CHAPTER 6

Nebelivka: From Magnetic Prospection to New Features of Mega-Sites

Nataliia Burdo and Mykhailo Videiko

The international project at Nebelivka included three field seasons, funded by grants obtained by Prof. John Chapman (Durham University, UK).[1] The Institute of Archaeology of NAS Ukraine, for its part, has provided researchers, obtained the necessary permits for excavations, organized the storage of finds and worked with them, and worked on the field reports. The Kirovohrad region provided administrative support, plus cooperation with the Vynnychenko University and the Kirovohrad Museum of Natural History.

This site was discovered in the 1960s by Vasyl Stefanovych; later K. Shyshkin recognized it as a mega-site of around 300 ha and published a plan, based on aerial photos (Figure 1(1)) (Shyshkin, 1985). Field prospection, organized by Mykola Shmaglij in 1981 gave the possibility to attribute it to the BII stage of the Trypillia Culture (Shmaglij & Videiko, 1992) (Figure 1(2)). Later, Sergij Ryzhov distinguished a local Nebelivka group with two phases. Nebelivka was the largest site from the first phase of this group. This local group was followed by the Tomashivka local group from CI stage (Ryzhov, 1993: 101–14).

Excavations at Nebelivka started with a plan of the site, created by specialists from Durham University (Hale et al., 2010; Chapman et al., 2014a, 2014b). It was an important task to check new kinds of anomalies and their relations to archaeological objects. Between these objects were some features which had never explored before: traces of ditches, the remains of huge dwellings ('megastructures'), pottery kilns, 'possibly burnt houses'. On the other hand, a lot of anomalies from pits were discovered, which promised other data, which are interesting from different points of view.

After four field seasons (2009, 2012–2014) at Nebelivka, fifteen features had been investigated (Table 1). As of May 2015, the results of research were published over thirty papers (Videiko, 2015: 9–10) and about twenty reports presented at the conference in Kirovograd on 13th–14th May. This, incidentally, means that not only have the main preliminary results of this research been published, but also that the exciting process of its interpretation has begun.

Ditch or Palisade?

Traces of the ditch were detected around the site as a line 3–4-m wide. The depth of this feature, detected by coring, was assumed as up to 4 m (Figure 2(1)). Two small sections of this structure were explored: one at the North and one at the South (Figures 2 and 3). The former revealed one line of anomalies, and the second revealed three lines of anomalies. According to predictions from the prospection and coring data, the northern ditch was cut by 4-m wide trench.

The traces of the ditch were clearly visible in profile (Figure 2(2–3)). This ditch was 3–4-m wide on top and 0.4–0.6 m at the bottom. The depth, estimated from the ancient horizon, was around 0.8–0.7 m. The dark fill of this depression was the mixed soil, rather than the fill of an open ditch. In this fill and around it, a few small fragments of pottery and burnt daub were found.

The southern ditches were explored with a trench 2-m wide. The traces of these features were not so clearly visible, but the trench was located close to places determined by geomagnetic prospection (Figure 3(1)). Only one thing was clear—they were not as deep as those in the North and they were no wider than 1 m. The features were located on a slope, so it is possible that the top part of soil here was damaged by erosion (Figure 3). Explorations in both trenches confirmed the presence of the ditch, but revealed it to be smaller than previously supposed.

There are two points of view on this feature. The first——it was a small ditch, some symbolic border/enclosure of the settlement (J. Chapman). The second—it was a ditch, which was made for the construction of palisades (M. Videiko) (Figure 14(6)). The character of its fill (mixed soil) supports the latter view.

[1]Arts and Humanities Research Council (AHRC) Grant No. AH/I025867: 2012–2016; investigations of 'mega-structures' from National Geographic Society, Grant No. 2012/211

Figure 1. *Nebelivka, Trypillia BII site: (1) plan after K. Shyshkin, superimposed on the satellite image; (2) pottery from the 1981 field survey by M. Shmaglij.*

In the case of an open ditch-enclosure, all profiles would have shown clear traces of sediments. At Nebelivka in any case, sediments were recorded. Absence of traces of pillars indicates that they may have been disposed of at the moment of leaving the settlement. This does not preclude the mixed soil in the ditch filling.

A similar feature was explored by Natalja Skakun at Bodaky, a Trypillia BII flint workshop site at Ternopil domain. This ditch had a 2-m width and a 0.6–0.7-m depth, plus a triangular profile with a black fill (Videiko et al., 2005: 14, figures 25–28, 35). The same kind of anomalies are well known from investigations in Central and Northern Europe, where excavations confirmed the existence of palisades (Raczky & Anders, 2012: figures 7 and 14; Turek, 2012: 185, 201).

Investigations of Kiln Area

After discovery in 2013 of the remains of three pottery kilns at Taljanky, where they were detected by

Table 1. *Nebelivka, British–Ukrainian investigations 2009, 2012–2014*

Objects from geomagnetic plan	Tr. No, Year, *team explored*	Total number of objects explored	Bibliography
Burnt house	1 (2009, *U*) 3 (2013, *U*)	2	Chapman et al. (2010), Chapman & Videiko (2011), Videiko et al. (~~2012~~, 2013a, 2013b, 2014a); Videiko (2015)
Probable house	5(2014,*U*)	1	Videiko et al. (2015), Rud (2015)
'Megastructure'	2 (2012 *B,U*)	1	Burdo (2014a, 2014b, 2014c), Burdo & Videiko (2014a), Chapman et al. (2014c), Fedorov (2015), Gaydarska (2015), Korvin-Piotrovskiy (2015), Shevchenko (2015), Videiko et al. (2014), Videiko (2014), Videiko & Burdo (2015a, 2015b)
Pit	1 (A9); 4(B5)3 (near B17 and B18, 2013 *U*),4 (2013–14 *B*); 8 (2014, *U*)	9	Videiko et al. (2014a, 2014b, 2015)
Kiln	8 (2014, *U*)	1	Videiko et al. (2015)
Ditch/palisade	9,10 (2014, *U*)	1	Videiko et al. (2015)
2009–2014		15	

B: British team; U: Ukrainian team.

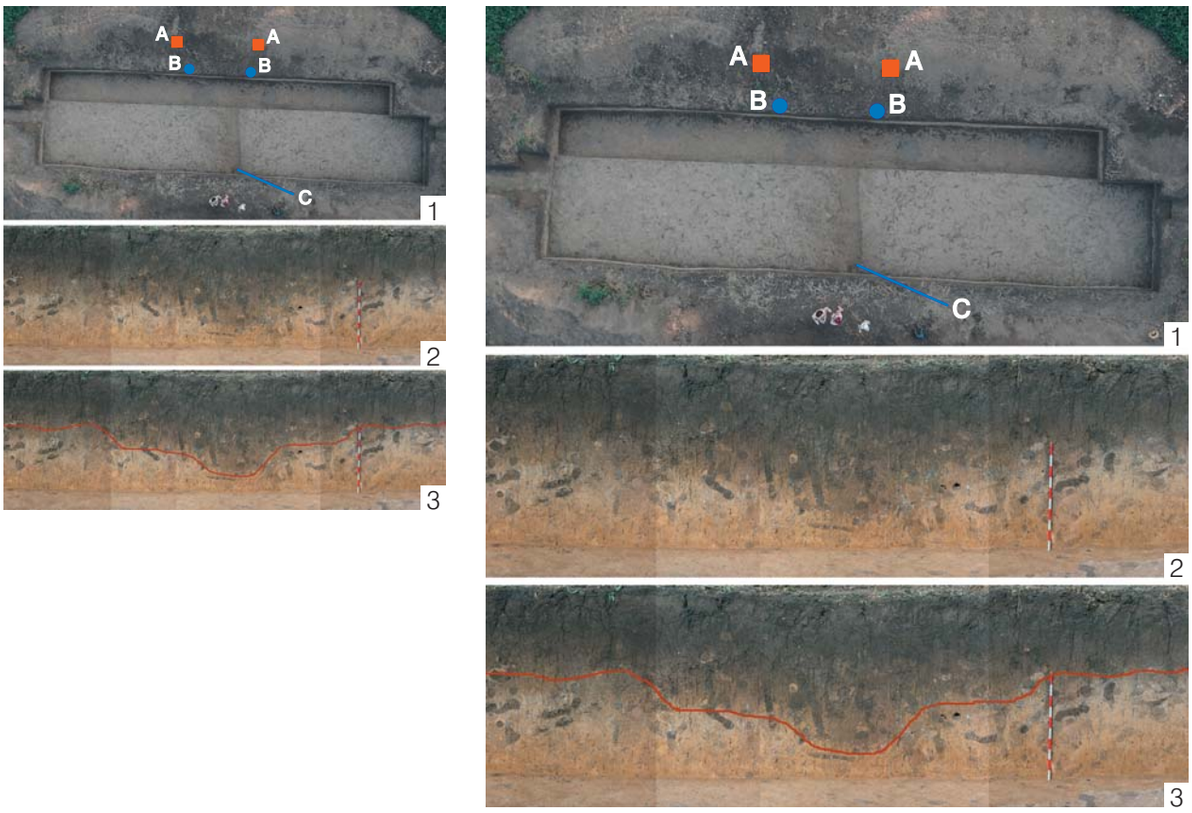

Figure 2. *Nebelivka 2014, excavations of a ditch in the northern part of the site: (1) trench 8 from helicopter (photo by Boiko & Boiko), (A) marks the trench according to the geomagnetic prospection; (B) displays the real edges of the ditch; (C) the bottom of ditch; (2 and 3) the profiles of ditch.*

geomagnetic prospection in 2012 (Kruts et al., 2014), the three similar anomalies were proposed for further investigations at Nebelivka. Two of them were modern features with numerous iron items, but one feature appeared consistent with remains of the Trypillia Culture period (Figures 4–6). The strong anomaly, nearly 2 m in diameter, corresponded with an abandoned pottery kiln. Another, not so strong, but 5 × 4 m-sized feature corresponded with a pit, located near the feature assumed to be a kiln. This group of anomalies is situated in the southerneast sector of the central part of the site. They are at the end of one of the radial 'streets'. From the point of view of the Durham team, the function of this object is controversial. The Ukrainian team, however, basing their interpretation on the excavations of the Taljanky kilns (Kruts et al., 2014), determined this object to be a pottery kiln (Figure 14: 5).

The remains of the kiln, represented by a 2 × 2 m clay platform with four walls, formed one construction, created from the same material on top (Figures 4 (2) and 5(1, 2, and 5)). Three channels between them were up to 0.2–0.25-m wide. The walls, 0.25–0.3-m high, were rounded on top with a surface which was heavy burnt. The use of only fire-proof plastering preserved it from destruction (Figure 5(4)). Inside the walls, some stones were visible (Figures 5(5) and 6 (2)). At the edges of the platform, some traces of plastering on its dome were preserved. The fireplace of this kiln was northwest-oriented and faced towards the pit located 1.2 m away from it.

