



PRELIMINARY REPORT ON THE SIXTH EXCAVATION SEASON OF THE ARCHAEOLOGICAL EXPEDITION TO WAD BEN NAGA

Pavel Onderka – Vlastimil Vrtal¹

ABSTRACT: The sixth excavation season of the Archaeological Expedition to Wad Ben Naga focused on the continued excavations of the so-called Typhonium (WBN 200) and re-excavations of the Circular Building complex (WBN 50 & 600). Both structures were digitally documented by means of the Structure from Motion method.

KEY WORDS: Wad Ben Naga – Sudan – Meroitic culture – Meroitic architecture

The sixth excavation season of the Archaeological Expedition to Wad Ben Naga took place between 27 February and 21 March 2013. The site was inspected on 1 March, while archaeological and conservation works were launched three days later. The mission consisted of Dr. Pavel Onderka (director), Vlastimil Vrtal (archaeologist), Alexander Gatzsche (conservator) and Mozamel Saad Ibrahim Al-Maki (inspector of the National Corporation for Antiquities and Museums). The season was carried out under the guidelines of the ‘archaeological excavations’ as defined by the *Ordinance for the Protection of Antiquities*. The works focused on the continued excavation of the so-called Typhonium (previously explored during the third to fifth excavation seasons) and the re-excavations of the so-called Circular Building complex (WBN 50 & 600).

1. Exploration of the Typhonium

The exploration of the Typhonium (Fig. 1) focused on the detailed documentation of the square T10 in general and on the respective section of the main sanctuary (*Room M* = newly labelled as *WBN 201*) in particular. Already during the fifth excavation season

¹ Contact: Pavel Onderka & Vlastimil Vrtal, National Museum – Náprstek Museum of Asian, African and American Cultures, Ancient Near East and Africa Collection; e-mail: pavel_onderka@nm.cz; vlastimil_vrtal@nm.cz. The article was written within the framework of the project „Exploration of the Meroitic Royal City at Wad Ben Naga (Sudan)” supported by the Czech Science Foundation (grant no. 13-09594S). The authors wish to thank to Alexander Gatzsche for his kind co-operation during the preparation of this article.

