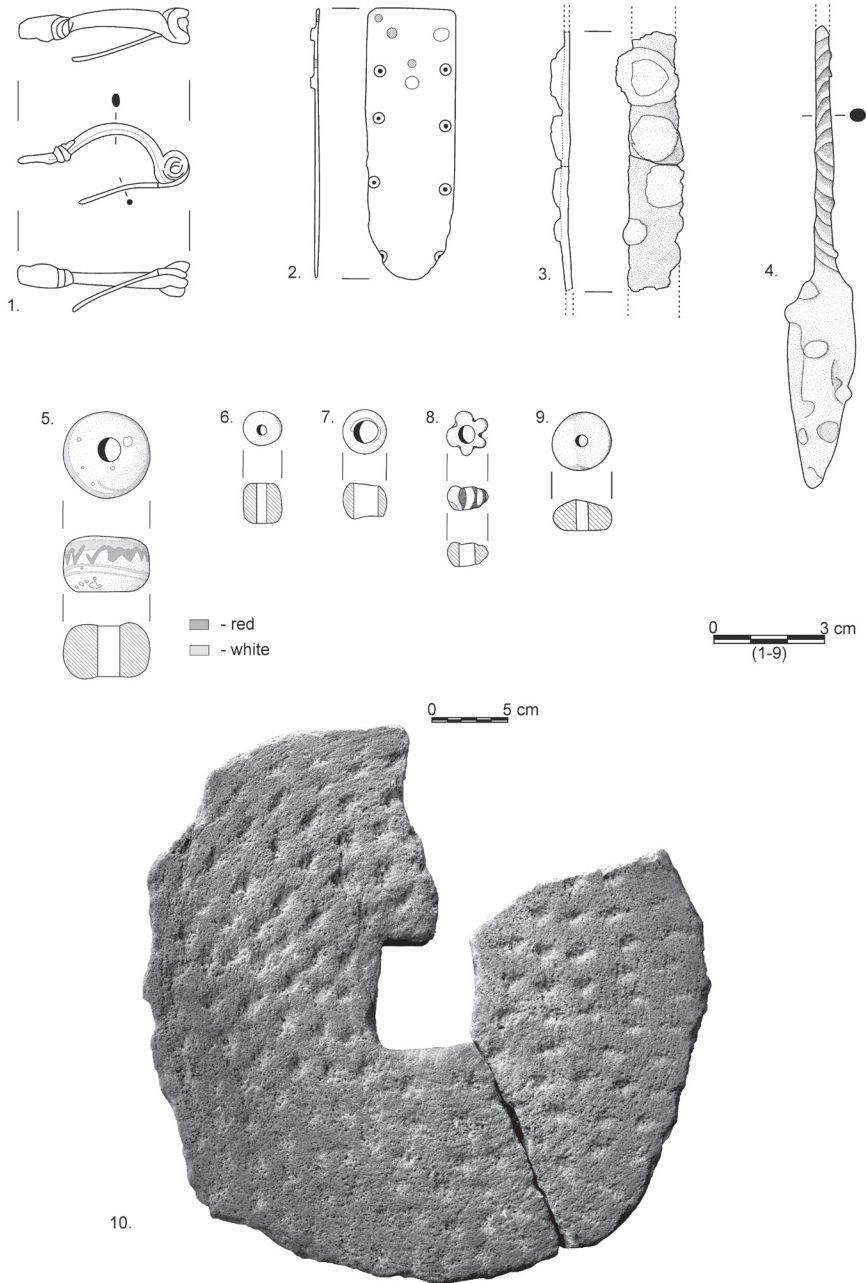


Plate 1. Metal objects: 1 – bronze (after Wrzesiński 2006, modified), 2 – bronze (after Cyrek 1997, modified), 3 – iron, 4 – iron (after Cyrek 1997, modified). Beads: 5 – clay (after Wrzesiński 2006, modified), 6 – carnelian (after Wrzesiński 2006, modified), 7 – bone (after Wrzesiński 2006, modified), 8 – glass (after Cyrek 1997, modified), 9 – amber. No. 10 – a quern-stone