Remains of the kiln were buried under a layer of broken clay constructions, which had a green colour and were probably used to cover the channels during the burning process. They were mixed with soil, fragments of pottery, and animal bones. A fragment of a clay human figurine also was found inside one of the channels (Figure 6(2)). The surface around this feature was covered with numerous fragments of broken channel covers and fragments of pottery (Figure 4(1)). This pottery does not have traces of secondary burning, as was the case for the Taljanky kilns (see Kruts et al., 2014). There are some finds of fragmented pottery, which were mixed in with the surface of clay covers.

The pit which was discovered by geomagnetic prospection close to the remains of the kiln was only partly explored. It was large feature, filled with

Figure 3. *Nebelivka 2014, excavations of the ditch in the southern part of the site: (1) trench 10; (A) marks the context as detected by the geomagnetic prospection; (C) displays traces of ditches in the profile; (D) other pits; (2) explored part of the ditch*

numerous fragments of pottery (without traces of secondary burning), animal bones, broken covers of kiln channels, stones, and a few flint tools, distributed across four layers (Figure 6(3)). Starting from the top part of the pit (0.4–0.6 m from the contemporary surface), thirty-one fragments from thirty human figurines and two fragmented animal figurines were found. The depth of the pit was up to 1.4 m from ancient surface. At the deepest part, sediments that appeared after the heavy rains were clear visible.

The aforementioned finds, especially the broken clay covers of channels, were probably connected with the activities related to the pottery kiln. However, it looks like this feature was abandoned some time before people left the settlement. For some time, this place was used for rubbish (broken covers, pottery, and bones) and some rituals, in which numerous clay human and animal figurines were used. The nearest kiln-like anomaly we can see lies 10–15 m to the West of the explored area. A similar grouping of kilns fwas noted through geomagnetic prospection at Maidanetske and Taljanky, and in the latter case it was also confirmed by excavations (Videiko et al., 2015).

Dwellings: Households and Temple

In 2009–2014, the remains of six dwellings were explored, four completely and two partly (Figures 9–13). They represent three kinds of anomalies shown

Figure 4. *Nebelivka 2014, excavations in the kiln area: (1) trench 9 at the beginning of the excavations; (2) trench 9—in view from helicopter close to the final stage of explorations (photo by Boiko & Boiko).*

on the plan of Nebelivka: burnt houses, 'probable houses', and 'megastructures'. The second and the third groups of features at Trypillia sites were excavated here for the first time.

Burnt houses

This kind of remains is represented by rectangular depositions of burnt daub pieces of different size with a thickness from 5–10 cm up to 30–40 cm in different parts (houses A9, B17, and B18). In these depositions, sometimes details of interior, clay-like platforms from ovens or fireplaces, altars, bins, thresholds, and other features, are visible (Table 2). At Nebelivka, the remains of burnt houses usually had two or more layers of daub with imprints of wooden constructions.

The top layer in most cases was destroyed by ploughing, because the depth of deposition started from 0.2 m below the modern surface (Figures 7(1) and 8(1 and 2)). This level is associated with the remains of a garret, sometimes overlapping a fragment of a wall that fell inside or outside the building. The remains of the overlying garret are identifiable in this case by tree imprints on daub, which are oriented across the long axis of the building. Fragments of walls are identifiable by wood imprints along the long axis of building and prints of sticks, but also by the remains of clay plastering with traces of paint and wall-painting, especially at house B17 (Figure 8(4)).

The lower layer of daub was associated with the ceiling of the first floor and the second floor. Imprints of wood in this layer are usually across the long axis of the building. The thickness of the plaster ranges from 5–8 to 10–14 cm; it was usually applied in two or three layers of 3–4 cm each. This surface was covered with a layer of clay that is stained with red paint. Preservation of this paint is usually poor, but it was present in most of the remains of houses (Table 2).

Open fires or stoves were used for heating. Their remains are presented by massive platforms of clay 20–40-cm thick and around 2 × 2 m in size (Figures 7 (4) and 8(2)). These platforms were built on the lower layer of plaster coating to the right of the entrance. The edifice used vertical supports to support the overlapping load; their imprints were recorded during the excavation of buildings A9 and B17.

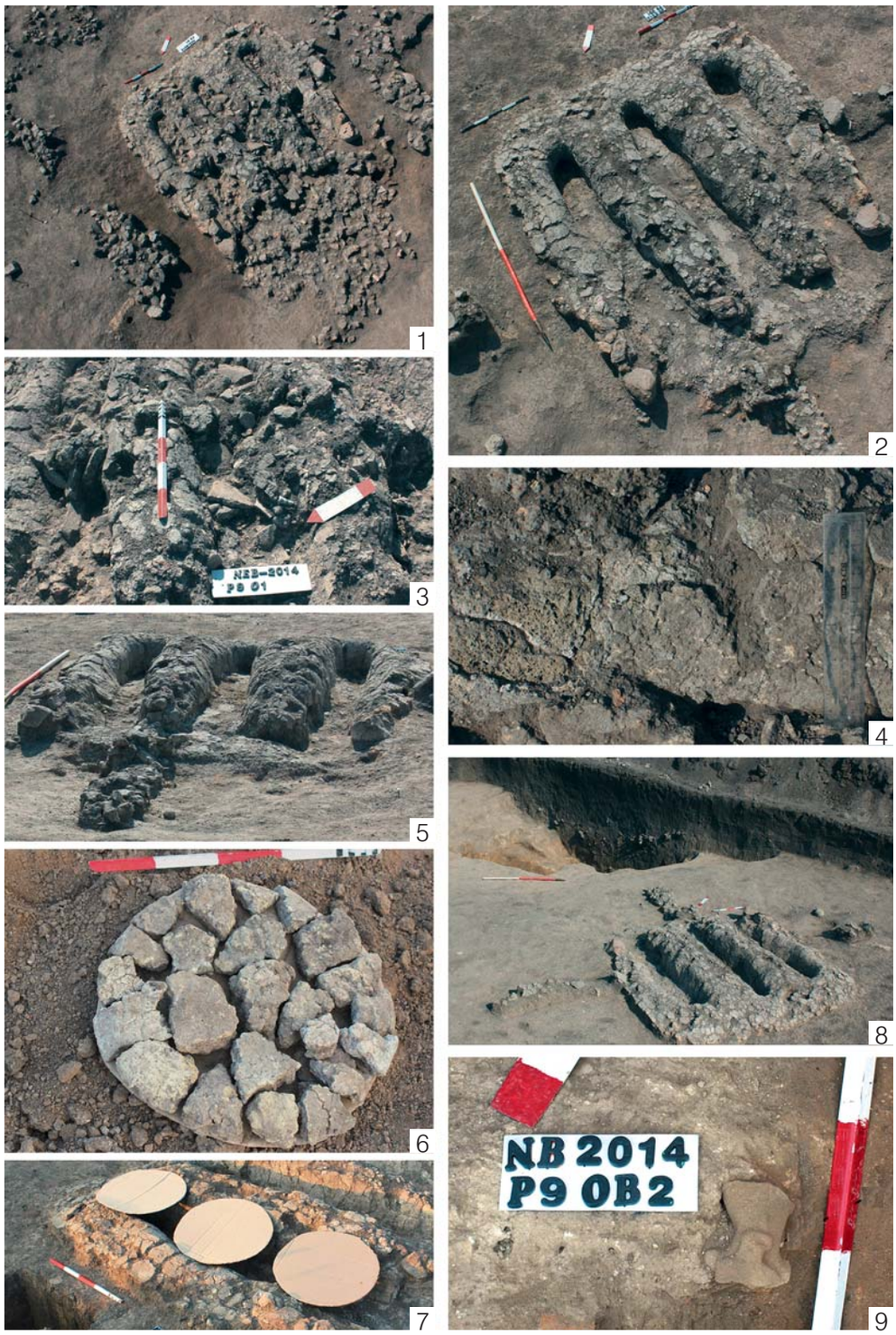

Figure 5. *Nebelivka 2014, excavations in the kiln area: (1) kiln, covered by waste; (2) kiln after being cleaned from waste; (3) materials, including part of a figurine, found inside the channels of the kiln; (4) heavily burnt wall of the channel, enlarged; (5) kiln after being cleaned from waste; (6) reconstructed cover of the channels; (7) use of covers (reconstruction); (8) kiln and pit at the final stage of excavation; (9) fragment of a figurine in the pit near the kiln.*

Altars were discovered at houses A9 (2) and B17 (3) on both layers: on the ground and first floors. They consist of two to three well-burnt layers of small, clay, tile-like fragments 2–3-cm thick (Figures 7(5) and 8(3 and 5)). At house B17, altars were decorated with incised lines and red paint. The fragmented

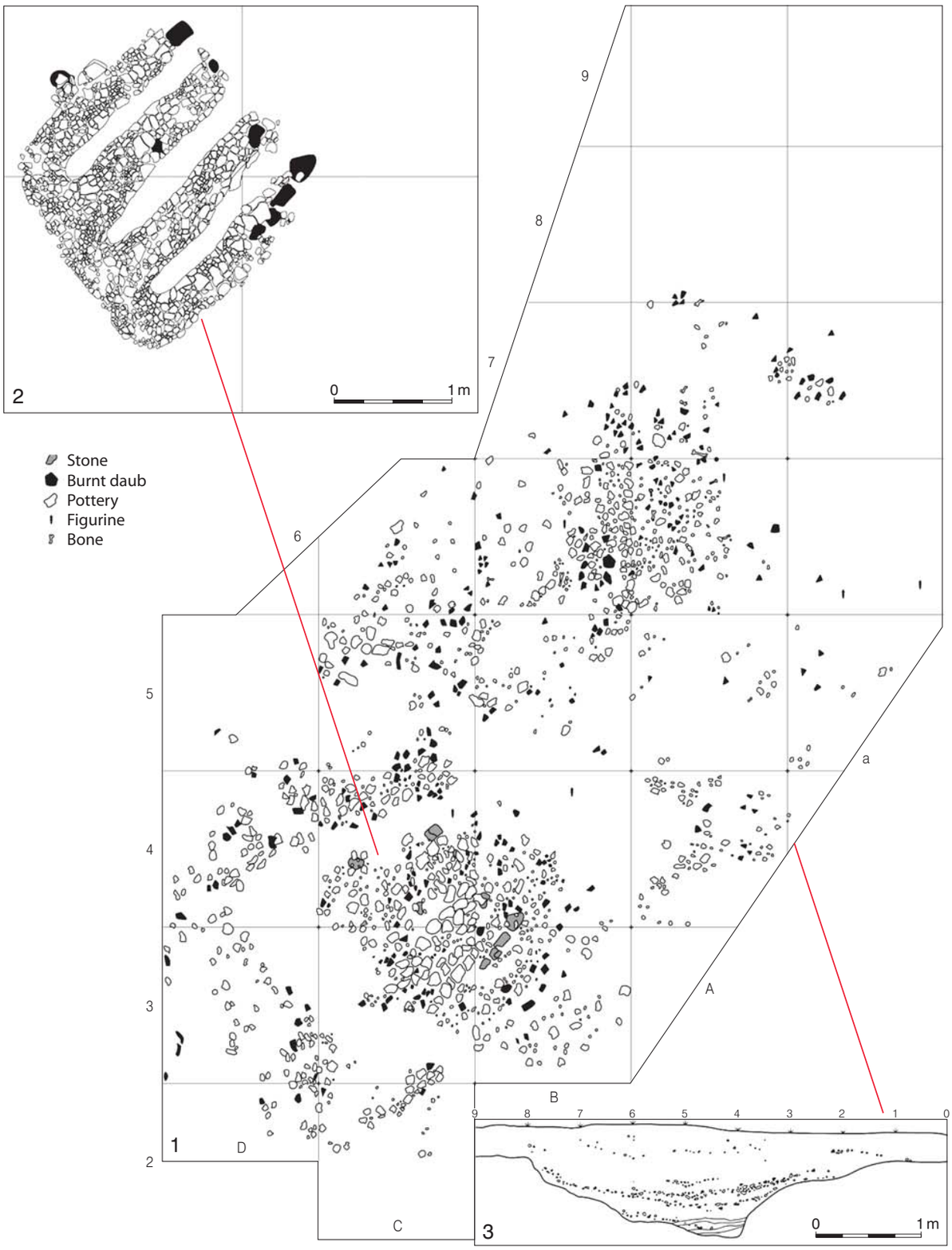

Figure 6. *Nebelivka 2014, excavations in the kiln area: (1) plan of trench 9 at the beginning of the excavations; (2) kiln (3) profile of the pit.*