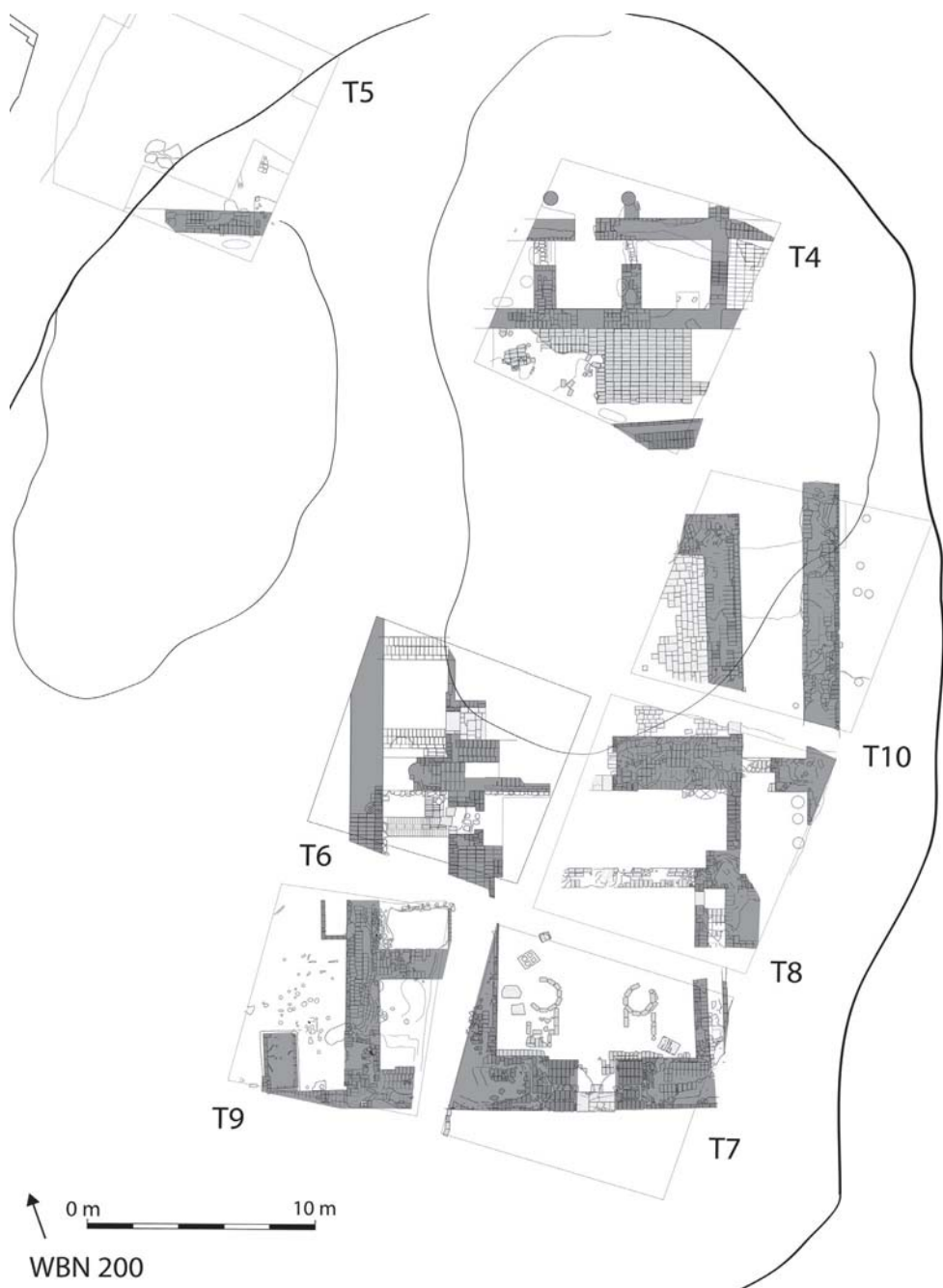


Fig. 1: Plan of the Typhonium (Illustration by Vlastimil Vrtal).

fragments of plasters from the walls of the main sanctuary that collapsed into the interior of the room were recovered (cf. Onderka – Vrtal – Gatzsche – Dašková – Vacek 2013). These fragments together with the lower parts of wall plasters at their original



Pl. 1: Main sanctuary in T10 (Photo by Pavel Onderka).

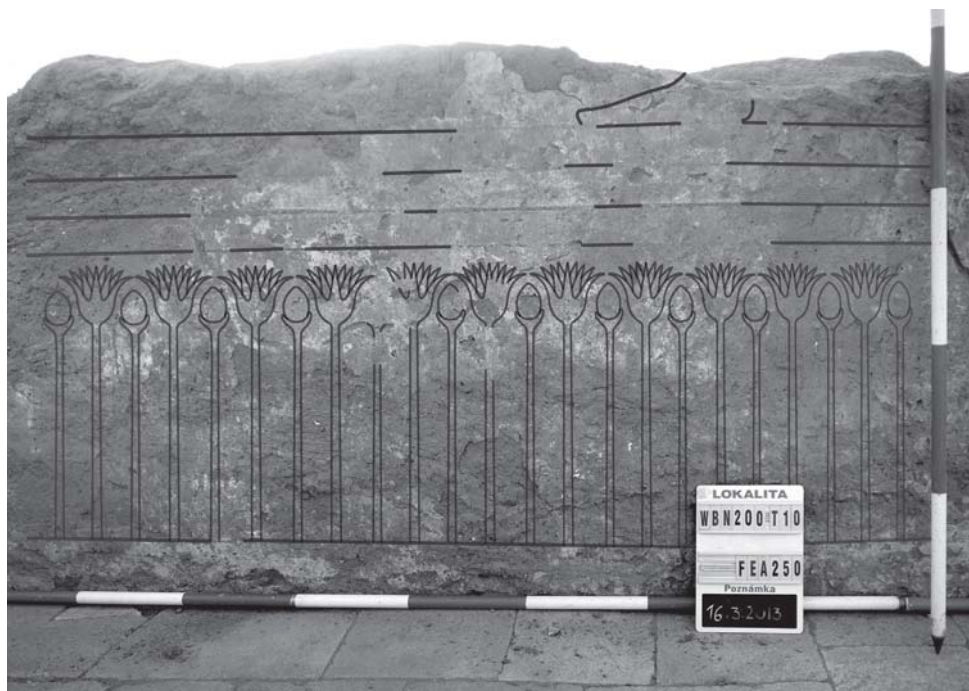
position became the main subject of study. Besides, the documentation by means of digitalization (Structure from Motion method) of the archaeological situations in T6, T8 and T10 was carried out.

1.1 Room M in T10

Similarly to other parts of the main sanctuary (WBN 201), the floor consisted of sandstone flagstones of varying sizes. A large depression is seen towards the center of the main sanctuary and seems to continue under the section (Pl. 1).

The surrounding walls of the main sanctuary are preserved only to the maximum height of 85 cm in T10. On some sections of the sanctuary's eastern wall, the original plaster with decoration is preserved. The lowermost register was filled with a decoration of regularly alternating lotus flowers and buds. The plants seem to grow from a lower blue strip representing the waters of the Nile. Above the register with lotuses, three color strips are located – the outer ones are painted yellow, while the middle one blue. Above these strips a human – most likely male – foot is preserved (Pl. 2).

