

THE EXCAVATIONS AT TELL
EL-RETABA IN 1977, 1978 AND 1981 – PART 1
(IN MEMORIAM OF HANS GOEDICKE)*

Lubica HUDÁKOVÁ
The Aigyptos Foundation
Šafárikova 63, 951 97 Žitavany, Slovakia
lubica.hudakova@univie.ac.at

Jozef HUDEC
Institute of Oriental Studies, Slovak Academy of Sciences
Klemensova 19, 813 64 Bratislava, Slovakia
jozef.hudec@savba.sk

In Part 1 the article brings the main results of the field excavations at Tell el-Retaba undertaken by Hans Goedicke's team in 1977 and 1978, their comparison to the results of the joint Polish – Slovak mission and some revisions wherever possible. In 1977 the survey denoted the site as a garrison town extensively used in the New Kingdom. In 1978 Petrie's work was re-examined; the Central Test Pit was excavated and eleven major stratigraphic levels were identified and tested. Some conclusions concern chronology of temenos, rebuilds of temple(s), and its dismantling. The dating of levels in the Central Test Pit is reconsidered in compliance with recent researches. Finds and the season 1981 will be released in Part 2.

Key words: Tell el-Retaba, Hans Goedicke, Michael Fuller, archaeology, dating

* The works on Tell el-Retaba have been supported by the Slovak Research and Development Agency (grant APVV-5970-12; Slovak Research of Ancient Egyptian Civilization) and by the Scientific Grant Agency (grant VEGA 2/0139/14; History and Culture of the Civilization of Ancient Egypt: Interdisciplinary Research).

1. Introduction

Tell el-Retaba, an important archaeological site in Wadi Tumilat, north-eastern Egypt, has been systematically investigated by a Polish-Slovak Archaeological Mission since 2007. Several other researches were undertaken prior to the Polish-Slovak excavations.¹ One of the significant ones that took place on the site in the 20th century was performed by the mission of the Johns Hopkins University under the leadership of Prof. Hans Goedicke (†2015). The team worked on the site in the years 1977, 1978 and 1981² and the members (Fig. 1) involved were Hans Goedicke (1977, 1978, 1981), Michael J. Fuller (1978, 1981), Alfred J. Hoerth (1977, 1978), Robert E. Cooley (1977) and Earl R. Ertman (1978). The results of the three seasons have not been published entirely; however, in 2007 Hans Goedicke kindly provided the Aigyptos Foundation³ with his archive related to the excavations.⁴ The aim of this paper is to outline the main results of the field work done by Hans Goedicke's mission, based on the archive documents and information published by Michael J. Fuller, now Professor Emeritus of Anthropology at St. Louis Community College, on his website.⁵

2. Season 1977

The aim of the 1977 season (12 – 15 September) was to examine the research potential of the site. A preliminary grid was laid out and a random system was used to select 10-meter squares for a survey. The random and transect surface

¹ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, pp. 241–280.

² The first two seasons were sponsored by Johns Hopkins University together with the Southwest Missouri State University (FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 6).

³ Hans Goedicke and his wife Lucy invited Jozef Hudec (Fig. 2) with his wife Simona to visit them on 17 July 2007 in their country house in Imbach, close to Krems an der Donau, Lower Austria. After being informed of the results of the first season of the Polish-Slovak mission in Tell el-Retaba (May 2007), Prof. Goedicke decided to provide his archive to the Aigyptos Foundation, which supported excavations of the Slovak part of the joint mission.

⁴ Authors, both members of the Aigyptos Foundation's Board, would like to express gratitude to the Slovak Embassy in Washington and especially to Mr. Vít Koziak for their assistance with transporting the archive from Baltimore, United States to Bratislava, Slovakia.