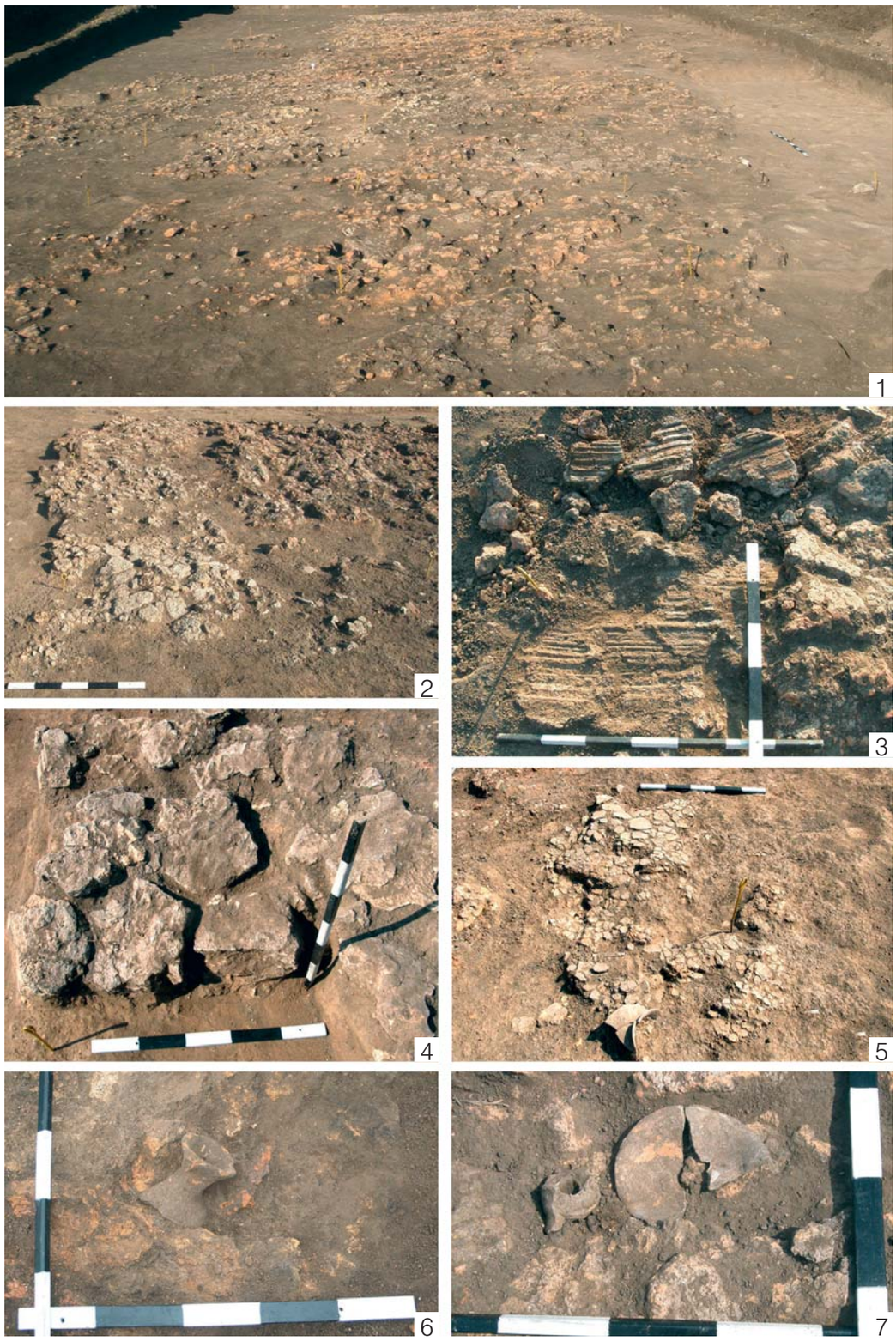

Figure 7. *Nebelivka 2009, excavations of burnt house A9: (1) general view from E; (2) N part of house remains; (3) imprints of wood on daub and on the surface below it; (4) platform from the oven/fireplace; (5) elevation/altar under the daub layer; (6 and 7) fragmented binocular vessels.*

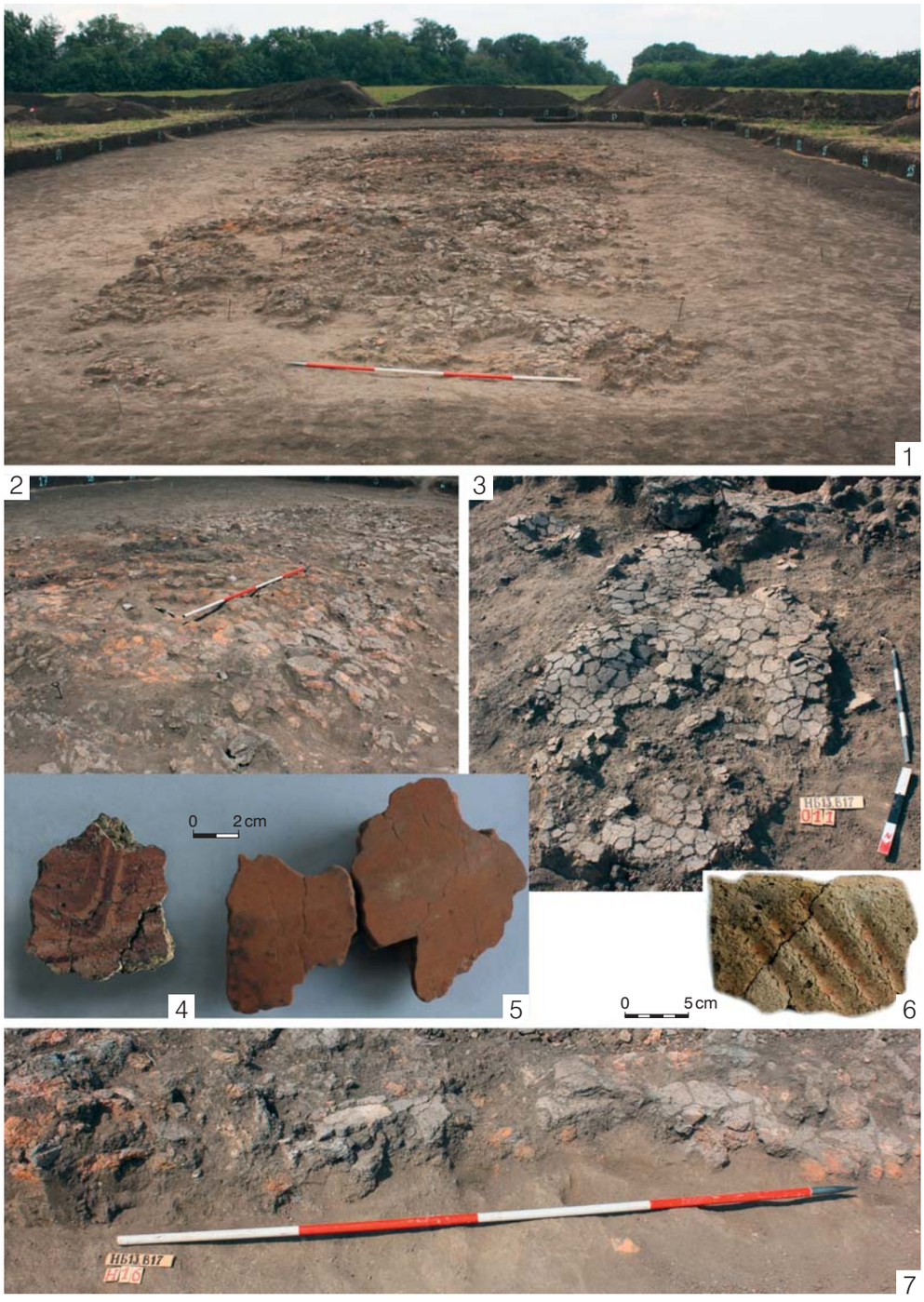

Figure 8. *Nebelivka 2013, excavations of burnt house B17: (1) general view from SW; (2) part of platform from the oven/fireplace and traces of ploughing; (3) remains of an altar under the daub; (4) fragment of a wall-painting; (5) fragment of an altar; (6) edges of a decorated dolly tub; (7) part of a profile with two layers of burnt daub.*

edges of this construction were rounded, reminiscent of the details of cross-like altars, known from former excavations at Trypillia sites and ceramic models of buildings.

