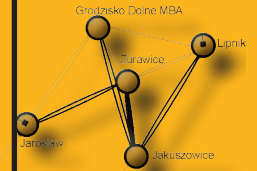


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RECHERCHES ARCHÉOLOGIQUES



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 8**

KRAKÓW 2016

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Schéma d'analyse de réseau de 65 sites à partir de la fin de l'âge du Bronze moyen (principalement de 1700 à 1400 avant J.-C.). L'épaisseur du lien est proportionnelle à la valeur du coefficient de Pearson

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Jan Bulas¹, Michał Link-Lenczowski¹, Magdalena Okońska¹

The Roman Period pottery kiln from Kraków-Górka Narodowa, site no. 6

Abstract: The article presents results of archaeological excavation conducted in Kraków-Górka Narodowa, site 6. During an archaeological watching brief, among other discovered features, the Roman Period pottery kiln was found. The site is a rare example of the workshop consisting of two kilns connected by one stoker's pit. Only one of the kilns was excavated as the other one was located outside of the construction area. The analysis of the construction of the kiln, that was preserved in bad condition, allowed to link this workshop with the other known production sites from the Kraków area, located on the Vistula fluvial terrace. The fill of the kiln and the stoker's pit consisted of 98 pieces of pots, in vast majority made on wheel. Analysis of both the kiln and the ceramics allowed to set broad chronological framework.

Keywords: Roman Period, kiln, pottery, Przeworsk culture

1. Introduction

During an archaeological watching brief² conducted at a water and sewerage system construction site on Kajetana Stefanowicza street in Kraków (Fig. 1) (Kraków-Górka Narodowa, site 6, AZP no. 101-56/49), 57 archaeological features were found in four concentrations. Thirteen of those should be dated to the Neolithic, while twenty, as can be inferred from analysis of ceramic material, should be linked with the Przeworsk culture settlement. The chronology of the remaining ones could not be ascertained owing to the lack of archaeological material in their fill. Undoubtedly, the most interesting feature discovered at the site is a Roman Period pottery kiln (feature no. 7), which is the focus of this paper.

The site is located on the edge of a wide loess terrace flanking the left bank of the Vistula. West of the site runs the Bibiczanka, a tributary of the Białucha. Such a location corresponds well with that of the other Przeworsk culture settlements in the area: in Kraków-Nowa

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² The watching brief was conducted in one-meter wide service trenches, each of which was photographed for recording purposes after the removal of humus by an excavator and the cleaning of the surface. Any archaeological features discovered were excavated stratigraphically and proper photographic and hand-drawn records were taken. The field conditions permitting, the trench was widened to capture the full extent of a feature.

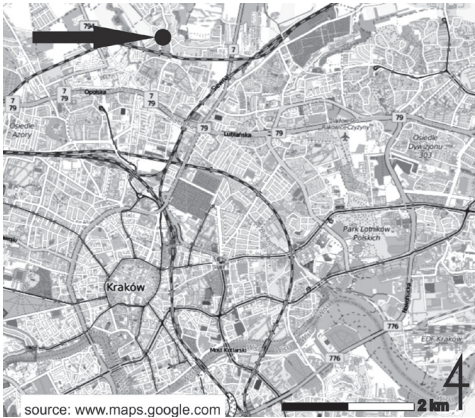


Fig. 1. Site location within Kraków

Huta-Pleszów, site 17-20; Kraków-Nowa Huta-Mogiła, site 59; Kraków-Nowa Huta-Cło, site 1, 58, 58A, 65; Zofipole, site 1, Igołomia-Wawrzeńczyce commune and Igołomia, site 1, Igołomia-Wawrzeńczyce commune. It is worth noting that on all of these sites remains of pottery kilns were found (Buratyński 1976; Glanc-Kwaśny 1977; Dobrzańska 1990a; 1990b; 2000; Glanc-Kwaśny, Rodak 2000).

Most of the site in question is taken up by allotment gardens and houses. The remaining area is occupied by a nineteenth-century manor house with a park³. The parcel that was subject to archaeological supervision is enclosed between Siewna and Kajetana Stefanowicza streets. The kiln was found in a

trench dug within the concentration III area in a dirt road (plot no. 166/57), near the boundary of plots 166/43 and 166/42.

2. Description

The kiln and a stoker's pit accompanying it were discovered after the removal of an 80 cm thick layer of humus from the development-related trench. Outside the construction site, there was a second kiln (left unexplored) connected with the same stoker's pit with an inlet tunnel. The unearthed structure was about 1 m deep. The diameter of the firing chamber was about 148 cm. The walls of the structure, which had been dug in the loess subsoil, were heavily burned (Figs 2; 3; 4). The cross section of lower part (that was probably used as the firebox) was trapezoidal and 175 cm wide (Fig. 2). If the level at which the feature starts widening is considered the top of the lower chamber, the chamber should be about 65 cm high. No remains of a firing grid or other construction elements were preserved in the structure. In the lowest exploration layer (approx. 80 cm below the first level), a band of burnt loess was unearthed, which divided the structure more or less into halves and may be considered a destroyed partition of the kiln (Fig. 4). The lower chamber was connected with the stoker's pit from the north-west. Although the connecting tunnel was not observed to have been partitioned in any way, this does not mean that it originally was not – the kiln survived in a poor condition, which may account for the missing partition. The lower chamber of the second kiln (left unexplored) had an inlet tunnel carved in the loess, which was partitioned as is evident in the cross section of the trench. The tunnel was located north of the stoker's pit (Fig. 4). Both tunnels were circular in section and had a diameter of *ca.* 45 cm.