From the relevant section of the main sanctuary (in T10), 29 blocks containing remains of plasters were excavated. Eleven of them were treated by the conservator within the framework of the sixth excavation season. In most of the cases, the parts of depictions found on the plasters were possible to be identified. They included [a] conceptual decorations (e.g. starry heaven), [b] depictions of royal and divine figures (parts of garments, adornments, crowns, etc.) and [c] inscriptions (including the



Pl.2: Remains of the eastern wall of the room WBN 201 with wallpaintings still in situ, showing floral frieze and feet of a royal or divine person; lost lines inked (Photo by Pavel Onderka; illustration by Vlastimil Vrtal).

cartouches with the names of King Natakamani). Below follows the list of the most important fragments of wall paintings:

A: Two cartouches with the names of King Natakamani (Pl. 3):

Tx.: *s3 r^c nb t3wy (hpr-k3-r^c)|*

s3 r^c nb nswt (ntkmnj)|

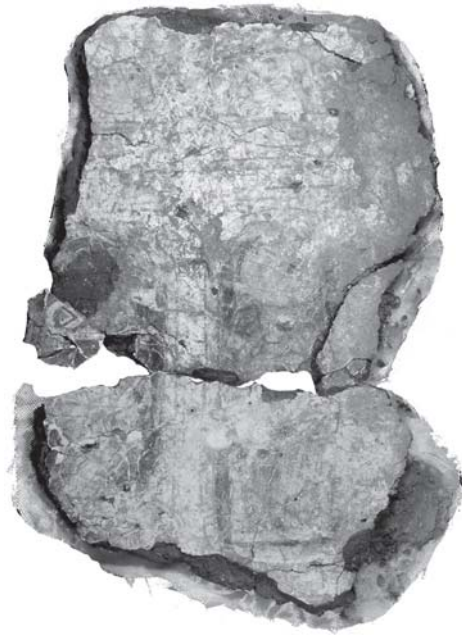
B: A feather crown of a royal or a divine figure.

C: A segment of the depiction of the starry heaven.

D: Green vegetation.

E: Necklace of a queen or a prince.

The discovery of the name of King Natakamani dates the Typhonium to the first half of the 1st century CE. The dating suggested by the epigraphic evidence is fully in compliance with the dating based on archaeological indicators. Charcoal samples obtained from the floor level of the main sanctuary (WBN 201) and overlaid by debris of fallen plaster were analysed, providing the radiocarbon date of 1939 BP ± 80 (i.e. 11 CE ± 80; calibration curve IntCal13 at P 95 %; Fig. 2).



Pl. 3: Fragment of the wallpainting showing the royal titles and names of King Natakamani (Photo by Alexander Gatzsche).

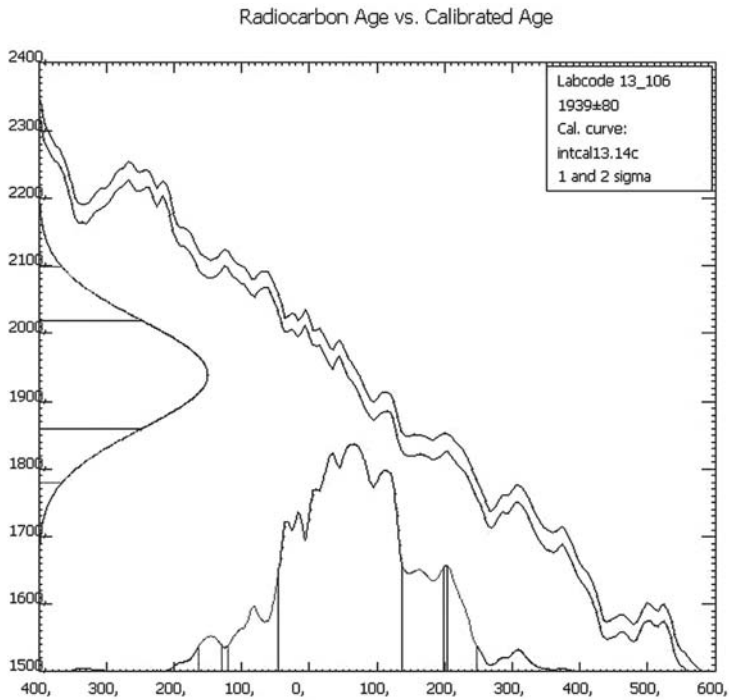
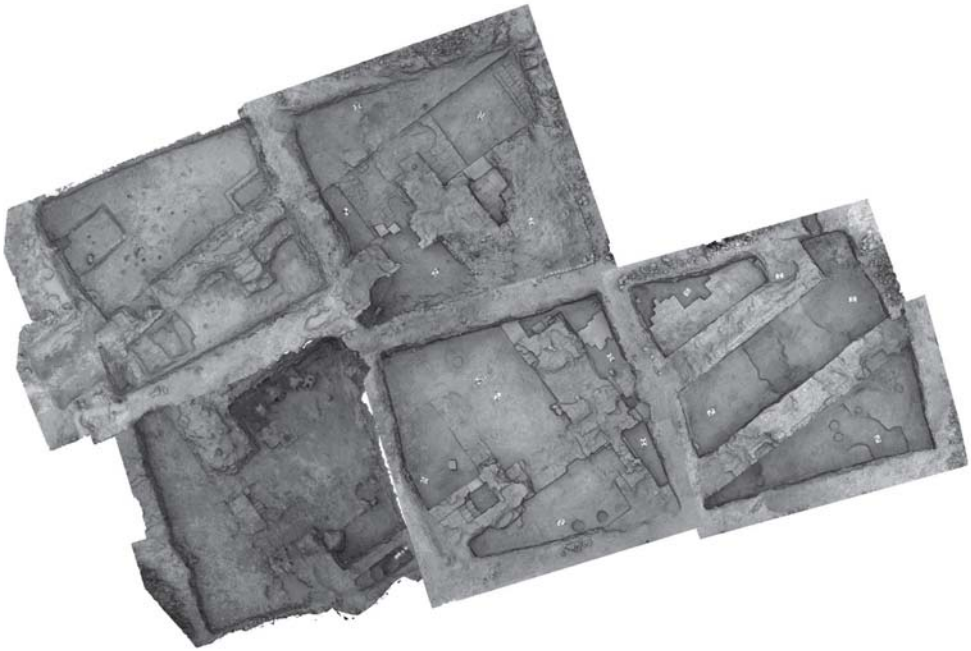