Finds of pottery (complete vessels) were associated with the lower layer and the space under it. From house A9 originate five bowls, six small goblets, four small vessels, five large vessels, one 'kitchen' pot, and three binocular vessels. From house B17, we have four bowls, two large goblets (one with a handle), four large vessels, and two 'kitchen' pots. In both cases, we see the absence of some categories of vessels

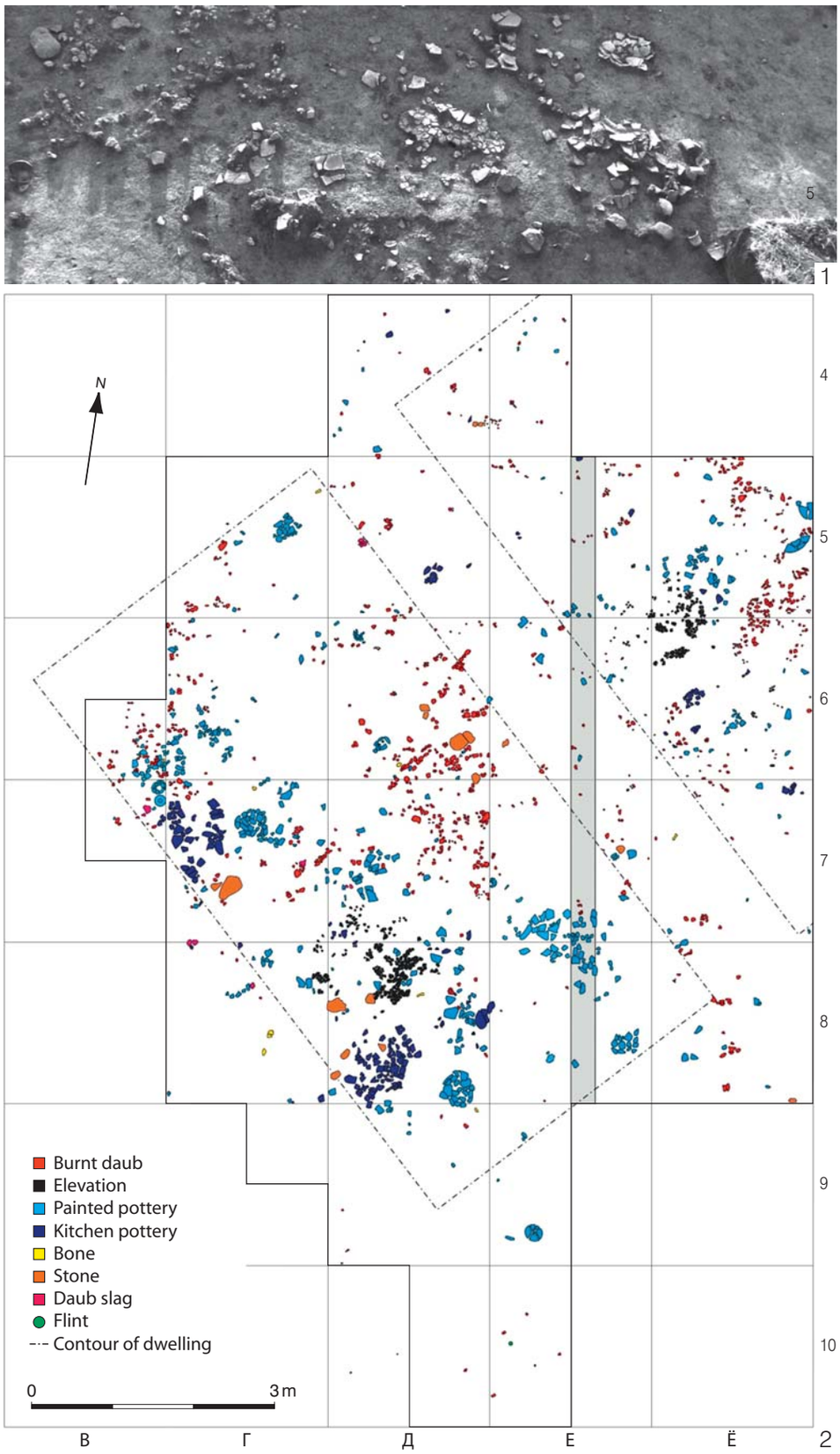

Figure 9. *Nebelivka 2014, excavations of 'probable houses' in trench 5: (1) part of house 1, distribution of daub and pottery; (2) plan of trench 5 (after V. Rud).*

Figure 10. *Nebelivka 2012, excavations of dwelling B5—'megastructure': (1) W part of trench with traces of ploughing (A), the direction of plough-marks is identical to the present-day orientation of the crops in the field; (2) W part of the trench with clearly visible black fill from the top part of the pit near dwelling B5 ((1 and 2)—photo by Mark Household); (3) profile with remains of dwelling B5 and the ploughing layer above; (4) remains of altar 2 in the profile.*

known from Nebelivka pits, including big storage vessels.

A lot of fragments of pottery, mainly small ones (up to 30–40 per 2 × 2 m grid), were deposited around the remains of houses. They were accompanied by fragments of animal bones. In all profiles, it is clearly visible that around burnt houses a cultural layer up to 30-cm thick formed, which is absent under the burnt daub[2]. This means that loess soil was used in the period when the houses were constructed. This layer is also visible as geomagnetic anomalies around the

[2]A similar situation was documented at Maidanetske—see Müller & Videiko (this volume) Figure 3(2).

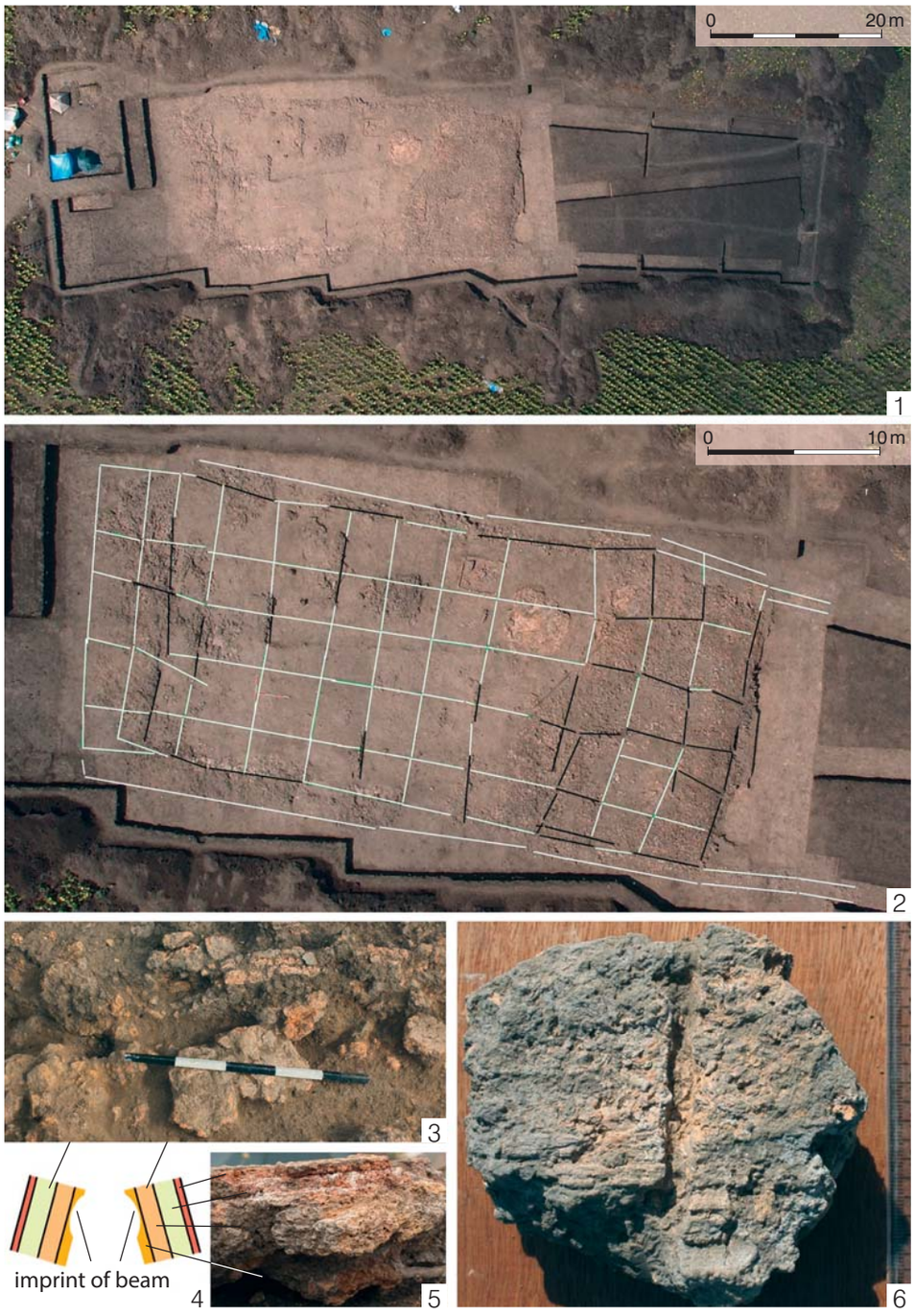

Figure 11. *Nebelivka 2012, excavations of dwelling B5—'megastructure': (1) the remains at the first stage of the excavations; (2) reconstruction of the frame system based on imprints ((1 and 2)—photo by Mark Household); (3)—part of a deposition with traces of a timber construction; (4) reconstruction of the destruction process; (5) sample of daub with visible layers; (6) daub with imprints of round timber construction and cord connection.*

explored house and many other burnt houses at Nebelivka.

House A9 is an example of the usual two-storeyed family dwelling with a fireplace on the first floor. House B17 is larger and had a more sophisticated interior with two fireplaces on the first floor and three altars, two of them on ground floor. The owner was likely linked to the temple[3] located at a distance of 30 m, which might explain the size and unusual interior of this house.

[3]Megastructure, dwelling B5.