The fills of the kiln and of the stoker's pit were debris, whose strata yielded matching sherds. The nature of the strata suggests that they were formed at the same time during a single land levelling event, part of which consisted in reusing the feature as a rubbish pit. As mentioned above, the feature consisted of an arrangement of two kilns connected with one stoker's pit. Despite the fact that such pairs of kilns are quite rare finds (Dobrzańska 1990b, 23), analogous

³ See: Kraków Register of Heritage, no. A-1060, pos. 4700 – <https://www.bip.krakow.pl/plik.php?zid=106402&wer=0&new=t&mode=shw>

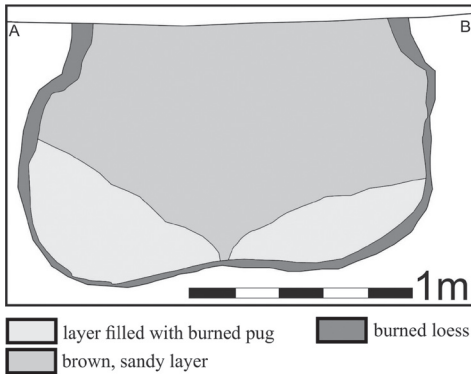


Fig. 2. Firing chamber cross-section

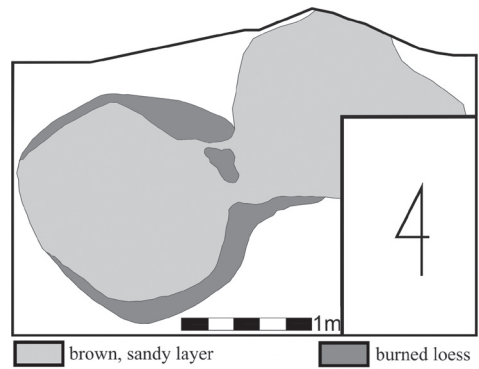


Fig. 3. Third level of kiln exploration

features can be observed on the settlements in Igołomia and Zofipole near Kraków⁴. Arrangements discovered in Igołomia characteristically consist of a larger and a smaller kiln. The lower chamber of the larger one had a longer partition reaching the stoker's pit, whereas the smaller one had a shorter partition, which did not run along the whole inlet tunnel (Dobrzańska 1990b, 23). For an obvious reasons, one cannot be certain which of the kilns from Górka Narodowa was bigger, but if we assume that the feature is a close parallel to the Igołomia kilns, the excavated kiln must be considered as the smaller one since the partition of the unexplored kiln must have reached the stoker's pit. This hypothesis seems plausible as the diameter of the grid of the kiln is inferred to have been approximately 130–135 cm, which is consistent with the diameters of the grids of the smaller kilns (features no. 3/52 and 7/54) found in Igołomia (Dobrzańska 1990a, 151, 163).

It must be emphasized that the Igołomia kilns are dated to the C1b phase (Dobrzańska 1990b, 80, fig. 18), while the Zofipole⁵ one to the C3 phase (Dobrzańska 2011, 268) of the Roman Period. Therefore the this type of pottery workshops cannot be considered a chronological determinant.

The prevailing type from the Kraków region is a two-chambered kiln dug in loess subsoil⁶. The Vistula fluvial terrace has yielded a number of sites where pottery was produced in the

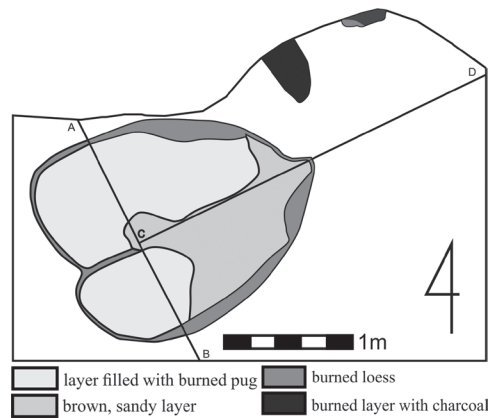


Fig. 4. Fifth level of kiln exploration

⁴ In Igołomia pairs of kilns (features: 4/52 and 3/52, 5/52 and 7/54) had the same relation between the stoker's pit and the fireboxes. One of the kilns was located north while the second west of the pit, which H. Dobrzańska explains as determined by land relief (Dobrzańska 1990b, 23, 90). On the other hand, in Igołomia and Zofipole (features: 2 and 10, 8 and 9, 29 and 34, 32 and 33, 35 and 36) kilns are located around stoker's pits more diversely.