Fig. 2: Curves showing calibrated radiocarbon dating of charcoal pieces from the floor of the main sanctuary of the Typhonium.

1.2 Digitalization of archaeological situations

Since the fifth excavation season a stereographical method called Structure from Motion was employed during the excavations. The objective of this method is to document as thoroughly as possible the archaeological situation and context during and at the end of the unearthing of archaeological structures. It is a method fully comparable and complementary to the 3D-scanning of finds. So far, the squares T6, T7, T8 and T10 were documented by means of this method (Pl. 4). The remaining squares are to be processed in the coming season (cf. Gatzsche 2013).



Pl. 4: Archaeological situation in the Typhonium documented by the stereoscopic method (3D – model by Alexander Gatzsche).

2. Re-excavations of the Circular Building

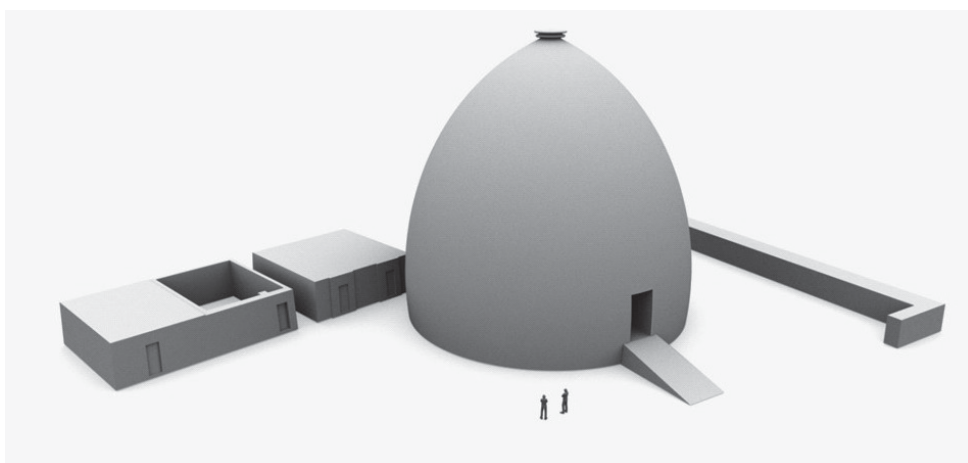
2.1 Discovery of the structure

The Circular Building (Pl. 5, 6) was first mentioned in a report by Arpag Mekhitarian in *Chronique d'Égypte* (Mekhitarian 1961: 117–118), a year before the publication of the preliminary report on the Sudanese excavations by Jean Vercoutter: “A Wad-ban-Naga, l’actuel directeur du Service des Antiquités, M. Thabit, déblayait un immense palais en briques du temps, peut-être, de la célèbre Candace. Les fouilles avaient dégagé précédemment deux temples méroïtiques et un grand monument circulaire, que l’on suppose avoir été couvert d’une coupole mais dont la destination reste mystérieuse.”