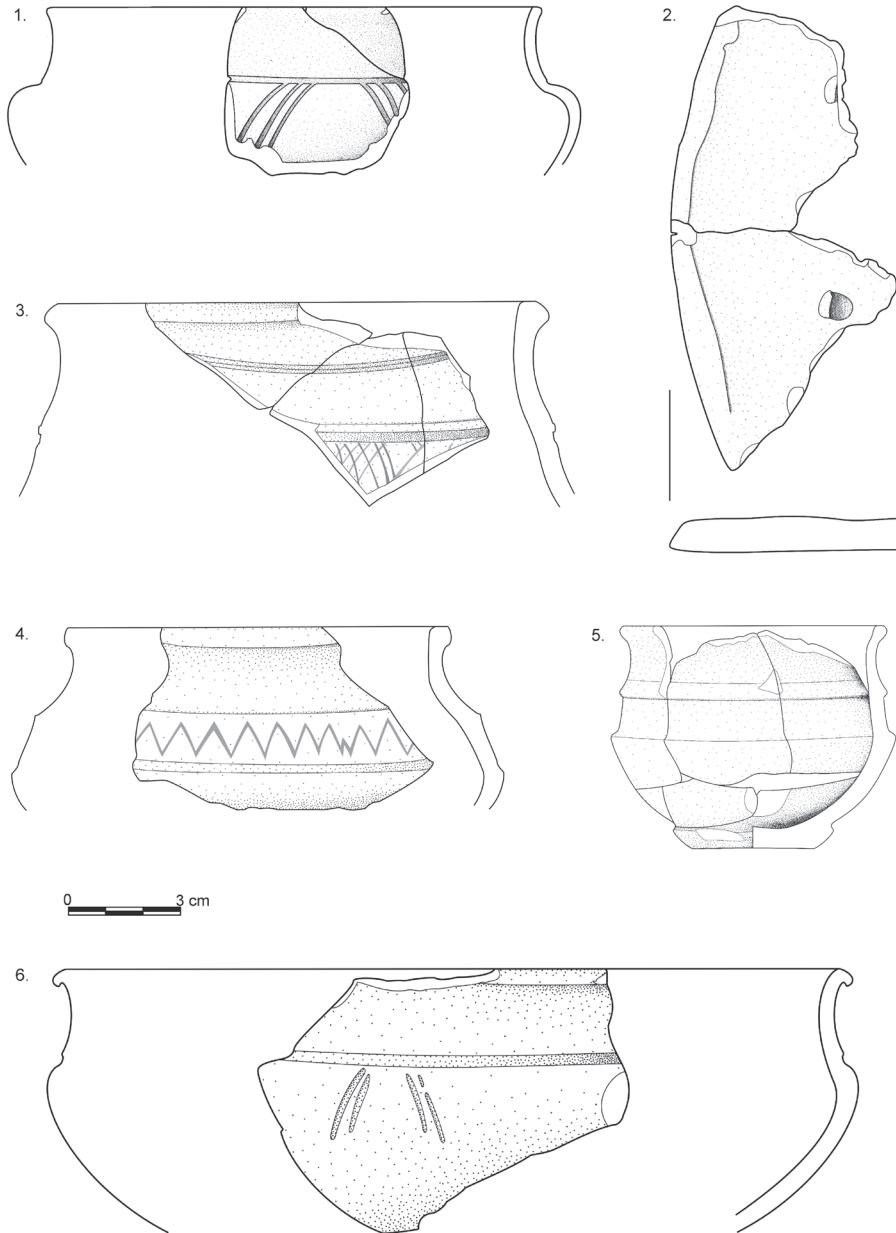


Plate 2. Lusatian culture pottery: 1, 2; Przeworsk culture pottery: 3–6 (3, 4, 6 – after Mycielska, Rook 1966, modified; 5 – after Cyrek 1997, modified)