⁵ Features no: 29, 34

⁶ An unusual kiln was found in Kraków-Kurdwanów on site no. 9 – with its lower parts made of stone (Rodak 2010, 5–6).

early and late Roman Periods (Dobrzańska 2011, 260, fig. 2). The kiln discovered in Górka Narodowa does seem to have differed from the mentioned parallels in terms of structure. The aforementioned band of burnt loess, visible at the lowest exploration level (Fig. 4), is a likely remnant of a partition which the grid rested on. This interpretation is supported by a narrowing which is visible in the section of the feature and which has been identified with the level at which the grid was installed dividing the lower chamber from the firing chamber (Fig. 2). Reconstructed in this fashion, the kiln from Górka Narodowa does not differ from other pottery kilns discovered in the Kraków region.

3. Analysis of pottery

3.1. Analysis of technology

In the fill of both the kiln and the stoker's pit, 98 ceramic sherds were found (92 within the kiln and 6 within the pit). With the exception of two pieces, all come from pots thrown on the wheel. Sherds from different levels of the kiln and the stoker's pit match each other.

The unearthened pottery represents three different groups: smooth surface pottery, rough surface pottery and storage vessels (Godłowski 1977, 168–169; Dobrzańska 1990b, 16–18; 27–29; Rodzińska-Nowak 2006, 52–54). The group of pottery with smooth surface consisted of 49 sherds (designated as material-technology group I), 25 as rough surface (group II) and 13 as storage vessels (group III). One sherd is so badly damaged that it cannot be unequivocally classified, but it definitely comes from a rough surface, group II or III, vessel.

Smooth surface vessels comprise two types of wares. The first subgroup (Ia) is represented by sherds made from fine, well-strained and untempered, with occasional grains of fine gravel. Pots classified in this group usually have a burnished black, grey, brown or beige surface. A few sherds are covered with slip, which is burnished as well. Breaks are usually monochrome or bicolour (both two- and three-ply, where the inner and outer surfaces are lighter in colour than the one in the middle). There are thin-walled, medium-walled and thick-walled sherds in the yield⁷. Two fragments were refired. Subgroup Ia represents 39% of the total ceramic material.

The second smooth surface ware (subgroup Ib) is characterised by the presence of mineral inclusions: sand, fine gravel with grains smaller than 1 mm and occasional bigger ones, and a small amount of grog. Its surface is burnished and black or grey in colour, an effect achieved through reduction firing. Breaks are monochromatic. Both medium-walled and thick-walled sherds are present. Subgroup Ib comprises only 6% of the total ceramic material. Subgroups Ia and Ib correspond to group I pottery according to H. Dobrzańska (1990b, 18).

Rough surface sherds are classified as group II pottery. This ware contains a large amount of evenly spread mineral temper in the form of fine gravel with grains up to 1.5 mm in diameter and occasional bigger ones, crushed stone, sand and grog. Nearly all sherds come from medium-walled pots with the exception of a heavily delaminated piece that could have been originally thicker than 1 cm. Breaks are usually monochrome and sporadically bicolour (both two- and three-ply as in the case of subgroup Ib). Surfaces are mainly yellowish or rarely gray. Often they are blotchy and heterogeneous. This group corresponds to group II pottery according to H. Dobrzańska (1990b, 17–18) and represents 20% of the total ceramic material.

The third group corresponds to the group of storage vessels according to H. Dobrzańska (1990b, 17) and is represented by sherds made of clay with a large number of evenly spread

⁷ Up to 0,5 cm – thin-walled; 0,5–1 cm medium-walled; more than 1 cm thick-walled.

mineral inclusions – a lot of sand, gravel with most grains up to 1.5 mm in diameter and occasional fine stones exceeding 0.5 cm in diameter, crushed stone and a small amount of grog. All the sherds come from thick-walled vessels with heterogeneous surface colour (different tones of brown). Breaks are monochrome. This group represents 32% of the total ceramic material.

Group IV includes two matching sherds (2% of the total ceramic material) coming from a pot which may have been hand-built. The clay was tempered with a large amount of sand and individual grains of fine gravel and crushed stone (diameters up to 1 mm). Both sherds are medium-walled and yellow in colour with dark spots. Breaks are monochrome and tricolour.

The sherds yielded by the fill of the kiln and of the stoker's pit are mostly beige, yellow and brown (69 sherds) as well as – rarely – grey or black (27 sherds). This could suggest that most of the discovered pottery comes from vessels misfired in an oxidizing atmosphere. Moreover, the presence of sherds whose strength is insufficient⁸ corroborates this assumption. It must also be noted that all the soft sherds come from burnished black vessels.

3.2. Analysis of forms

The vessels from the site are difficult to classify into forms as the material is only preserved in fragments. Not even one complete vessel survived and not even one complete profile has been reconstructed. The surviving sherds allowed 4 groups of forms to be distinguished: bowl-shaped vessels, vase-shaped vessels, pot-shaped vessels and storage vessels.