⁵ Available from <http://users.stlcc.edu/mfuller/retaba.html> [cit. 6 January 2017].

collection revealed pottery sherds that were mostly dated to the 19th dynasty, with a fair amount of 18th dynasty material.⁶ Greco-Roman, Byzantine, and Muslim remains were not present. The team also traced the extant remains of structures uncovered and published by W. M. F. Petrie in 1906.⁷ Subsequently, Hans Goedicke, Robert E. Cooley and Michael J. Fuller formulated the research questions for the next seasons, the two most important of which were – (1) the span of occupation and (2) the site's function.⁸ The survey of 1977 indicated that the site was a garrison town and was extensively used in the New Kingdom, "without any overburden after the late Ramesside Period".⁹

Sherds collected in the course of the Wadi Tumilat Survey in the same year were mostly dated to the New Kingdom and Third Intermediate Period.¹⁰ In contrast, the pottery assembled during the ceramic survey of the Polish-Slovak Mission in 2007 was mostly dated to the Third Intermediate Period and Late Period, but material from the Late New Kingdom and Ptolemaic Period as well as several imports were also recovered.¹¹

3. Season 1978

In 1978 (28 May – 28 June) a contour map of the tell was prepared, with the indication of the so-called Petrie's Wall 2,¹² the traces of which were visible on the surface (Fig. 3).¹³ The field work concentrated on the re-examination and

⁶ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 13; COOLEY, R. E. Report about the Preliminary Survey in Wadi Tumilat by the Joint Johns Hopkins Archaeological Expedition, Manuscript Report, 1977, p. 3.

⁷ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*.

⁸ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, pp. 5–6; COOLEY, R. E. Report about the Preliminary Survey in Wadi Tumilat by the Joint Johns Hopkins Archaeological Expedition, Manuscript Report, 1977, p. 3.

⁹ COOLEY, R. E. Report about the Preliminary Survey in Wadi Tumilat by the Joint Johns Hopkins Archaeological Expedition, Manuscript Report, 1977, pp. 3–4.

¹⁰ HOLLADAY, J. S. Tell el-Maskhuta. Preliminary Report on the Wadi Tumilat Project 1978 – 1979; REDMOUNT, C. A. *On an Egyptian/Asiatic Frontier: an Archaeological History of the Wadi Tumilat*, p. 125.

¹¹ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, p. 267.

¹² PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*.

¹³ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 14, fig. 2.

evaluation of Petrie's work and on the excavation of a test pit near the centre of the tell in order to reach the earliest layers, to establish a stratigraphy and to determine the span of the site's occupation.¹⁴

3.1. *The temple and adjoining structures*

The team decided to re-excavate a large structure designated by Petrie as a temple.¹⁵ Searching for the temple area, Petrie found several decorated blocks that were originally part of the temple's front. Among them was a large scene representing Ramesses II smiting a Syrian before the god Atum and part of a similar scene with the god Seth.¹⁶ Another fragment showed part of the upper body of Ramesses III, who probably enlarged the temple of 'Atum of Tjeku' (re)built by Ramesses II.¹⁷

In the western part of the tell, Petrie was able to identify "a massive brick wall with a great gateway in it, and a large jamb of brick down the north side of the entrance".¹⁸ (Fig. 4) Most probably because of its thickness (1.8 meters), he assumed that it must have been the temple's temenos (western N-S temenos wall). The front wall north of the entrance was in good condition. The front wall south of the entrance was built of black bricks and had no jamb; it was preserved in its full extent and its connection to the south wall was also found. There was a parallel wall running to the east of both sides of the front wall (eastern N-S temenos wall). To the east of its northern part, Petrie found remains of a large building. Further east, a wall made of yellow bricks was uncovered and it was identified as the back wall of the temenos, which would have been ca. 30.5 meters long and 35 meters wide inside. He noticed that this wall was "like that along most of the south side of this temenos",¹⁹ but the latter wall does not appear in his plan. Apart from it, another wall was built through the gateway later on.

¹⁴ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, pp. 14–22; source available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978.html> [cit. 6 January 2017]; The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated, pp. 1–5.

¹⁵ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, pp. 29–30.

¹⁶ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, pp. 29, 31, pls. XXIX, XXX, XXXI.

¹⁷ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, p. 31, pl. XXXI.

¹⁸ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, pp. 29–30, pls. XXXV, XXXV A.

¹⁹ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, p. 30.

According to Petrie, the temenos was situated almost axially toward the western gate of the enclosure wall. Within the temenos, he discovered fragments of a limestone doorway, the lower part of a great stela of red granite and parts of a red granite dyad of a king and Atum.²⁰ After tracing the walls, Petrie concluded that the temple was built upon fifteen feet (ca. 4.5 meters) of town rubbish and there was apparently no older temple underneath.