Mekhitarian’s article found a response in an attempt to interpret the character and function of the building by Sadik en-Nur which was published in *Chronique d'Égypte* in



Pl. 5: Remains of the Circular Building in Wad Ben Naga (Photo by Pavel Onderka).



Pl. 6: Ideal reconstruction of the Circular Building Complex (Illustration by Samuel Rihák).

the following year (Nur 1962). He first analyzed the architecture of the structure and consequently made an attempt to discuss its possible function. He initiated a half century long discussion, the conclusion of which has been the goal of the current season.

A description of the Circular Building is found in Vercoutter's report on the Sudanese excavation of the site between 1958 and 1960 (Vercoutter 1962: 273–275), i.e. on the structure's original excavation:

“Ce kôm est situé sur la bordure méridionale du site, à quelques mètres à peine de la branche Sud du Wadi Kirbikan (SIC). Avant la fouille il se présentait comme un énorme tumulus conique de briques cuites cassées. Une tombe d'époque récente avait été creusée à son sommet. La fouille a montré que ce kôm recouvrait un grand bâtiment rond, sorte de « tholos », construit de murs épais de 3 m. 70, constitué vers l'extérieur

par des briques cuites recouvertes d'enduit blanc, au milieu par des briques crues, puis, à l'intérieur du cercle, de nouveau par de briques cuites mais non recouvertes d'enduit.

On pénétrait à l'intérieur du monument par une rampe – qui recouvrait d'ailleurs un escalier plus ancien – construite à l'Ouest de l'édifice. Cette rampe montait à une hauteur de 2 m. et donnait accès à un passage couvert (maintenant à ciel ouvert), aménagé dans la masse de briques du mur circulaire. Ce passage conduisait à un double escalier établi contre la paroi interne du monument de part et d'autre du passage. Ce double escalier descendait jusqu'au niveau du sol.

La diamètre interne du monument est 12 m. 70, sa plus grande hauteur subsistante est 5 m.; le diamètre externe de 20 m. Si l'on en juge par l'épaisseur des murs, il n'est pas impossible qu'il ait été couvert par une coupole ou une toiture conique construite en encorbellement. C'est la première fois, à notre connaissance, qu'un monument méroïtique de ce type a été dégagé. Aucune indication n'a pu être recueillie quant à l'usage auquel il était destinée ; mais, un emploi funéraire paraissant, semble-t-il, pouvoir être écarté puisque rois et reines méroïtiques étaient enterrés dans des pyramides, et la rampe d'accès étant tournée en fait vers le Temple d'Isis (en C) et non vers le Palais (en B), il paraît vraisemblable d'y voir une annexe au un élément de l'ensemble que constituent la Mammisi ou Typhonium et le grand Temple. Ceci paraît confirmé par la série de chambres ou magasins rectangulaires qui ont été dégagés à la base du monument circulaire, et qui rappellent les magasins des temples tant égyptiens anciens que méroïtiques. Ils sont construits de briques crues et le magasin le plus septentrional a livré de très nombreuses poteries d'un type grossier : assiettes, coupes et coupelles."

2.2 First re-excavation

Due to the absence of a proper publication and available documentation of the Circular Building, Friedrich W. Hinkel carried out revising excavations of the Circular Building in 1987. The excavations most likely limited themselves on a simple cleaning of the interior and adjoining exterior of the building aimed at appropriate documentation of the remains of the structure. The outcome of the work were published two decades later within *The Archaeological Map of the Sudan* (Hinkel – Sievertsen 2002: 75):

"Bei dem Beleg aus Wad Ben Naqa handelt es sich um das große Bâtiment Rond WBN 51. Der Gesamtdurchmesser der Anlage hat ca. 20 m betragen, der innere Durchmesser 12,78 m. Die rund 3,70 m starke Mauer des Silos hat zum Zeitpunkt der Freilegung noch 3 bis 3,50 m hoch angestanden. Es ließ sich noch erkennen, daß die fehlende Decke als Kraggewölbe ausgebildet worden war. Für die Wandkonstruktion sind Adoben und Ziegel verwendet worden, wobei man den Adobekern innen und außen mit einer Ziegelschale versehen hat. An der Außenseite konnte über den Ziegeln stellenweise noch eine dicke weiße Putzschicht nachgewiesen werden, während das Innere des Runds vermutlich bloß mit Nilschlamm verputzt worden ist. (*No remains of such a plaster coating has been identified during the recent re-excavation.*)

Die Beschickung des Silos erfolgte über eine 2 m hohe Rampe in NW, die eine ältere Treppe ersetzt hat. Im Inneren konnten beiderseits der Tür auf den Fußboden hinabführende Treppen festgestellt werden. Aus der Ausrichtung der Zugangsrampe von WBN 51 auf den Isistempel WBN 300 läßt sich vielleicht entnehmen, daß der Getreidespeicher jenem Heiligtum nachgeordnet gewesen ist. Da WBN 300 aufgrund von epigraphischen Funden vermutlich Natakamani und Amanitore zugeschrieben

werden kann, ist somit auch für WBN 51 eine Datierung in die mittlere oder jüngere meroitische Zeit als wahrscheinlich anzusehen...