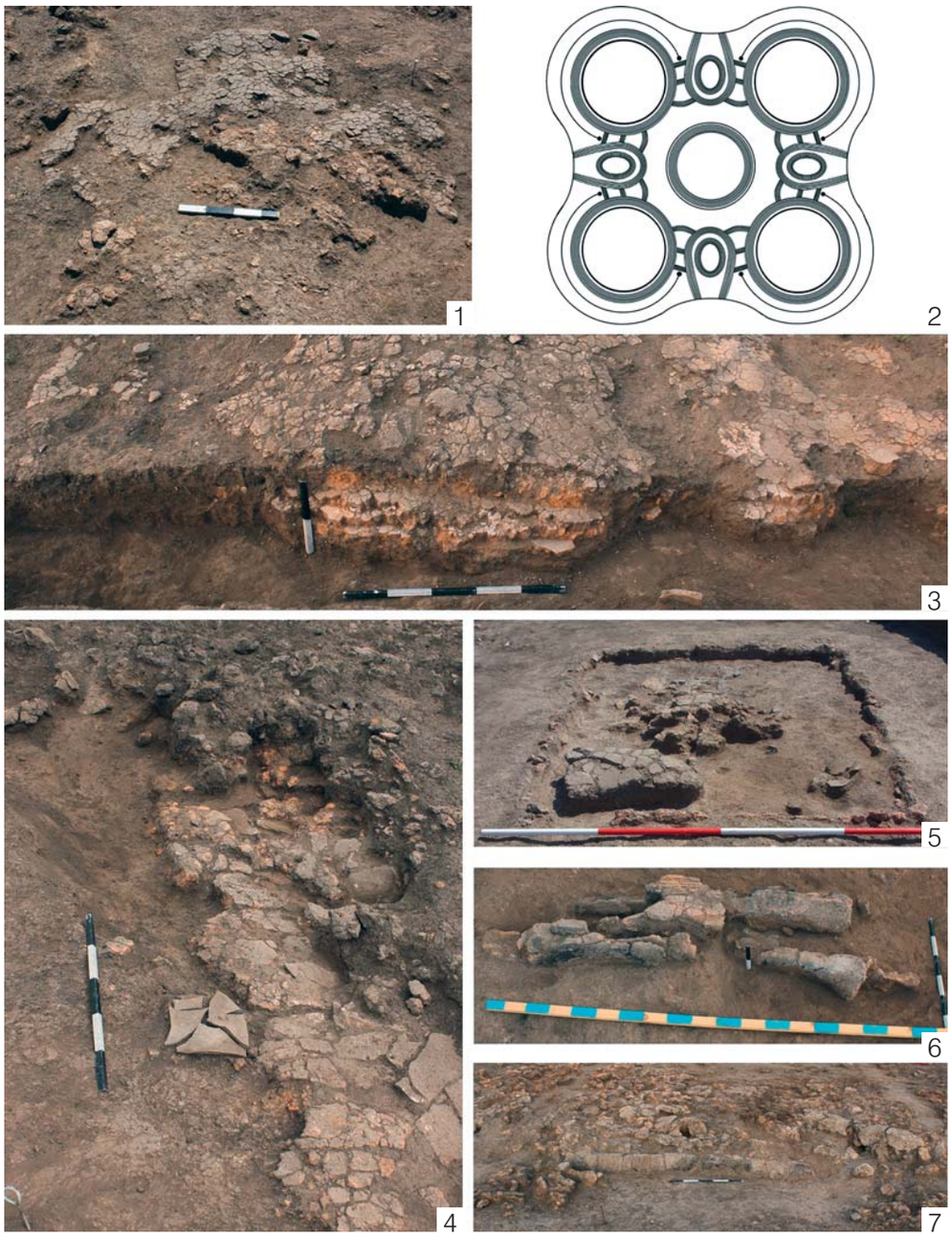

Figure 12. *Nebelivka 2012, excavations of dwelling B5—'megastructure': (1) remains of a cross-like altar; (2) reconstructed decoration of the altar (after S. Fedorov); (3) profile of the altar 1 with multiple layers (renewals); (4) podium on the lower layer of daub, partly buried under the upper layer of daub; (5) clay dolly tub with a millstone; (6) remains of a threshold and decoration from the doorframe; (7) remains of the 1.7-m wide threshold at the eastern entrance.*

'Probable houses' (trench 5/2014)

Anomalies, named as 'probable houses', were numbered up to twenty-one per cent of the remains of houses at Nebelivka (Rud, 2015: 26). In 2013, part of such a feature was explored with a 1 × 4 m test-pit in the outer row of houses, when some broken pots and small fragments of burnt daub were found. In the 2014 season, the larger area here was investigated (Rud, 2015; Videiko et al., 2015). The remains of dwellings were discovered at a depth of 0.4–0.5 m from the contemporary surface. They formed close to rectangular structures, created by small fragments of burnt daub, broken pottery, including different kinds

Figure 13. *Nebelivka 2013, excavations of pit B17/1: (1) pit and house B17, view from W; (2) layer of finds on the edge of the pit; (3) figurine between the fragments of pottery; (4) part of the profile at the deepest part of pit B17/1; (5) layer of finds on the edge of the pit, view from SW; (6) edge of pit B17/1 and profile from E.*

of vessels, stones, and clay platforms on the ground floor—destroyed elements of the interior (Figure 9).

From house 1 originate no less than nineteen items: a bowl, a semi-spherical bowl, six goblets, seven bi-conical vessels, a pear-like vessel, a pot, and two 'kitchen pots'—no less than from the normal (and larger) houses A9 and B17, as described before. The situation with storage vessels is the same.

The character of pottery burning, its distribution and deposition, the amount of burnt daub (with admixture of plants), and pieces of slag-like daub provided clear evidence that these two features in this

Table 2. *Excavations of dwellings in Nebelivka: 2009–2014*

Dwelling/year of excavation	Size, m	No. of floors	Oven/fireplace	Dolly tub	Altar	Podium	Painted floor/walls	Pit
A9/2009	5–6 × 18	2	1	–	2?	1?	+	1
B5/2012	20–24 × 66	2	1	1	7	1	+	3
B17/2013	5.5–8 × 24	2	2	–	3	–	+	1
B18/2013	? × 20	2	1	–	–	–	+	1
1/2014	4.3 × 8.2	2	1?	–	–	–	–	–
2/2014	*c.* 4 × 8	2	1?	–	–	–	–	–

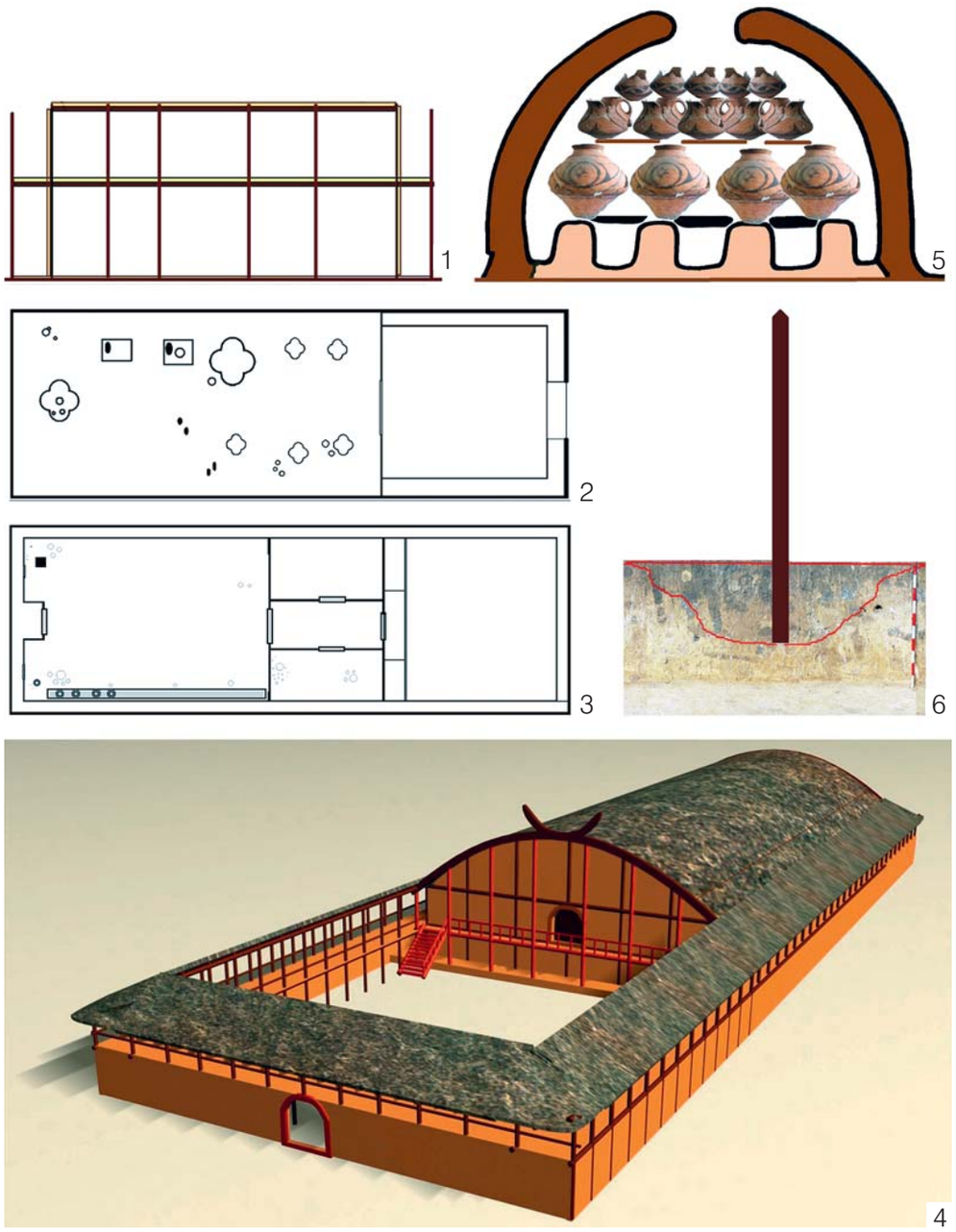

Figure 14. *Nebelivka, reconstruction of investigated features: (1) frame construction of dwelling B5; (2) dwelling B5, plan of the ground floor; (3) dwelling B5, plan of the first floor; (4) dwelling B5, reconstructed as a temple (3D by M. M. Videiko); (5) profile of kiln; (6) profile of palisade.*

area were burnt, as occurred to other houses to the left and to the right of this place. It is possible to suppose that the amount of burnt daub in such a case depends on

(a) the amount of clay used for construction of the house;
(b) the process of burning, different here from the surroundings. The last feature is similar to central part of the megastructure (dwelling B5) investigated in 2012.

There is no reason now to examine all the remains of this type of building as objects left without burning or as some different phase of site development.

Megastructure: temple

Interpretations of this object now have an impressive bibliography, which rapidly increased last year with the appearance of three (or more?) possible reconstructions (Chapman et al., 2014b; Gaydarska, 2015; Korvin-Piotrovskiy, 2015; Videiko & Burdo, 2015a).

Excavations confirmed the size and configuration of the structure (Figure 11(1)). It consisted of burnt daub with imprints of wood, which are usually recognized as the remains of burnt houses (Shevchenko, 2015). The remains of some elements, such as clay platforms, started at 0.2–0.4 m below the surface. Traces of ploughing were cleaned by the Durham team in the western part of the trench at a depth of 0.4–0.5 m from the modern surface during the second week of excavations (Figure 10(1)). The same traces were visible on the eastern side of the trench. This means that a lot of objects were destroyed or removed (for example, pieces from a binocular vessel which was on the altar elevation) by ploughing, which partly changed the picture of megastructure destruction which we documented in 2012 (Figure 10(3 and 4)). It means that we can speak about finds and features *in situ* only starting from depth of more than 0.5 m from the contemporary surface.

Dwelling B5 diverged from the normal houses mainly in its size and also in some elements of design. The first circumstance gives us the possibility to work with these remains according to the conventional procedure of investigations, documenting, and interpretation of dwellings remains from Trypillia sites (Chapman et al., 2014a, 2014b, 2014c : tables 1 and 4). Q4

The remains of the structure were oriented almost West-East along its long side. They consisted of two parts: an accumulation of burnt daub fragments (western part, nearly 20–24 × 38–40 m) and an area partly surrounded by narrow (1–1.5 m) lines of burnt daub fragments (eastern part, nearly 20 × 20 m) (Figure 11(1)). In the western part, two layers of burnt daub were investigated, associated with the plastering of wooden constructions which belonged to overlapping structures of the loft (upper layer) and the level ceiling (lower layer). Both layers of daub had imprints of different wooden constructions. Examination of all imprints gave the evidence for the reconstruction of the wooden skeleton of the structure (Figure 11(2–6)).

On the upper layer, only imprints of planks were found. The direction of most imprints was South–North, which means perpendicular to the long side of the structure, as is usually the case when exploring Trypillia Culture dwellings. These imprints are associated with 3.5–4-m planks up to 10-cm thick. They were enough to hold 5–7 cm of plaster made from clay mixed with straw. The construction of the loft ceiling was perhaps supported by the same system of frame construction as the level ceiling (see below).