3.2.a. Bowl-shaped vessels

This category is represented by fragments of one, medium-walled vessel with an S-shaped profile. Its surface is smooth (subgroup Ia), burnished, and undecorated. The diameter of the rim is approximately the same as the maximum diameter of body. It has a biconical curve and a rim which is turned inwards (Fig. 5: 3). There are many known examples of similar forms, but most of them have a different rim, which is usually well-defined and bent outwards. The closest analogy to the described bowl is a vessel found in Kraków-Nowa Huta-Cło, site 7 (Glanc-Kwaśny 1997, 97, fig. II: 16).

It is also likely that one of the unearthened bottoms, which has survived with part of the body and has a biconical curve (Fig. 5: 4), comes from a smooth-surface, black bowl.

3.2.b. Vase-shaped vessels

Sherds from three vessels within this category have survived (Fig. 5: 1, 2, 5). All the three forms have similar proportions corresponding to type 13 according to H. Dobrzańska (1990b, 35) and type 4 according to Glanc-Kwaśny (1997, 47–48). They are large, S-profiled and thin-walled vessels, whose reconstructed rims are 28 and 30 cm in diameter, well-defined, thickened and bent outwards. The body is biconical with the maximum diameter probably located close to the middle of the vessel's height. The rim diameter and the maximum body diameter are similar. All the bowl- and vase-shaped vessels were made of group I clay. Their surfaces are smooth and burnished. One vessel had a rich, burnished ornament (Fig. 5: 1). This kind of vessels are a common find on pottery manufacturing sites in the Kraków region (Dobrzańska 1990b, 29–37; Glanc-Kwaśny 1997, 47–48; Glanc-Kwaśny, Rodak 2000, 99–100).

⁸ Mechanical properties of pottery are affected by many factors, including especially the right firing temperature (Kielski, Wodnicka 1998, 93).

3.2.c. Pot-shaped vessels

Vessels whose rim diameter is smaller than the maximum body diameter are classified in this category, which has a lot of internal variations and is represented by three medium-walled and fragmentarily surviving vessels (Fig. 6: 2, 4, 5).

Two types of pots can be distinguished in this category: type I (represented by two examples) has an S-shaped profile with a set-off, out-turning and thickened rim. Both unearthened vessels are of nearly the same size. The reconstructed diameter of one of them is 18.5 cm. They only differ in the shape of their bodies: one must have been biconical (Fig. 6: 4), the other globular (Fig. 6: 5). Both pots are examples of kitchenware with rough, yellowish partially spotted surfaces. One of the vessels has sculpted decoration on the body.

The sherd representing type II has a clearly set-off, slightly thickened rim (Fig 6: 2). The taper ratio of the surviving walls suggests that the rim diameter (15 cm in this case) was much smaller than the maximum body diameter. The vessel was made of fabric designated as sub-group Ib and has a burnished gray surface.

The described subtypes correspond respectively to types 41 and 42 according to H. Dobrzańska (1990b, 42–43) and to 10a and 10b according to G. Glanc-Kwaśny (1997, 51).

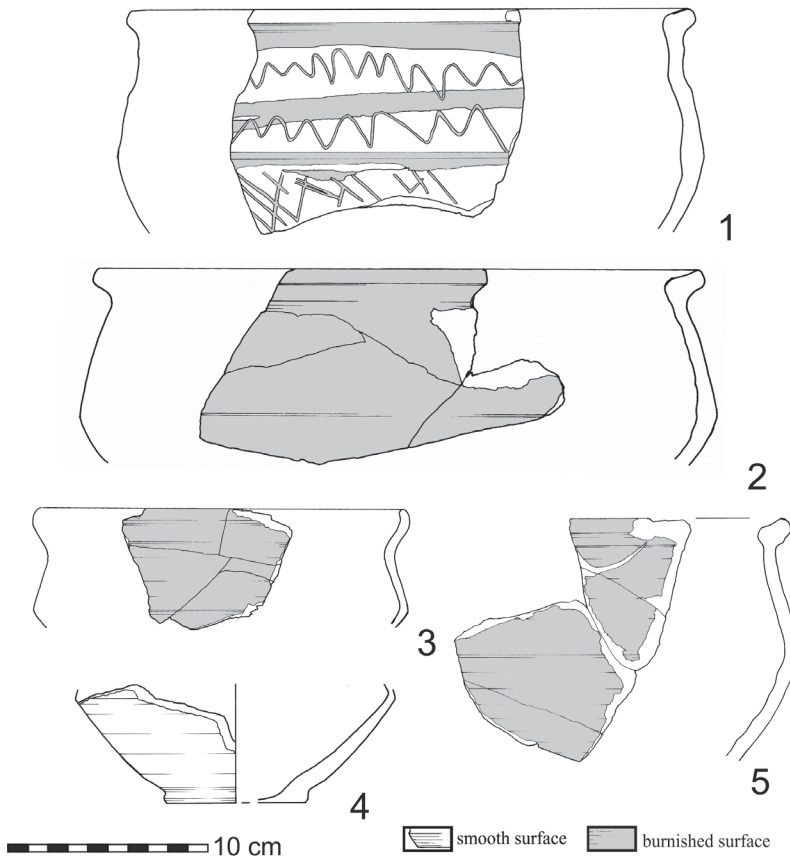


Fig. 5. Kraków-Górka Narodowa, site 6. Pottery from the kiln and the stoker's pit