In the course of the re-examination of these structures by the mission of Johns Hopkins University it soon became clear that Petrie's report only had a limited accuracy.²¹ The temple area was located 15 meters south of its alleged position and several secondary structures and earlier strata were identified that were obviously uncovered, but disregarded by Petrie.

Among them were several 0.7 meter-thick walls that abutted the temenos wall in the southwest corner, forming small rooms (Fig. 5).²² The temenos wall was built of dark-greyish-brown mudbricks with the dimensions of 38 x 16 x 9 cm.²³ The abutting walls were apparently built after the temenos was in use; the bricks were of approximately the same size,²⁴ but light-yellowish-brown in colour. The inferior construction, the position outside the wall and the fill of the rooms with artefacts without any religious function indicated that the identification of the area as a temple can be doubted.

Fuller suggested that the whole structure had several analogies with the so called *qal'a* ("fort"), a modern architectural form known from Iran and Iraq that

²⁰ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, pp. 30, 31, pls. XXVIII, XXXII; PM IV, p. 55.

²¹ The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated, p. 3.

²² FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, pp. 15–17, fig. 3. Dimensions are as follows (Sketches attached to the Daily Log "Temple", 8 and 10 June 1978): NE room (1.6 x 2.2 m), SE room (2.95 x 3.2 m, width in the south: 2.45 m), W room (1 m wide in the north, 1.8 m wide in the south).

²³ Ten courses of bricks of the N-S wall were preserved at the time of excavations: Sketches attached to the Daily Log "Temple", 6 June 1978. The N-S wall was 2 meters wide (HOERTH, A. J. Daily Log "Temple", 6 June 1978). The E-W wall was 2.1 meters wide (Sketches attached to the Daily Log "Temple", 8 June 1978). It seemed to had been only about 9 meters long and then it had ended (Sketches attached to the Daily Log "Temple", 12 and 13 June 1978; HOERTH, A. J. Daily Log "Temple", 12 June 1978).

²⁴ 38 x 18 x 9 cm to 37 x 19 x 8 cm (FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 16). Bricks of the NE room were ca. 33-35 x 19 x 7–8 cm (HOERTH, A. J. Daily Log "Temple", 13 June 1978).

served as the seat of a local landlord or village headman. Among the analogies are the “wall thickness, size, entry, and abutting domestic rooms”, but also “similar patterns of exterior wall abutment, use of construction materials, and primary refuse”.²⁵ It has been noted that the dyad found by Petrie within the temenos does not necessarily attest to the function of the area, as it was not found in situ. On the basis of the architectural and artefact data, even Petrie’s dating was put into question and it has been suggested that the structure was a stronghold of a local ruler in the Third Intermediate Period. The abutting rooms might have been used as storerooms as indicated by the finds such as two pottery sherds with a hieratic label.²⁶

3.1.1. Revision

Architectural remains of domestic and industrial use dating to the Third Intermediate Period that have been excavated by the Polish-Slovak mission in areas 2, 3 and 9 (domestic architecture), 5 (industrial zone) and 6 (stable) attest that Tell el-Retaba was well inhabited by that time.²⁷ The architecture of the abutting rooms identified by Fuller as storerooms match for instance with the architecture of the Third Intermediate Period houses found in Area 9 and the stable identified in Area 6. Their construction is also irregular, the bricks usually have the size of 36–40 x 20 x 10 cm, their coursing varies and the walls are between 0.7 and 0.9 meters thick.²⁸ The structures may well be of the same

²⁵ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, pp. 16–17.

²⁶ Photo available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978.html> [cit. 6 January 2017]. A hieratic ostrakon (probably an amphora docket) was also found by the Polish-Slovak mission in Area 9. It belonged to the finds from the storerooms of the fortress of Ramesses II that abutted the inner face of Petrie’s Wall 1. See: RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, p. 150, fig. 33.

²⁷ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, pp. 258–266; RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 129–138; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 86–93.

²⁸ RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 129–133; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-

date. Furthermore, the wall identified by Petrie as the back wall of the temenos was built of yellowish bricks like the walls of the abutting rooms and it is possible to speculate that it dates from the same period. Its identification as the back wall is improbable as its thickness is much smaller in comparison to the west and south walls of the temenos.