The lower layer demonstrated not only imprints of planks, but also of the numerous round beams which belonged to a sophisticated frame construction (Figures 11(2) and 14(1)). In many cases, the location of beams was well visible after the cleaning of the upper layer. This was possible because the plaster was broken exactly along the line of beams (Figure 11(3–4)). The discovery of these lines gave us a picture of the horizontal frame construction. All imprints which were detected here belonged to round beams 20–25 cm in diameter. On some daub pieces, imprints of ropes were also visible, which were used to fasten these beams to other parts of the frame, probably to poles (Figure 11(6)).

The horizontal frame consisted of 3.5 × 4–4 × 4 (4.5) m sections (Figure 11(2)). Such a size is comparable with the width of usual Cucuteni-Trypillia dwellings (4–5.5 m). As such, it was possible to cover each frame with 3.5–4.5-m planks. It was a nice solution for creating an impressive structure 20-m wide and 38-m long. The long sides were created from eleven to twelve such sections, for the short side up to six. It means that this construction also included up to ninety-one (7 × 13) poles, which also supported the frames of the loft construction.

Such a strong construction of a frame would have created a good foundation for the first floor rooms. The plan of this part of the 'megastructure' (Figure 14(4)) is based on the finds of the remains of thresholds and the location of such details of the interior as a long elevation or podium (nearly 18 × 0.4 m) (Figure 12(4)) and the round elevation (up to 2 m in diameter). Such elements of the interior are usual and well known for smaller Cucuteni-Trypillia dwellings; in case of Nebelivka structure, only the size was different. All aforementioned objects were associated with the lower layer of burnt daub.

On the eastern side, a 1.7-m wide threshold located exactly in the middle of structure (Figure 12(7)). It was based on a beam from the front frame of the construction. To the left and to the right, postholes from vertical poles were visible. The eastern entrance is also located in the middle of the frame. The remains of the next two thresholds are located on both sides of the next (the second) frame to the West (Figure 12: 6). It means that here were entrances to two large rooms, opening onto an around 4-m wide and up to 12-m corridor, at the end of which the fourth, 2.2-m wide, threshold was found. Here was entrance to the largest room with the long podium under the southern wall. It was attached to the wall, which was clearly seen in a few places. All rooms, especially the largest, were divided by rows of frame construction poles.

The last threshold is located in the middle of the western side, also based on the beam of frame construction. Here was a western wall of the central hall of the structure. At this part of structure, but in front of this wall, a round elevation was also located, associated with a fireplace, as is usual for Cucuteni-Trypillia house construction and size. It means that there was a room here, suitable for year-round occupation; the only one in this structure.

From three sides, the lodges of the first floor were surrounded by an open gallery, associated with a daub horizon of the ceiling, which extended out 1.5 m from the line of the walls. This gallery construction was continued at the eastern end of the megastructure, where its remains were represented by 1–1.5 m lines of burnt daub with imprints of wood on the bottom (Figures 10(1) and 14(2–5)).

The ground floor level was marked by the remains of seven fired-clay platforms of different sizes, but with the same construction. One of them was cross-like in form (4.3 × 4.3 m) and located on the axis of symmetry close to the western side of structure. The other six are situated close to the eastern side in two equal groups (three in each), to the left and to the right to axis of symmetry (Figure 14(2)). Under the northern wall, the remains of two bins with stones inside were discovered. The placement of all features was coordinated with the location of posts which divided the space of the ground floor. The floor was levelled and covered by brown clay plaster (up to 6-cm thick) which was not burnt.

The yard, located on the eastern side, was nearly 20 × 20 m in size and surrounded by a gallery, maybe with an external wall. No traces of an entrance were found, but it is possible that it was opposite the entrance to the first floor. In the area of the yard (near 400 m^2), only approximately hundred fragments of pottery and animal bones were found. This demonstrated a big difference with the cultural layer around other three sides of the structure, where over 1500 such finds were found. It is visible on kite images that the colour of this place was black, like the top fill of the pit (Figure 10(2)). Unfortunately, we were unable to investigate most of this place.

It is also interesting that there is a 0.4 m difference between the levels of the yard and the ground floor, which means that this part of the megastructure possibly stood on a slight elevation. Maybe this feature appeared because there is a small slope here which was necessary to level out in the process of erection of the megastructure. This feature possibly also had some symbolical significance.

We have no direct evidence about the construction of the roof. It is possible to suppose that it looks like those on pottery models of houses, which were found on sites of the Nebelivka group: arched (probably from rush mats) with conventional bull horns over the pediment.

Platforms 1–7 could possibly be recognized as altars. Cross-like altars with painted surfaces and incised decoration are well known from excavations at Volodymyrivka, Maidanetske, and other BII–CI sites in this region, as well as from the pottery models of dwellings found in this region. Altars/platforms 1 and 2 stand out due to their size, which is two to three times greater than usual. Altar/platform 5 demonstrated a nice sample of decoration by paint and incised lines ~~after restoration, which was done first time for this kind of feature~~ (Figure 12(1 and 2)). The system of ornament is similar to the decoration of the large storage vessels. The altars were repaired several times: first—up to seven to eight times, second—three to four times, the others—two to three times. Each layer was burnt during use (Figure 11(5)). Near the second altar, fragments of binocular vessels were found; on the first altar—a large broken pot and two bowls. Platform 8 from the first floor was recognized as the remains of a fireplace, partly destroyed in the centre. Near this fireplace, two broken pots were found. A clay dolly tub was located close to platform 2 (Figure 12(5)). The bottom was partly burnt. On it remained some clay construction (in the central part) and a large granite millstone. A broken pot was found in the corner. The corners of the bin were probably decorated with some modelled features which were not preserved. ~~From the second bin, located near the first to the West, was only preserved as a piece of its corner and few pieces of wall~~. In its vicinity were also found pieces of the large millstones. Such bins are known from excavations of Cucuteni-Trypillia sites, but usually the largest were not as large as this one. Ritual milling and production of bread was a usual thing for sanctuaries.

All other features related to the first floor of a megastructure. Clay thresholds are situated at two entrances at the East and West. The eastern threshold

(1.7-m wide) is twice as large as the thresholds usually known from excavations of Trypillia dwellings. Nearby, part of clay arch was found, which probably decorated the frame of this door. The central threshold to the largest room was 2.2-m wide. Such doors are comparable with the width of entrances to temples from Mesopotamia. Near the one threshold, the remains of clay decoration from the doorframe were found (Figure 12(6)).

The podium with three large storage vessels was located under the southern wall in the largest room on the first floor. Here were also several of the usual painted vessels and bowls. The podium surface was painted in white, while storage vessels were painted in red. The volume of each vessel was around fifty litres and they were probably used for the storage of grain. On the surface of the podium, numerous burnt bones of lamb, associated with sacrifice, were also found. The floors and walls of all rooms on the first floor were decorated with red paint, which created a ceremonial atmosphere.

On the ground floor of the megastructure were concentrated all of the altars and bins, which were used for rituals and sacrifices. Its square, free of platforms and bins, was around 600 m^2, which is enough space for a few hundred people. Gardens previously had an area of around 300 m^2, with available space for 200–300 people at one time. The division of the first floor into rooms decreased the potential number of visitors. It is likely that the two rooms around corridor were used for storage. In the southern room were found a large pot, two bowls, and twenty-two small pots around them. The small room on the first floor with a fireplace was the only one in this dwelling which would have been suitable for year-round occupation and/or cooking.

The area of the Nebelivka megastructure included elements usual for ancient temples: sacred places for sacrifice (altars/platforms), an open-air yard enclosed on all sides in front of the entrance from the East, rooms for storage and ceremonies for some people on the first floor, a small living room for personnel. Some elements of the interior, such as altars 1 and 2, the bins, the podium, and the thresholds at the main entrances, were created similar to those of the usual houses, only two to three times larger (Figure 14(4)).

The Nebelivka megastructure is located in the internal row of houses, but it probably was built before it, since the orientation of the nearest dwellings was changed to include B5 in the planning system. At Nebelivka, only one construction of such a size was discovered. Its construction, planning, interior details, as well as also its size and location within the settlement (at one of the highest points) distinguished it from other dwellings at this site. We have all the motives and enough evidence to determine it to be a central temple for the whole village community.

Pits: The 'Dairy' of the Ancient Households and Craft

The number of anomalies interpreted at Nebelivka as ancient pits is the same or great than the number of anomalies from houses. In 2009–2014, three kinds of these features were investigated: those related to households (6), those linked to building activities (2), and a kiln (1). Pits of the first group were studied in trenches 3 (near houses B17 and B18) and 4 (close to the external row of houses in the southern-west part of site). To this group possibly belonged the feature located to the West of the houses B5 and A9. All pits were large in size and were only partly explored.

Pit B17/1 started close to remains of a house and continued to the border of the trench, which was at a distance of 14 m (Figure 13(1)). The contours at the upper part were identified by a spread of numerous fragments of pottery and animal bones. Some fragments of clay human figurines were also found. Starting from 0.8 to 1.2 from the contemporary surface in some places, this find formed a continuous layer with some groups of material (Figure 13(2, 3, and 5)). This layer marked the pit slope, which was not too steep at this part. Only close to centre (at a depth of up to 1.6–1.7 m) did it become deeper, ending nearly 3 m from surface.

The final black soil fill of the pit, which was more predominant in the central part of the pit, was very visible in both profiles (Figure 13(1 and 6)). This means that at the time when house B17 was abandoned, this pit was only partly filled by waste and natural sediments. This fill was also clearly visible in profile and included over 8000 fragments of pottery, 2000 animal bones, destroyed burnt clay platforms, some flint tools, and seventeen fragments of human figurines. These finds created a 15–20-cm layer on the sides of pit, which was the most intense on the side closest to dwelling B17. Some figurines were deposited inside piles of bones and fragments of dishes. In the lower part of the pit were two 2–3 cm layers of charcoal, separated by a layer of yellow clay sediments. The same sediments, which included fragmented pottery, bones, and figurines, were also present at the base of the pit (Figure 13(4)).

The fills of other pits of this type, which were only partly explored (pit B18/1—with a 2-m trench, in trench 4—only the central part to some depth), were similar, including the Chernozem on top, figurines, charcoal, and clay sediments at the bottom.

Under the remains of dwelling B5 two pits were explored, which appeared at the time when megastructure was created. They were relatively small with a depth of around 1–1.2 m from the floor of the building. Pit 1, close to platform 2, had a fill composed of pieces of 'chocolate clay' on its base, which was used for levelling the surface of the ground floor. The rest of the pit was filled with loess soil with a few fragments of pottery on top. In pit 2, located close to the platform/altar on other side of the dwelling, were also only a few fragments of pottery. At the time of use of the megastructure, both pits were not visible on the surface of the ground floor.