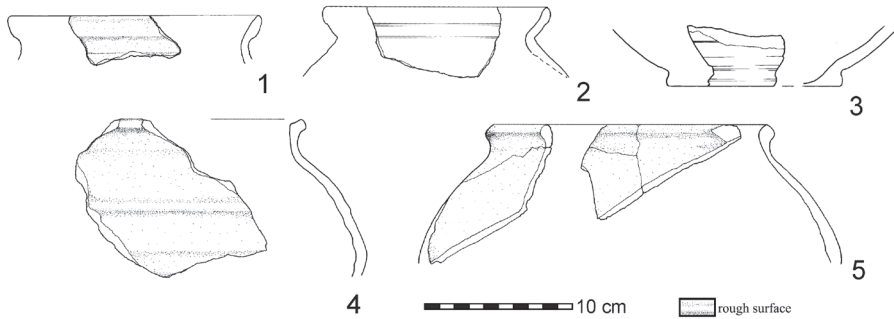


Fig. 6. Kraków-Górka Narodowa, site 6. Pottery from the kiln and the stoker's pit

3.2.d. Storage vessels

All group III sherds, found in all the exploration levels⁹ are likely to have come from a single big, thick-walled storage vessel (Fig. 7: 1, 2), which has a characteristic elongated and tapering neck, decorated with deep grooves. The rim is visibly out-turning. The surface is rough and heterogeneous in colour. The ornamentation consists in incisions. The inner surface of the vessel's upper part bears traces of slight smoothening. On the outer surface of the upper body one can see a small impression (1×2.5 cm) of a textile (Fig. 7: 2).

An analogy to the example described above, are fragments of storage vessels, which were discovered on the settlement site in Jakuszowice site 2, Kazimierza Wielka district, Świętokrzyskie Province. This remark refers to vessels classified as subtype 2, which has clear separate neck (Rodzińska-Nowak 2006, 134, pls LIII: 8; XXXIV: 2; XX: 2). The described form also correspond to the vessel discovered in Roszkowice, Niemodlin district, Opolskie Province (Godłowski 1973, 216, pl. 24: 2). Similarly shaped upper parts of pot, also have vessels discovered in Jiříkovice, okr. Brno-Venkov in Moravia, dated from III century AD to the end of the Roman period (Peškař 1988, 126–128, fig. 14: 6). It should be noted, however, that these examples are not strict analogues for the above-described vessel, having neck molded in a slightly different way.

Surviving in a poor condition, the remaining sherds could not be classified in any category of forms (Fig. 6: 1, 3; 8: 1–8). However, some attention should be paid to the strongly out-turning rim of a medium-walled vessel, whose mouth diameter was 29 cm (Fig. 8: 3). The vessel was made of untamped clay, burnished and fired in an oxidizing atmosphere. A vessel with a similar rim was found in a kiln (feature no. 13/71) in Igołomia (Dobrzańska 1990a, 146, fig. LVI: 2).

3.3. Analysis of ornaments and surface treatment

Thirty one sherds (23.9% of the total ceramic material) are decorated with three different methods: incision, sculpting and burnishing. Moreover a decorative effect was obtained through the burnishing and shaping of all of a vessel's surface or part thereof.

Burnishing is characteristic of Przeworsk culture vessels with a smooth surface (Dobrzańska 1990b, 48). In the Przeworsk culture it appears on pottery thrown on the wheel as early as the beginning of the younger Roman period (Rodzińska-Nowak 2010, 82–83; 2011, 289) but becomes most common in phases C2–D (Dobrzańska 1980, 131, 132; Machajewski, Pietrzak,

⁹ With the exception of levels 1–2, where no material was found.