As stated by the excavators, the abutting rooms were built after the temenos was in use and the temenos was constructed from bricks of a different material. Therefore, the suggested dating of this structure to the Third Intermediate Period must be put into question. The walls are very massive and the entrance or gateway is clearly oriented towards the western gate (migdol) of the fortress built by Ramesses III. Part of the ancient road that ran E-W from the gate to the “temple” was discovered by the Polish-Slovak mission in Area 3.²⁹ The temenos might represent the remains of a temple area that was modified in the Third Intermediate Period, when the temple was already being dismantled. This is corroborated by the fact that fragments of the temple decoration were found re-used as tethering stones in the first phase of occupation of the Third Intermediate Period stable mentioned above.³⁰

The orientation of the “temple” towards the migdol of the fortress of Ramesses III indicates that the complex can be associated with that king. It is, however, probable that Ramesses III rebuilt or enlarged the temple that had already stood on the site in the reign of Ramesses II, as attested by the decorated stone blocks of the pharaoh found by Petrie (see above). In this respect, it is noteworthy that the western N-S wall of the temenos (front wall) has the same orientation as the “Wall 2/3” of Ramesses III in the western part of the tell, but it also has the same orientation as Wall 1 and the walls of storerooms discovered in Areas 3 and 5, both of which belonged to the fortress of Ramesses II.³¹ It is thus possible that Ramesses III might have rebuilt or enlarged the temple, but its general position and orientation remained the same.

The mission of Johns Hopkins University discovered a claylike layer just below the western N-S temenos wall.³² It might be possible that the layer represents some sort of levelling that was done before Ramesses III rebuilt the temple, but that has only been speculation so far. Furthermore, the western N-S

Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, p. 86.

²⁹ RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, p. 136.

³⁰ *Ibid.*, pp. 153–155.

³¹ *Ibid.*, pp. 142–152.

³² HOERTH, A. J. Daily Log “Temple”, 7 and 15 June 1978 (7 June 1978: “The wall rests on what almost seems touf.”).

wall was “partly based on an earlier wall”³³ – under its southern end, the N-S wall was founded 70 cm deeper and rested on 2 – 3 courses of much sandier bricks (all headers, 10 cm high x 15 cm wide).³⁴

As for the eastern N-S temenos wall, a narrow wall running parallel to it (on its western side) was documented as Stratum II³⁵ and might also be related to an earlier stage of the temenos. However, it apparently extended under it³⁶ and it remains unclear whether there is a possibility that it simply represents the lower course of bricks of the eastern N-S temenos wall that was originally wider.

Finally, to the north of the temenos walls a test pit was made.³⁷ According to the preliminary report of Hoerth, the pottery “puts into question the dynastic date for the building”,³⁸ but no further information concerning this issue is available.

In respect of the temple, it should be mentioned that the reliefs found by Petrie were made of limestone and fragments of reliefs found re-used as tethering stones by the Polish-Slovak mission in Area 6 were of the same material. Furthermore, a large number of quartzite fragments were found in the course of the survey conducted by the Polish-Slovak Mission in 2007. It may be thus suggested that some architectural elements and furniture of the temple of ‘Amun of Tjeku’ in Tell el-Retaba was originally made of that material.³⁹

Finally, the mission of Johns Hopkins University also excavated a small area to the north of the temple designated as the Temple Annex.⁴⁰

³³ HOERTH, A. J. Daily Log “Temple”, 18 June 1978.

³⁴ Sketches attached to the Daily Log “Temple”, 18 June 1978 (“This lower wall ends where upper wall stops being so deeply founded.”) This wall was most probably designated as Stratum III that is mentioned in HOERTH, A. J. Comments for Central Test Pit and Temple Area.

³⁵ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, figure without number.

³⁶ HOERTH, A. J. Daily Log “Temple”, 18 June 1978; Sketches attached to the Daily Log “Temple”, 18 June 1978.

³⁷ HOERTH, A. J. Daily Log “Temple”, 18 and 19 June 1978, pp. 6, 12, 13, 14.

³⁸ HOERTH, A. J. Preliminary Report for Tell Rataba, 1978, Manuscript Report, 29 June 1978.

³⁹ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, p. 247.

⁴⁰ For the position of the Annex see Fig. 3. Unfortunately, no documentation of the Annex is available.