All aforementioned pits were important sources for different kinds of clay, which was used for plastering walls and floors, and probably appeared at the time when dwellings were created. Later, most of them were used not only for 'waste' deposition, but also for some rituals. There is a difference between pottery assemblages of pits of type 1 and related houses. For example, in pits large storage and pear-like vessels were deposited, which are totally absent in the explored houses. Further studies of these assemblages may be important not only for the reconstruction of everyday life, but also for some details of the ritual of abandoning houses at Trypillia sites.

Summary

During four seasons at Nebelivka, several objects were investigated which changed the image of mega-sites. They were large public buildings ('megastructure'), fortifications (symbolic ditch or real palisade), and a kiln (Figure 14). This 'triad' marked such well-known features of urbanization, as monumental architecture and developed craft, which as some people still believe, were totally absent in Trypillia (see, for example, Tolochko, 2015: 32). Magnetic prospection discovered not only one large building, but also an impressive system of more than ten smaller objects, which later became common features for other mega-sites, like Dobrovody, Petreni, and Maidanetske. The kiln explored at Nebelivka is now the earliest of eight similar devices, discovered in 2013–2014 at Trypillia sites in Ukraine[4]. The characteristics of the furnace put a stop to long discussions of whether there was a developed craft economy at large sites or not. Investigations of the households, which included houses and pits, were important for the reconstruction of different aspects of life at the large sites. New data obtained during excavations in Nebelivka substantially complemented data from large Trypillia settlements.

[4]See more details about new discovered kilns: Korvin-Piotrovskij et al. (this volume).

References

Belenko, M.M. 2010. Kremjanyj material z poselennia Nebelivka. *Archeologiya i davnia istoriya Ukrainy*, 3:15–17. Беленко М.М. 2010 Крем'яний матеріал з поселення Небелівка, *Археологія та давня історія України*, 3:15–17.

Boiko, O. & Boiko, S. 2015. Dosvid vyvchennia pamjatok trypilskoi kultury metodamy aerophotozjomky. In: M. Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 38–39. Бойко, О. і Бойко, С. 2015ю Досвід вивчення пам'яток трипільської культури методами аерофотозйомки. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 38–39. In*: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum, pp. 38–39.

Burdo, N. 2014a. Anthropomorphic Plastic Art of Trypillia Culture: Dialectic of Similarities and Differences. In: C.-E. Ursu & S. Ţerna, eds. *Anthropomorphism and Symbolic Behaviour in the Neolithic and Copper Age Communities of South-Eastern Europe*. Suceava: Karl A. Romstorfer, pp. 303–64.

Burdo, N. & Videiko, M. 2014a. The Temple on the Trypillia Mega-site of Nebelivka. In: N. Başgelen, Ö. Yilmaz & D. Mazlum, eds. 20th Annual Meeting of the European Association of Archaeologists 10–14 September 2014 Istanbul – Turkey. *Abstracts*. Istanbul: Archaeology & Art Publications Tur. San. ve Tic. Ltd Şt, p. 411.

Burdo, N.B. 2014b. Interior of the Nebelivka Temple. In: G. Dumitroaia, C. Preoteasa & C.-D. Nicola, eds. Cucuteni Culture within the European Neo-Eneolithic Context: International Colloquium Cucuteni – 130: abstracts: Piatra-Neamţ, 15–17 octombrie 2014. Piatra-Neamţ: 'Constantin Matasă', pp. 79–82.

Burdo, N.B. 2014c. Antopomorphni figurky trypilskogo poselennia Nebelivka. *Archeologiya i davnia istoriya Ukrainy*, 1 (12):79–83. Бурдо, Н.Б. 2014. Антропоморфні фігурки трипільського поселення Небелівка. *Археологія і давня історія України*, 1 (12): 79–83.

Burdo, N.B. 2015. Antropomorfna plastyka z Nebelivky. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V. V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 29–32. Бурдо, Н.Б. 2015. Антропоморфна пластика з Небелівки. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*.Кіровоград, с. 29–32. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan and S. Kadrow, eds. *The Cucucteni–Trypillia Cultural Complex and its*

Neighbours. Essays in Memory of Volodymyr Kruts. Kiev 'Astrolabe', pp. 29–32.

Chapman, J. 2014a. Settlement Planning at the Trypillia Mega-Site of Nebelivka – Improvisation and Adaptation. In: N. Başgelen, Ö. Yilmaz & D. Mazlum, eds. *20th Annual Meeting of the European Association of Archaeologists 10–14 September 2014 Istanbul - Turkey ABSTRACTS OF THE ORAL AND POSTER PRESENTATIONS*. Istanbul: Archaeology & Art Publications Tur. San. ve Tic. Ltd Şt, p. 408.

Chapman, J. 2014b. Settlement Planning of the Trypillia Mega-Site of Nebelivka. In: G. Dumitroaia, C. Preoteasa & C.-D. Nicola, eds. Cucuteni Culture within the European Neo-Eneolithic Context: International Colloquium Cucuteni – 130: abstracts. Piatra-Neamț, 15–17 octombrie 2014. Piatra-Neamț: 'Constantin Matasă', p. 74.

Chapman, J. 2015a. Burn or Bury? Mortuary Alternatives in the Neolithic and Chalcolithic of Central and Eastern Europe. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan & S. Kadrow, eds. *The Cucucteni–Trypillia Cultural Complex and its Neighbours. Essays in Memory of Volodymyr Kruts*. Kiev: 'Astrolabe', pp. 259–78. У збВ: Дяченко, О., Меноттi, Ф., Рижов, С., Бунятян, К і Кадров, С., ред. *Культурний комплекс Кукутень-Трипілля та його сусіди. Збірка наукових праць пам'яті В. О. Круца*. – Київ: Астролябія, с. 259–78.

Chapman, J. 2015b. Early Urbanism in Europe? The Case of the Trypillia mega-sites: Introduction to the Project. В: На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015: року. – Кіровоград, с. 6. In: M. Videiko, J. Chapman, I. Kozir & V. Sobchuk, eds. *At the Eastern Frontiers of Old Europe*. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015. Kirovograd, Museum, p. 6.

Chapman, J., Gaydarska, B., Villis, R., Svann, N., Burdo, N.B., Kotova, N.S., Belenko, M. & Videiko, M.Yu. 2010. Doslidzennia na poselenni trypilskoi kultury bilia s. Nebelivka 2009 roku. In: D. Kozak, ed. *Archeologichni doslidzhennia v Ukraini 2009 roku*. Kyiv-Lutsk, pp. 458–60. Чапмен, Дж., Гейдарська, Б., Вілліс, Р. Сванн, Н., Бурдо, Н. Б. Котова, Н. С., Беленко, М. і Відейко, М. Ю. 2010. Дослідження на поселенні трипільської культури біля с. Небелівка 2009 р. У зб.: Д. Козак Д.,ред. *Археологічні дослідження в Україні 2009*. Київ-Луцькб с. 458–60.

Chapman, J. & Videiko, M. 2011. The Tripillia Culture Mega-Site Near Nebelivka: Summer 2009 Season. *Praehistorica (Prague)*, XXIX:79–94.

Chapman, J., Videiko, M., Gaydarska, B., Burdo, N. & Hale, D. 2014c. Architectural Differentiation on a Trypillia Mega-Site: Preliminary Report on the Excavation of a Mega-Structure at Nebelivka, Ukraine. *Journal of Neolithic Archaeology*, 16:135–57.

Chapman, J., Videiko, M., Gaydarska, B., Burdo, N., Hale, D., Villis, R., Swann, N., Thomas, N., Edwards, P., Blair, A., Hayes, A., Nebbia, M. & Rud, V. 2014a. The planning of the earliest European proto-towns: a new geophysical plan of the Trypillia mega-site of Nebelivka, Kirovograd Domain, Ukraine, Antiquity Project Gallery, Volume 88, Issue 339 [accessed 02 June 2015]. Available at http://antiquity.ac.uk/projgall/chapman339/.

Chapman, J., Videiko, M., Hale, D., Gaydarska, B., Burdo, N., Rassmann, K., Mischka, C., Müller, J., Korvin-Piotrovskiy, A. & Kruts, V. 2014b. The Second Phase of the Trypillia Mega-Site Methodological Revolution: A New Research Agenda. *European Journal of Archaeology*, 17 (3):369–406.

Fedorov, S. 2015. Protses restavratsii hrestopodibnoi vymostky z poselennia Nebelivka. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 45–46. Федоров С. 2015. (Кіровоградський обласний краєзнавчий музей) Процес реставрації хрестоподібної вимостки з поселення Небелівка. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 45–46. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum: pp. 45–46.

Gaydarska, B. 2015. The Nebelivka Megastructure – An Alternative View. In: M.Yu. Videiko, J. Chapman, I. A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, p. 16. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, 12–14 May 2015. Kirovograd, museum: 16.

Hale, D., Chapman, J., Swann, N., Videiko, M. & Villis, R. 2010. Early Urbanism in Europe? Geophysical Survey at Nebelivka, Ukraine. In: Recent Work in Archaeological Geophysics. 15th December 2010. Abstracts. London: The Geological Society, pp. 35–36.

Kiosak, D.V. 2015a. Vyroby z kremenu poselennia Nebelivka (za materialamy rozkopok 2014 roku). *Archeologiya*, 1:61–70. Кіосак, Д. В. 2015а. Вироби з кременю поселення Небелівка (за матеріалами розкопок 2014 року), Археологія, 1: 61–70.

Kiosak, D.V. 2015b. Kremenevyj Inventor Nebelivskogo Poselennia-Giganta Z Rozkopok 2014 roku. In: M. Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 32–34. Кіосак, Д. В. 2015b. Кременевий інвентар небелівського поселення-гіганта з розкопок 2014 року. У зб.: М. Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 32–34. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, 12–14 May 2015.* Kirovograd, museum: 32–34.

Korvin-Piotrovskiy, A.G. 2015. 'Megastruktury' na poseleniyah-gigantah tripolskoj kultury: varianty interpretatsij. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp.

19–20. Корвин-Пиотровский, А.Г. 2015. «Мегаструктуры» на поселениях гигантах трипольской культуры: варианты интерпретаций. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 19–20. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum: 19–20.

Kruts, V., Korvin-Piotrovskiy, A. & Rassmann, K. 2014. New Discovery of the Kilns in the Tripolian Giant-Settlement Talianki. In: G. Dumitroaia, C. Preoteasa & C.-D. Nicola, eds. Cucuteni Culture within the European Neo-Eneolithic Context: International Colloquium Cucuteni – 130: abstracts. Piatra-Neamț, 15–17 octombrie 2014. Piatra-Neamț: 'Constantin Matasă', pp. 117–23.

Ovchynnykov, E.V. 2015. Rozpysna keramika z megastruktury na trypilskomu poselenni Nebelivka. In: M. Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 35–37. Овчинников, Е.В. 2015. Розписна кераміка з мегаструктури трипільського поселення Небелівка. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред: *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. – Кіровоград, с. 35–37. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum: pp 35–37.

Pashkevych, G.O. 2015. Rezultaty paleobotanichnogo analizu z rozkopok megastruktury na poselenni bila s. Nebelivka. In: M.Yu. Videiko, J. Chapman, I. A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, p. 44. Пашкевич Г. О. 2015. Результати палеоетноботанічного аналізу залишків рослин з розкопок мегаструктури на поселенні біля с. Небелівка. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 44. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum: p. 44.