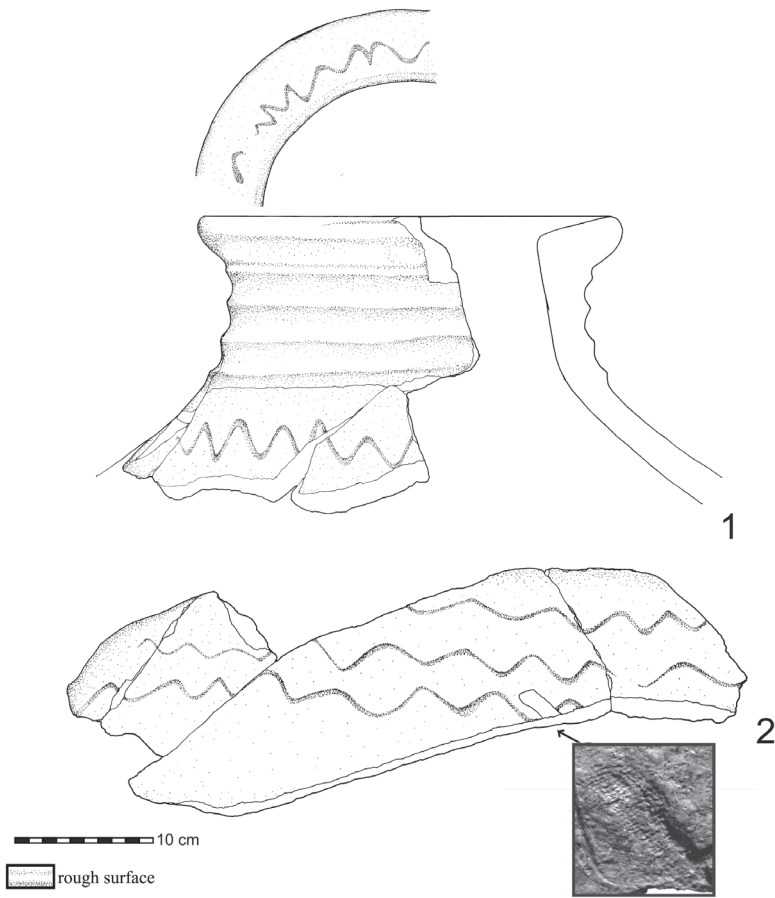


Fig. 7. Kraków-Górka Narodowa, site 6. Pottery from the kiln and the stoker's pit

2008, 235). In the material yielded by the Górka Narodowa kiln, the ornament is present on sherds of two vessels. The simplest motif executed in this technique is waves decorating the upper part of a vase and accompanied by a diagonal grid slightly below. Altogether there are three separated ornamentation bands.

A complex, geometrical ornament, probably located on the lower body of a fat clay vessel is especially worth noting (Fig. 8: 4). It might have a single motif which do not run around the body. It is composed of a circle or a semicircle with radial lines inside. Next to it is a herringbone between two parallel lines. A wavy line runs above it, and a smaller, unidentifiable element below it. As only fragments of the vessel survive, it is impossible to reconstruct the whole. However, it is worth mentioning that Przeworsk culture vessels with smooth surfaces are often richly ornamented with burnishing, including figural motifs. Examples of such vessels come from a Kraków-Nowa Huta-Pleszów site (Buratyński 1976, 105). Six more vessels have burnishing on their entire surface (Figs 5: 2, 3, 5; 8: 3, 8) or at least on large part thereof (Fig. 8: 6).

In the Przeworsk culture, incised ornamentation is mainly found on rough surface vessels. Usually, it assumes the form of a wavy line or lines (Glanc-Kwaśny, Rodak 2000, 101). This appears on sherds of two vessels. In the first case, it is a single line near the bottom of the

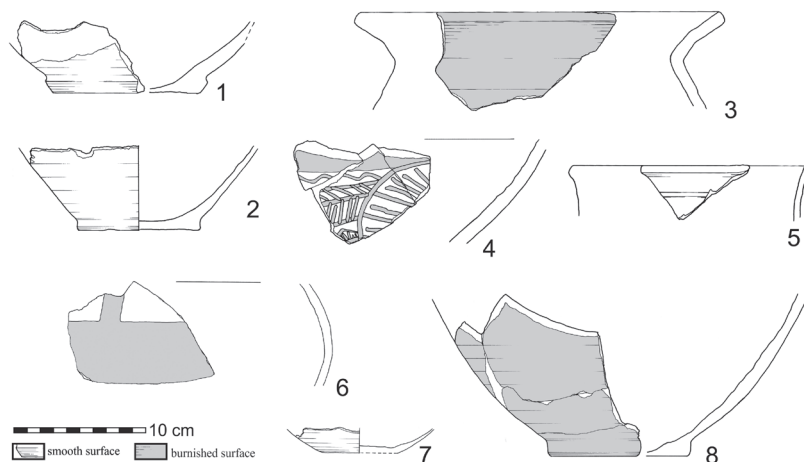


Fig. 8. Kraków-Górka Narodowa, site 6. Pottery from the kiln and the stoker's pit

vessel with a smooth surface (Fig. 6: 3), whereas in the second, there are three of four wavy lines running around the upper body of a storage vessel and one wavy line on the lip.

Sculpted ornamentation is present on sherds of two vessels – one with smooth surface (Fig. 8: 5) and one with rough surface (Fig. 6: 4). In both cases it is a sculpted rib going around the body.