3.2. Central Test Pit

In order to establish a pottery sequence of Tell el-Retaba, the mission of Johns Hopkins University decided to excavate a 5 x 5 meters' trench on one of the highest points of the site near the centre of the tell – on a spot ca. 20 meters south and 45 meters west of the so called Great House uncovered by Petrie (Fig. 4).⁴¹ The gezeira sand was reached 7.5 meters below the surface and eleven major stratigraphic levels of habitation had been identified. All types of finds including pottery, soil samples, carbon specimens for C-14 dating, bones and seeds were collected in order to provide an architectural, ceramic as well as environmental record. Each profile of the trench was drawn (Fig. 6).⁴²

The soil samples were (among other things) tested for phosphate content. Anthropogenic phosphorus is a unique indicator of human activity that is added to the soil in the form of human and animal refuse and waste, burials, ash from fires and soil fertilisers. In the soil, it bonds with Fe, Al or Ca ions and forms “relatively stable chemical compounds of inorganic phosphate minerals and organic phosphate esters”.⁴³ The soil phosphorus can be measured and analysed and in archaeology it is used to trace human occupation and its intensity.⁴⁴

At Tell el-Retaba, the analysis of phosphate concentration was done in order to check the intensity of occupation within each level – to observe “changes in population size, duration of seasonal occupation, and variations in the subsistence base”.⁴⁵ The results showed relatively low concentrations with a range of 1.6 to 4.2 milligrams per 1 gram of soil, with the mean value of 2.6

⁴¹ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, pp. 17–22; available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978.html> [cit. 6 January 2017]; The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated, pp. 3–4.

⁴² FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, fig. 4.

⁴³ HOLLIDAY, V. T., GARTNER, W. G. Methods of Soil P Analysis in Archaeology. In *Journal of Archaeological Science*, 2007, Vol. 34/2, p. 302.

⁴⁴ The various methods of its extraction and measurement were reviewed lately by Holliday and Gartner, see HOLLIDAY, V. T., GARTNER, W. G. Methods of Soil P Analysis in Archaeology. In *Journal of Archaeological Science*, 2007, Vol. 34/2, pp. 301–333.

⁴⁵ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 18.

mg/g.⁴⁶ As noted by the excavators, the informative value of the analysis was rather limited as in a test pit only sections of existing layers were uncovered.⁴⁷

Furthermore, according to Fuller each soil sample was tested for total phosphate that was measured quantitatively with a colorimeter, using a method published by Cornwall⁴⁸ and Shackley.⁴⁹ However, Holliday and Gartner recently demonstrated that that method (extraction by boiling in H₂SO₄) is incapable of extracting all phosphorus compounds from the soil.⁵⁰

On the basis of pottery, assumptions concerning the extent of sediment accumulation, size of bricks and evidence from Petrie's excavation, the team from Johns Hopkins University made an attempt to interpret and date the eleven levels of occupation. Level XI, which was the earliest stratum uncovered in the Central Test Pit, was identified as the later part of the Second Intermediate Period on the basis of pottery and bricks that were comparable with the contemporaneous finds from Tell el-Dab'a.

Level X featured a moderate and level IX an intensive habitation. Levels X, IX and VIII were grouped together because of several common characteristics such as "alkaline sediments (pH = 9.4), a moderate to intensive degree of occupation, and the continued presence of forces (natural and man-made) which created mudbrick erosion".⁵¹ They were tentatively dated to the 18th and 19th dynasties. In level IX, the red rim wash started to appear and was attested up to level IV.

Level VII was characterised by the change of the soil pH, which became less alkaline (pH = 8.3). There was also less phosphate, indicating that human activity was less intensive or there were fewer animals present. The decrease began in level VIII and reached its minimum of 1.6mg/g in level V. Levels VII, VI and V were tentatively dated to the 19th and 20th dynasties.

⁴⁶ Ibid., table 1. The values are: Control "Dune Sand" – 0.5 mg/g, Level I – 1.9 mg/g, Level II – 2.1 mg/g, Level III – 1.8 mg/g, Level IV – 3.6 mg/g, Level V – 1.6 mg/g, Level VI – 1.7 mg/g, Level VII – 2.2 mg/g, Level IX – 4.2 mg/g, Level X – 2.4 mg/g, Level XI – 3.4 mg/g, Gezira – 0.4 mg/g. Level VIII is missing in the table.