Schließlich sei noch auf den beiden dem großen Silo von Wad Ben Naqa unmittelbar benachbarten und annähernd parallel zu dessen Zugangsrampe ausgerichteten Magasins Rectangulaires à la Base du Bâtiment Rond hingewiesen. Sie mögen weitere dem Tempelkomplex WBN 300 zugehörige Wirtschaftsgebäude und/oder Magazine dargestellt haben. Zu den hier zusammengestellten Magazinbauten aus Meroe läßt sich WBN 600 allerdings nicht in Beziehung setzen. Beide Häuser und namentlich Raum 605 haben große Mengen unverzierter grober Töpferware wie Teller und Schalen erbracht. Weiterhin konnten 1976 bei einer Begehung durch F. W. Hinkel im Bereich von WBN 600 die Reste von 12 großen Vorratsbehältern festgestellt werden.“

2.3 The current re-excavation

The current re-excavation of the Circular Building focused on clarifying [1] the structure of its walls (previously not recorded), [2] the architectural layout of its foundations, [3] the construction of the outer and inner ramps, [4] the organization of its inner space and [5] its immediate surroundings (Fig. 3).

[1] The walls of the Circular Building are structured similarly to other walls of buildings at Wad Ben Naga. The core consists of mud bricks, while the casing are made exclusively of fired bricks. While most of the buildings at the site are built of bricks with dimensions 9 x 18 x 36 cm, the Circular Building employed bricks of a smaller size (8 x 17 x 34 cm) which most likely implies an earlier relative dating (when compared with the chronologically set Typhonium [WBN 200] and the Palace of Queen Amanishakheto [WBN 100]). Wooden beams were employed in the walls for enhancing their stability and compactness. The beams were not inserted into the walls horizontally, but under an angle, thus improving their effect on the stability of the brickwork. A sample of timber was taken for C14-analysis, with prospect of validating the suggested dating of the structure.

[2] The foundations of the Circular Building (similarly to other features of the structure) had not been previously documented. The actual brickwork of the main wall was laid directly on leveled *sara* (local bedrock). The wall was wider at the level of the first and the second course of bricks, thus providing a solid base. In the foundations of the outer ramp bricks were laid on their edges for a better distribution of the pressure.

[3] Of special attention were the ramps leading up into the Circular Building and descending into the interior of the building. The present state of preservation prevents us from confirming Hinkel's hypothesis that an original staircase was rebuilt into the ramp. A leveling layer consisting of sandstone and fired brick fragments was found in front of the outer ramp, possibly showing the course of a paved way or path leading towards the Isis Temple (WBN 300). The interior ramp was made only of mud brick and consisted of two flanks of stairs immediately adjoining the inner walls. Even though the gate-way through the building's wall is not preserved, one may – based on the analysis of the inner ramp – estimate that the floor of the passage was located some 1.70 cm above the foundations.

[4] No traces of plaster are preserved from the interior of the Circular Building. This fact in principle excludes the possibility that the structure might have served as a silo.