4. Conclusion

As it was mentioned above site no. 6 in Kraków-Górka Narodowa is located close to the Przeworsk culture settlements in: Kraków-Nowa Huta-Pleszów, site 17–20; Kraków-Nowa Huta-Mogiła, site 59; Kraków-Nowa Huta-Cło, site 1, 58, 58A, 65; Zofipole, site 1; Igołomia, site 1, where remains of pottery kilns were found (Buratyński 1976; Glanc-Kwaśny 1997; Dobrzańska 1990a; 1990b; 2000; Glanc-Kwaśny, Rodak 2000). The analysis of pottery found in the fill of the kiln indicates when it was buried rather than when it ceased operating. Sherds recovered from the fill can be dated to phases C1b–D of the Roman Period and to the early Migration Period. It should be emphasised that the chronology of the material could not be homogenous. The broad dating of pottery found in the kiln is reflected by the presence of Dobrzańska's type 13 vases (Dobrzańska 1990b, fig. 19). These vessels appear in the aforementioned periods, which is also proved by finds from Jakuszowice (Rodzińska-Nowak 2006, 91–92), Kraków-Nowa Huta-Cło and Kraków-Nowa Huta-Mogiła (Glanc-Kwaśny 1997, 47–48; Glanc-Kwaśny, Rodak 2000, 99–100). It should be noted however, that according to recent studies, only a few ceramic forms can be considered as characteristic for the phase C3-D (Rodzińska-Nowak 2010, 83–84; 2011, 292). This dating refers to the presence of pottery similar to Dobrzańska's types 41 and 42 which date to phases C1b and C2 (Dobrzańska 1990b, fig. 19).

To sum up, it should be noted that it was not possible to establish the accurate chronology of the finds. It should be emphasized, that the recovered material includes elements that deviate from pottery that is typical of the Przeworsk culture in the Kraków microregion (Fig. 7: 1, 2; 8: 3, 4). The kiln itself however is clearly related with similar structures discovered in the Kraków region – in Igołomia and Zofipole. Excavating the second kiln, located beyond the construction extent, could yield more information.

Piec garncarski z okresu rzymskiego ze stanowiska Kraków-Górka Narodowa 6

Podczas nadzoru archeologicznego na stanowisku Kraków-Górka Narodowa 6, znaleziono szereg obiektów archeologicznych. Część z nich, na podstawie analizy materiału pozyskanego z ich wypełnisk, udało się wydatować na okres neolitu oraz okres rzymski. Niewątpliwie, najbardziej interesującym obiektem odkrytym na stanowisku jest piec do wypału ceramiki z okresu rzymskiego. Zarówno lokalizacja stanowiska na krawędzi terasy lewego brzegu Wisły jak i konstrukcja pieca dobrze korespondują z innymi tego typu znaleziskami z okolic Krakowa (Kraków-Nowa Huta-Pleszów, stan. 17–20, Kraków-Nowa Huta-Mogiła, stan. 59, Kraków-Nowa Huta-Cło, stan. 1, 58, 58A, 65, Zofipole, stan. 1 oraz Igołomia, stan. 1).

Obiekt zarysował się na głębokości ok. 80 cm. W wykopie związanym z prowadzoną inwestycją znalazł się piec oraz jama przypiecowa. Miąższość uchwyconej części obiektu wynosiła ok. 100 cm. Komora wypałowa posiadała średnicę ok. 148 cm. Ściany obiektu wydrążonego w podłożu lessowym były silnie przepalone. Dolna część, najprawdopodobniej stanowiąca komorę paleniskową, miała w przekroju kształt trapezowaty o szerokości ok. 175 cm. Jeśli przyjąć miejsce, w którym obiekt zaczyna się poszerzać za początek komory dolnej, to jej miąższość wynosiła ok. 65 cm. W obrębie przebadanego obiektu nie zachowały się fragmenty rusztu ani inne elementy konstrukcyjne. W najniższej części eksploracyjnej (głębokość ok. 80 cm) uchwycono pas przepalonego lessu, dzielący obiekt mniej więcej na pół, który wg autorów może stanowić destrukcję przegrody pieca. Komora dolna obiektu połączona była z komorą przypiecową od strony północno-wschodniej. Nie zauważono jednak by kanał je łączący podzielony był przegrodą. Można to być związane ze złym stanem zachowania obiektu. Komora dolna drugiego, nie badanego pieca garncarskiego posiadała kanał wlotowy wydrążony w podłożu lessowym, przedzielony przegrodą, co wyraźnie widać na profilu stanowiącym granicę wykopu. Znajdował się on na północ od jamy przypiecowej. Opisywane kanały posiadały przekrój kolisty o średnicy 45 cm.

Wypełnisko zarówno komory pieca garncarskiego jak i jamy przypiecowej miało charakter zasypiskowy, a w jego nawarstwieniach odnaleziono klejące się między sobą fragmenty naczyń ceramicznych. Charakter nawarstwień pozwala sądzić, iż powstały one w tym samym czasie podczas akcji niwelacyjnej terenu, kiedy obiekt być może został wtórnie wykorzystany jako jama odpadkowa.