⁴⁷ The phosphate concentration can vary within one particular level. Therefore, it is necessary to take samples from several parts of the same layer and these must be tested to find out whether different areas of the same level were used to a different extent.

⁴⁸ CORNWALL, I. W. *Soils for the Archaeologist*, pp. 174, 176.

⁴⁹ SHACKLEY, M. L. *Archaeological Sediments: A Survey of Analytical Methods*, pp. 68–70.

⁵⁰ HOLLIDAY, V. T., GARTNER, W. G. Methods of Soil P Analysis in Archaeology. In *Journal of Archaeological Science*, 2007, Vol. 34/2, pp. 310 [table 3], 314.

⁵¹ FULLER, M. J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986, p. 22.

Level IV featured an intensive human occupation and was interpreted as the beginning of the Third Intermediate Period at the site. The foundation of level III was tentatively assigned to the same span of occupation as the so called Great House discovered by Petrie who dated its last phase of occupation to the 22nd dynasty.⁵² Levels II and I were dated to the Late Period (Saite).

3.2.1. Revision

The excavations of Johns Hopkins University indicate that in the area of the Central Test Pit occupation started only in the later part of the Second Intermediate Period. The presence of Hyksos on the site has been confirmed in the seasons 2011 – 2016, when the Egyptian mission directed by Mustafa Nour el-Din as well as the Polish-Slovak mission discovered several tombs and part of a settlement in the western part of the tell.⁵³ The cemetery was apparently in use throughout the entire 15th dynasty;⁵⁴ the settlement excavated so far seems to belong to mid to late 15th dynasty.⁵⁵

The preserved documentation of pottery found in the Central Test Pit is unfortunately too fragmentary and only a few pieces are available for examination.⁵⁶ Some important observations can, however, be made. As for

⁵² PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, p. 29.

⁵³ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 39–56; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 97–100; NOUR EL-DIN, M. et al. Egyptian Mission Rescue Excavations in Tell el-Retaba. Part 2: The Second Intermediate Period Cemetery. In *Ägypten und Levante*, 2016, Vol. 26, pp. 75–114.

⁵⁴ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 45–46.

⁵⁵ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, p. 56; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 100–102.

⁵⁶ Photographs and a short description of some of the sherds discovered are available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017]. Sherds 1A and 3A come from the surface; sherd 11E comes from level IV and sherd 13E from below level IV. Sherd 14G was found in level V, sherd 19D and 20D below level VII, sherd 23I below level 9 and sherd 27b in level XI. Drawings of these pieces as well as of sherds 25A (below level X), 19B (below level VII), 18A (level VII), 17A

level XI, a carinated bowl with a black-painted rim (no. 27B)⁵⁷ was documented and it clearly corresponds to the early 18th dynasty pottery (Thutmoside).⁵⁸ The dating of the level to the Second Intermediate Period is thus questionable; it rather marks the beginning of the 18th dynasty, the material of which was still mixed with the remains of the late Second Intermediate Period.

Also, the gezira sand⁵⁹ on the bottom of the pit could be doubted, due to the following reasons: Wadi Tumilat is not a typical part of the Nile Delta with geziras; it is rather a narrow ancient Nile tributary where gravels were more likely transported in meanders, creating aggradation mound. Such Second Intermediate Period occupancy was uncovered on gravel subsoil at the western periphery of Tell el-Retaba.⁶⁰ Yellow-brownish friable sand or yellow fine sand are rather discovered as eolian or human-made deposits among the cultural layers and/or on the subsoil (see northern part of the Black house 3/SU 911 in Area 7 or area southwards from the tomb SU 2057 in Area 4);⁶¹ moreover, cultural layers of the Second Intermediate Period at Tell el-Retaba also have gravel-like consistence, thus to draw conclusions on subsoil/gezira sand based on auger hole would be too premature.

The Polish-Slovak mission discovered domestic structures associated with industrial installations of the early 18th dynasty in the western part of the tell; there were simple huts in Area 3 as well as larger houses with quite luxurious objects in

(below level VI), 14B and 14G (level V) and 6B (level III) are preserved (CALABRIA, M. Letter to Mrs. Dryer, 11 September 1981, with 14 drawings of pottery from the Central Test Pit), but they sometimes seem to be incorrect. I would like to thank Irmgard Hein for her help and advice concerning the analysis of these sherds.

⁵⁷ Source available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017].