Raczky, P. & Anders, A. 2012. Neolithic Enclosures in Eastern Hungary and their Survival into the Copper Age. In: F. Bertemes & H. Meller, eds. *Neolithische Kreisgrabenanlagen in Europa - Neolithic Circular Enclosures in Europe: Internationale Arbeitstagung vom 7. bis 9. Mai 2004 in Goseck*. Tagungen des Landesmuseums für Vorgeschichte Halle 8. Halle (Saale): Landesmuseum für Vorgeschichte Halle (Saale), pp. 271–309.

Rud, V. 2015. Doslidzhennia zalyshkiv zhytel na rozkopi 5 poselennia Nebelivka. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 26–27. Рудь, В. 2015.Дослідження залишків жител на розкопі 5 поселення Небелівка. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, *с*. 26–27. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, 12–14 May 2015*. Kirovograd, museum, pp. 26–27.

Ryzhov, S.M. 1993. Nebelivka grupa pamjatok trypilskoi kultury. *Archeologiya*, 3:101–14. Рижов С.М. 1993. Небілівська група пам'яток трипільської культури, *Археологія*, 3: 101–14.

Shevchenko, N.A. 2015. Issledovanie materialov drevnego hrama tripolskogo poseleniya v s. Nebelevka Arhangelskogo rajona Kirovogradskoj oblasti (tehnologicheskij aspekt). In: M.Yu. Videiko, J. Chapman, I. A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 40–43. Шевченко, Н.А. 2015. Исследование материалов древнего храма трипольского поселения в с. Небелевка Архангельского района Кировоградской области (технологический аспект): У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015: року*. Кіровоградб с. 40–43. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015.* Kirovograd, museum: pp. 40–43.

Shmaglij, M.M. & Videiko, M.Y. 1992. Trypilski poselennia na Cherkashchyni. *Archeologiya*, 3:124–30. Шмаглій М.М. і Відейко М.Ю. 1992. Трипільські поселення на Черкащині. Археологія, 3:124–30.

Shyshkin, K.V. 1985. Planuvannia trypilskyh poselen za danymy aerofotozjomky. *Archeologiya*, 52:72–77. Шишкін, К.В. 1985. Планування трипільських поселень за даними аерофотозйомки. *Археологія,* 52:72–77.

Skakun, N.N., Tsvek, E.V., Kruts, V.A., Mateva, B.I., Korvin-Piotrovskiy, A.G., Samzun, A. & Yakovleva, L. M. 2005. *Archeologicheskie issledovaniya tripolskogo poseleniya Bodaki v 2005 godu*. Kiev: Sankt-Peterburg. Скакун, Н. Н., Цвек, Е. В,, Круц, В. А., Матева, Б. И., Корвин-Пиотровский, А. Г., Самзун, А. и Яковлева, Л. М. 2005. *Археологические исследования трипольського поселения Бодаки в 2005 г*. Киев-Санкт-Петербург.

Tolochko, P. 2015. Tripolye: kultura i etnos. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan & S. Kadrow, eds. *The Cucuteni-Tripolye Cultural Complex and its Neighbours: Essays in Memory of Volodymyr Kruts*. Lviv: Astrolabe, pp. 27–35. Толочко, П. 2015. Триполье: культура и этнос. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan and S. Kadrow, eds. *The Cucucteni–Trypillia Cultural Complex and its Neighbours. Essays in Memory of Volodymyr Kruts*. Kiev 'Astrolabe', pp. 27–34.

Turek, J. 2012. The Neolithic Enclosures in Transition. In: A. Gibson, ed. *Enclosing the Neolithic. Recent studies in Britain and Europe*. BAR International Series, 2440. Oxford: Archaeopress, pp. 185–201.

Videiko, M. 2014. Reconstruction of Nebelivka Mega-Structure. In: G. Dumitroaia, C. Preoteasa & C.-D. Nicola, eds. Cucuteni Culture within the European Neo-Eneolithic Context: International Colloquium Cucuteni – 130: abstracts. Piatra-Neamț, 15–17 octombrie 2014. Piatra-Neamț: 'Constantin Matasă', pp. 75–78.

Videiko, M., Chapman, J., Burdo, N., Gaydarska, B., Ignatova, S., Ivanova, S. & Rud, V. 2014a. Prodovzhennia doslidzen na trypilskomu poselenni etapu BII bilia s. Nebelivka. In: D. Kozak, ed. *Archaeologichni vidkryttia v Ukraini 2013 roku*. Kyiv, pp. 161–62. Відейко, М., Чапмен Дж., Бурдо Н., Гейдарська Б., Ігнатова С., Іванова С., Рудь В. 2014a. Продовження досліджень на трипільському поселенні етапу ВІІ біля с. Небелівка: *Археологічні відкриття в Україні 2013 р*. Київ: с. 161–162.

Videiko, M., Chapman, J., Burdo, N., Gaydarska, B., Ignatova, S., Ivanova, S. & Rud, V. 2014b. Issledovaniya po proektu 'Ranniaja urbanizatsija v Evrope? Tripolskie megaposeleniya'. *Tyragetia*, VIII [XXIII], Nr. 1:107–44. Видейко, М., Чапмен, Дж., Бурдо, Н., Гейдарская, Б., Игнатова, С., Иванова, С. и Рудь, В. 2014. Исследования по проекту «Ранняя урбанизация в Европе? трипольские мегапоселения, *Tyragetia*, VIII [XXIII], Nr.1:107–44.

Videiko, M., Chapman, J., Gaydarska, B., Burdo, N., Ovchinnikov, E., Pashkevich, G. & Shevchenko, N. 2013a. Issledovaniya megastruktory na psoelenii tripolskoj kultury u s. *Nebelevka v 2012 godu. Tyragetia*, VII [XXII], Nr. 1:97–124. Видейко, М., Чапмен, Дж., Гейдарская, Б., Бурдо, Н., Овчинников, Э., Пашкевич, Г. и Шевченко, Н. 2013. Исследования мегаструктуры на поселении трипольской культуры у с. Небелевка в 2012 году, *Tyragetia*, VII [XXII], Nr. 1:97–124.

Videiko, M., Chapman, J., Gaydarska, B., Burdo, N., Ovchynnykov, E., Pashkevych, G. & Shevchenko, N. 2013b. Doslidzennia na poselenni trypilskoi kultury bilia s. Nebelivka. In: D. Kozak, ed. *Archeologichni doslidzennia v Ukraini*. Kyiv-Lutsk, p. 209. Відейко, М., Чапмен, Дж., Гейдарська, Б., Бурдо, Н., Овчинников, Е., Пашкевич, Г. і Шевченко, Н. Дослідження на поселенні трипільської культури біля с. Небелівка. У зб.: Д. Козак, ред. Археологічні дослідження в Україні. Київ-Луцьк, с. 209.

Videiko, M., Chapman, J. & Nebbia, M. 2014b. Razvedki vokrug poseleniya Nebelevka. In: D. Kozak, ed. *Archeologichni vidkryttia v Ukraini 2013 roku*. Kyiv, p. 163. Відейко, М., Чапмен, Дж. и Неббия М. 2014b. Разведки вокруг поселения Небелевка. У зб.: Д. Козак, ред. *Археологічні відкриття в Україні 2013 р*. Київ:, с. 163.

Videiko, M.Yu. 2015. Doslidzennia mizhnarodnoi ekspedytsii 2012–2014 rr. u Nebelivtsi: rezultaty ta perspektyvy. In: M.Yu. Videiko, J. Chapman, I. A. Kozyr & V.V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 7–11. Відейко, М. Ю. 2015. Дослідження міжнародної експедиції 2012–2014 років у Небелівці: результати та перспективи.У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 7–11. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015*. Kirovograd, museum, pp. 7–11.

Videiko, M.Yu. & Burdo, N.B. 2015a. Megastruktura: hram na trypilskomu poselenni bilia s. Nebelivka. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan & S. Kadrow, eds. *The Cucuteni-Tripolye Cultural Complex and its Neighbours: Essays in Memory of Volodymyr Kruts*. Lviv: Astrolabe, pp. 209–336. Відейко, М. Ю. і Бурдо, Н. Б. 2015a. «Мегаструктура» - храм з трипільського послення біля с. Небелівка. In: A. Diachenko, F. Menotti, S. Ryzhov, K. Bunyatyan and S. Kadrow, eds. *The Cucucteni–Trypillia Cultural Complex and its Neighbours. Essays in Memory of Volodymyr Kruts*. Kiev: Astrolabe, pp. 209–336.

Videiko, M.Yu. & Burdo, N.B. 2015b. Rekonstruktsiya ta interpretatsiya mega-struktury na poselenni Nebelivka. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V. V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 21–25. Відейко, М.Ю. і Бурдо, Н.Б. 2015b. Реконструкція та інтерпретація мега-структури на поселенні небелівка. Узб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. На *східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015: року*. Кіровоград, с. 21–25. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015*. Kirovograd, museum, pp. 21–25.

Videiko, M.Yu., Chapman, J., Burdo, N.B., Gaydarska, B., Tserna, S.V., Rud, V.S. & Kiosak, D.V. 2015. Kompleksnye issledovaniya oboronitelnyh sooruzhenij, proizvodstvennyh kompleksov i ostatkov postroek na tripolskom poselenii u s. *Nebelevka, Stratum Plus*, 2:147–70. Видейко, М. Ю., Чепмэн, Дж., Бурдо, Н. Б., Гайдарска, Б., Церна, С. В., Рудь, В. С. иКиосак Д. В. 2015. Комплексные исследования оборонительных сооружений, производственных комплексов и остатков построек на трипольском поселении у села Небелевка, *Stratum Plus*, 2,pp. 147–70.

Yakubenko, O.O. & Videiko, M.Yu. 2015. Trypilske poselennia bilia s. Volodymyrivka i volodymyrivska localna grupa. In: M.Yu. Videiko, J. Chapman, I.A. Kozyr & V. V. Sobchuk, eds. *Na shidnij mezhi Staroi Evropy. Materialy Mizhnarodnoi konferentsii, Kirovograd, Nebelivka 12–14 tarvnia 2015 roku*. Kirovograd, pp. 82–85. Якубенко, О.О. і Відейко, М. Ю. 2015. Трипільське поселення біля села Володимирівка і володимирівська група пам'яток. У зб.: М.Ю. Відейко, Дж. Чепмен, І.А. Козир і В.В. Собчук, ред. *На східній межі Старої Європи. Матеріали міжнародної наукової конференції, Кіровоград, Небелівка, 12–14 травня 2015 року*. Кіровоград, с. 82–85. In: M. Videiko, J. Chapman, I. Kozir, V. Sobchuk, eds. *At the eastern frontiers of Old Europe. Proceedings of the International Conference in Kirovograd and Nebelivka, May 12–14 2015*. Kirovograd, museum, pp. 82–85.