Konstrukcja pieca znalezionego na stanowisku 6 w Krakowie-Górcie Narodowej nie jest prosta do rekonstrukcji. Stan zachowania elementów konstrukcyjnych pozwala na ogólnikową próbę opisu pierwotnego kształtu założenia. Jak już wspomniano, obiekt składał się z zespołu dwóch pieców połączonych jedną jamą przypiecową. Tego typu pary pieców występują stosunkowo rzadko (Dobrzańska 1990b, 23), znajdując jednak bliskie analogie na terenach podkrakowskich w Igołomi i Zofipolu. Charakterystyczny dla Igołomi jest fakt współwystępowania w zespole mniejszego i większego pieca. Większy posiadał dłuższą przegrodę komory dolnej, sięgającą komory przypiecowej podczas gdy obiekt mniejszy posiadał przegrodę krótszą, nie ciągnącą się przez całą długość kanału wlotowego (Dobrzańska 1990b, 23). Z oczywistych względów nie można mieć pewności, który z pieców z Górki Narodowej posiadał większe rozmiary, jednakże jeśli przyjąć, że i w tej kwestii mamy do czynienia ze ścisłą analogią należałoby przyjąć, iż przebadana konstrukcja jest mniejszą z pary, ponieważ przegroda niebadanego pieca prawdopodobnie sięgała jamy przypiecowej. Hipoteza ta wydaje się prawdopodobna, zwłaszcza że rekonstruowana średnica rusztu badanego obiektu wynosi około 130–135 cm, co odpowiada średnicom rusztów pieców 3/52 i 7/54, a więc mniejszych z odkrytych w Igołomi zespołów (Dobrzańska 1990a, 151, 163).

Należy zwrócić uwagę, iż odnalezione w Igołomi zespoły należy datować na fazę C1b (Dobrzańska 1990b, 80, rys. 18), natomiast zespoły z Zofipola datowane są także na fazę C3 (Dobrzańska 2011, 268) okresu wpływów rzymskich, tak więc sama forma łączenia pieców w pary nie jest wyznacznikiem chronologicznym.

W wypełnisku omawianego pieca i jamy przypiecowej zachowało się łącznie 98 fragmentów ceramiki (92 fragmentów pochodzi z wypełniska pieca, 6 z jamy przypiecowej). Prawie wszystkie, za wyjątkiem

dwóch, pochodzą z naczyń wykonanych przy użyciu koła garncarskiego. Materiał ceramiczny pochodzący z różnych poziomów i części wypełniska pieca garncarskiego i jamy przypiecowej wykleja się między sobą.

Z wypełniska pieca i jamy przypiecowej pochodzą fragmenty naczyń różnych odcieni barwy beżowej, żółtej i brązowej (69 fragmentów), rzadziej barwy szarej i czarnej (27 fragmentów). Fakt ten może sugerować, że materiał ceramiczny pochodzi w większości z nieudanych wypałów przebiegających w atmosferze utleniającej. O występowaniu w omawianym zbiorze fragmentów pochodzących z nieudanych wypałów, świadczy także obecność skorup o niewystarczającej twardości. Nadmienić należy, że wszystkie tego typu fragmenty pochodziły z naczyń o wyświeconych, czarnych powierzchniach.

Wskazanie momentu chronologicznego, w którym funkcjonował opisywany piec garncarski przedstawia szereg trudności. Niewątpliwie największym z nich jest fakt jego zasypania materiałem, który *de facto* nie datuje momentu końca jego użytkowania, a jedynie czas jego zasypania. Fragmenty naczyń odnalezionych w obrębie wypełniska można datować między fazami C1b–D okresu wpływów rzymskich i wczesnej fazy wędrówek ludów. Fakt ten najlepiej odzwierciedla obecność fragmentów waz nawiązujących do typu 13 wg H. Dobrzańskiej (1990b, tabl. 19). Naczynia te występowały między wymienionymi fazami chronologicznymi, co potwierdzają także odkrycia z Krakowa-Nowej Huty-C1a i Krakowa-Nowej Huty-Mogiły (Glanc-Kwaśny 1997, 47–48; Glanc-Kwaśny, Rodak 2000, 99–100). Datowanie użytkowania opisywanego obiektu między fazami C1b–D potwierdza także obecność garnków zbliżonych formą do typów 41 lub 42, datowanych między fazą C1b i C2 w systematyce H. Dobrzańskiej (1990b, tabl. 19). Podsumowując powyższe, należy stwierdzić, iż nie udało się określić precyzyjnej chronologii odkrytych materiałów. Wydaje się jednak, iż wśród publikowanego zbioru znajdują się elementy odbiegające od typowych dla środowiska kultury przeworskiej w mikroregionie podkrakowskim. Fakt ten może być efektem zasypania opisywanego pieca fragmentami ceramicznymi pochodzącymi z nieudanych wypałów.

Sam piec silnie nawiązuje do konstrukcji odkrytych na terenach podkrakowskich, przede wszystkim w Igołomii i Zofipolu. Dalsze informacje mogłyby przynieść badania drugiego pieca, znajdującego się poza terenem inwestycji.

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