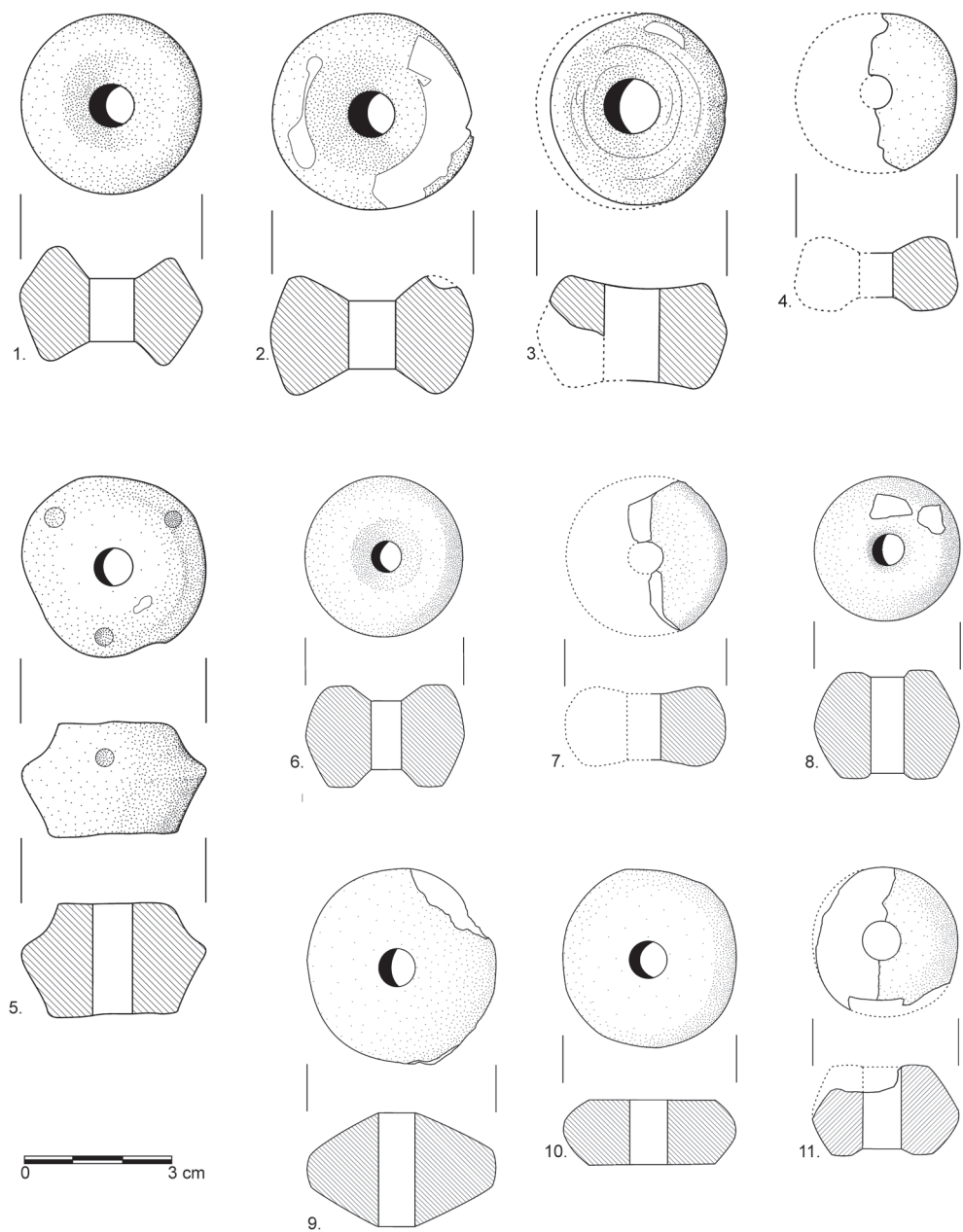


Plate 3. Clay spindle whorls from the excavations in the plateau in front of the entrance to Kroczycka Cave: 1–5 – found in season 2014; 6–11 – found in season 1993 (Cyrek 1997, modified)