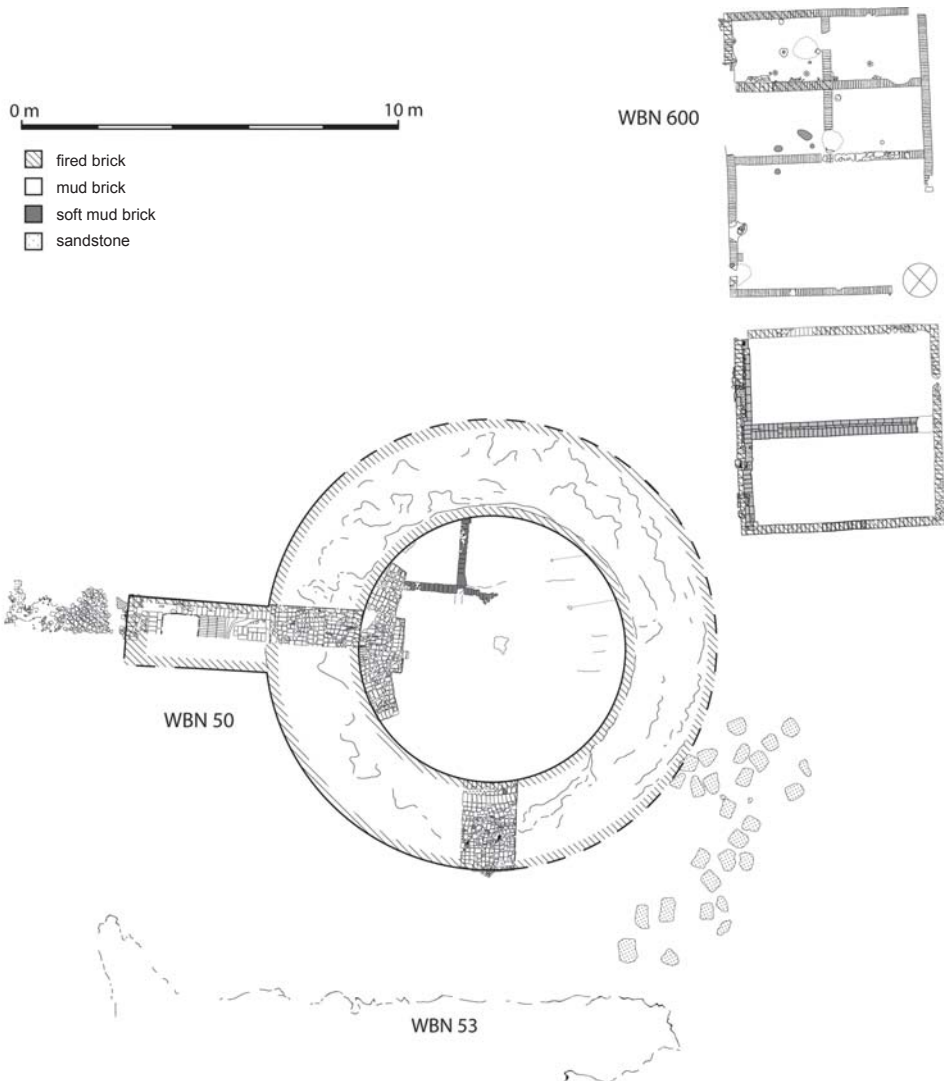


Fig. 3: Plan of the Circular Building complex (Illustration by Vlastimil Vrtal).

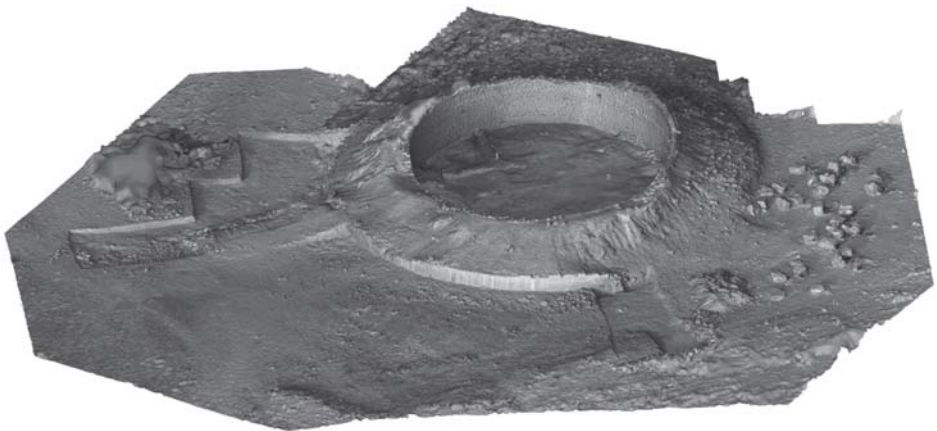
Hinkel's plan shows remains of walls in the interior of the building. Their existence has been proven by the re-excavations, while traces of their extensions and additions were found. Large sandstone blocks located to the south-east of the Circular Building likely come from the interior of the building and may have once formed a podium (or a similar structure) in the center of the building.

[5] The adjoining areas were also explored. The existence of the wall WBN 53 was positively proven. The collapsed wall separates the Circular Building from the small present-day wadi (in plans wrongly identified as the southern branch of Wadi Kirbikan). The collapsed wall is some 30 m long and has two main segments. The larger segment

includes a smaller projection in the direction towards the ascending ramp of the Circular Building (WBN 52). The collapsed wall has analogies in the walls connecting the corners of the western façade of the Palace of Queen Amanishakheto (WBN 100) and the north-east corner of the Typhonium (WBN 200) and a corner of the Isis Temple (WBN 300).

The Circular Building seems to have been built prior the turn of the Eras and might have belonged to the earlier buildings now known from Wad Ben Naga. The excavators believe that the structure represents a unique sanctuary having a local architectural form, hence likely dedicated to a local divinity. Although the hypothesis that it served as a granary has had nowadays a large number of followers (Shinnie 1967; Shinnie 1996; Hofmann 1975: 21; Hinkel – Sievertsen 2002; Edwards 2004; Baud 2010), the argumentation in its favor stands on several weak points. The hypothesis is primarily based on the circular ground plan and the anticipated dome-shaped appearance of the building, however, this architectural form was not limited exclusively to silos and granaries. In fact, some architectural elements of the Circular Building, notably the absence of the opening at the bottom for taking grain out or the presence of the inner staircases speak against such a function. The position of both the outer and inner staircases which could not reach really high would imply that only a very limited portion of the inner space of the granary would be used for storage of grain. Moreover, the interior of the building was not plastered which would be necessary if grain should have been stored there. If a cumulating of grain at Wad Ben Naga would be needed for any reason, one would rather expect that this would be solved by a larger quantity of smaller structures at the site and not a giant granary, as such a construction would have inadequate demands on both technical and manual skills. For such an enormous granary, there are hardly any parallels found both inside and outside the Nile valley. The largest silos from Egypt measure some 8.4–9.5 m in their inner diameter (Borchardt – Ricke 1980).

Buildings of circular architectural form are well known from the architectural tradition of the Middle Nile region. Circular huts with wooden construction were common, as indicated by archaeological, iconographical as well as epigraphical data. There were, however, also religious buildings that took over this form (e.g. Bonnet *et al.*



Pl. 7: Remains of the Circular Building documented by the stereoscopic method (3D – model by Alexander Gatzsche).

2007: 189–192). Another parallel of a dome-shaped structure with opening and inner space is provided by the so-called *omphalos* from Jebel Barkal (Museum of Fine Arts, Boston, inv. no. 21.3234), undoubtedly an object of religious significance, possibly imitating the Pure Mountain of Jebel Barkal (e.g. Wildung 1996: 270).

Given the above mentioned arguments and the obvious significance and relative position of the Circular Building at the site of Wad Ben Naga, one could assume that the Circular Building was a religious building of a so far unique local architectural form, as already Jean Vercoutter suggested in his report (Vercoutter 1962: 274–275).

The building collapsed at some point of time. Thereafter, its ruins were possibly used as a habitation by Post-Meroitic or early Christian communities present at the site. Possible remains of fixing for a light shelter were uncovered in the inner space. The Sudanese expedition discovered a burial (tentatively dated to the Islamic period; Vercoutter 1962: 274) within the kom.

The Circular Building was – similarly to the squares of the Typhonium – documented by means of the above-described stereoscopic method (Pl. 7).

Literature:

BAUD, Michel. Méroé, un monde urbain. In BAUD, M. (ed.), Méroé: un empire sur le Nil. Paris, 2010, pp. 211–243.

BONNET, Charles – HONEGGER, Matthieu; VALBELLE, Dominique; RUFFIEUX, Philippe. Kerma 2005–2006, 2006–2007. *Genava* 55, 2007, pp. 187–200.

BORCHARDT, Ludwig – RICKE, Herbert. *Die Wohnhäuser in Tell el-Amarna*. Berlin, 1980.

EDWARDS, David N. *The Nubian Past: An Archaeology of the Sudan*. London, 2004.

GATZSCHE, Alexander. Case study of an open source application of 3D acquisition of archaeological structures at the archaeological site of Wad Ben Naga. *Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 24, 2013, pp. 2–10.

HINKEL, Friedrich W. – SIEVERTSEN, Uwe. *The Archaeological Map of Sudan*. Supplement IV. *Die Royal City von Meroe und die repräsentative Profanarchitektur in Kush*. Berlin, 2002.

HOFMANN, Inge. Wege und Möglichkeiten eines indischen Einflusses auf die meroitische Kultur. *Studia Instituti Anthropos* 23. Augustin bei Bonn.

MEKHITARIAN, Arpag. Mission au Soudan (Fevriér 1960). *Chronique d'Égypte* 36:71, 1961, pp. 113–147.

EN-NUR, Sadik. The Circular Brick Building of Wad Ben Naga. *Chronique d'Égypte* 37:73, 1962, pp. 76.

ONDERKA, Pavel – VRTAL, Vlastimil – GATZSCHE, Alexander – DAŠKOVÁ, Jiřina – VACEK, František. Preliminary Report on the Fourth Excavation Season of the Archaeological Expedition to Wad Ben Naga. *Annals of the Náprstek Museum*, 34/1, 2013, pp. 3–14.

SHINNIE, Peter L. *Meroe, A Civilization of the Sudan*. London, 1967.

SHINNIE, Peter L. *Ancient Nubia*. London, 1996.

VERCOUTTER, Jean. Un palais des 'candaces' contemporain d'Auguste (fouilles à Wad-ban-Naga, 1958–1960). *Syria* 39, 1962, pp. 263–299.

WILDUNG, Dietrich (ed.). *Antike Königreiche am Nil*. München, 1996.