⁵⁸ Compare e.g.: JACQUET-GORDON, H. *Karnak-Nord X*, fig. 54. x (P1513); HEIN, I. Erste Beobachtungen zur Keramik aus 'Ezbet Helmi. In *Ägypten und Levante*, 1994, Vol. 4, pp. 39–40. Below level X fragment of a neck of an amphora with a ridge (no. 25A) was found; its identification is uncertain.

⁵⁹ “The gezira is built of yellow-brownish friable sand. The sand is composed mainly of quartz grains, with the addition of small amounts of plagioclases, K-feldspar and heavy minerals (i.e. amphiboles, pyroxenes and others). The size of grains varies between 2-0.1 mm, with majority of 2-1 mm grains.” (PAWLIKOWSKI, M., WASILEWSKI, M. Geology, sedimentology and mineralogy. In CHŁODNICKI, M., CIAŁOWICZ, K. M., MACZYŃSKA, A. (eds.). *Tell el-Farkha I. Excavations 1998 – 2011*, p. 378.

⁶⁰ HUDEC, J., FULAJTÁR, E., STOPKOVÁ, E. Historical and Environmental Determinations of the Ancient Egyptian Fortresses in Tell el-Retaba. In *Asian and African Studies*, 2015, Vol. 24, no. 2, pp. 251, 273f.

⁶¹ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante* 2014, Vol. 24, p. 59, Fig. 34.

Area 4 and 7 (so called Black houses).⁶² In Area 4 and 7, the houses were just above or in close vicinity to the Hyksos settlement, but their exact relationship has still to be investigated.⁶³ Egyptian Mission rescue excavations that took place in 2010 – 2012 also revealed remains of an early 18th dynasty settlement.⁶⁴

According to the excavators, level X is characterised by moderate occupation and the area of the Central Test Pit was almost abandoned at that time. Below level IX, the neck and shoulder of the so called “Palace Ware” is said to have been found,⁶⁵ most probably Blue Painted pottery that is attested from the mid-18th to the mid-20th dynasty.⁶⁶

On the basis of the current state of research on the site, level X could correspond to the mid-late 18th dynasty. No structures from this period have been discovered by the Polish-Slovak mission so far. Even the ceramic material attests a hiatus between the early 18th and early 19th dynasties.⁶⁷ The site was probably not inhabited during the mid and late 18th dynasty, but further excavations may prove the opposite. The indications that there was already a fortress in the early 18th dynasty that might have been levelled before building the fortress of Ramesses II are still hypothetical.⁶⁸

⁶² RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 156–159; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 56–64; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 103–106.

⁶³ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 59–60; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, p. 106.

⁶⁴ RZEPKA, S. et al. Egyptian Mission Rescue Excavations in Tell el-Retaba. Part 1: New Kingdom Remains. In *Ägypten und Levante*, 2012/2013, Vol. 22/23, pp. 253–271.

⁶⁵ Mentioned in HOERTH, A. J. Slide Captions, not dated, slide 23: row 3, #3.

⁶⁶ HOPE, C. A. Innovation in the decoration of ceramics in the mid-18th Dynasty. In *Cahiers de la céramique égyptienne*, 1987, Vol. 1, pp. 110–112; HOPE, C. A. Possible Mid-18th Dynasty Examples of Blue-Painted Pottery from the Egypt Exploration Society’s Excavations at Memphis. In ASTON, D., BADER, B., GALLORINI, C., NICHOLSON, P., BUCKINGHAM, S. (eds.). *Under the potter's tree: studies on ancient Egypt presented to Janine Bourriau on the occasion of her 70th birthday*, pp. 495–496.

⁶⁷ RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 167–169.

⁶⁸ RZEPKA, S. et al. Egyptian Mission Rescue Excavations in Tell el-Retaba. Part 1: New Kingdom Remains. In *Ägypten und Levante*, 2012/2013, Vol. 22/23, pp. 270–271;

Level IX of the Central Test Pit features a more intensive habitation and might indeed correlate with the early 19th dynasty and with the construction of the fortress of Ramesses II.⁶⁹

Afterwards, the intensity of habitation started to decrease in this area again, probably in the mid-late 19th (levels VIII⁷⁰) and especially in the 20th dynasty (levels VII – V). It is not known how long the fortress of Ramesses II was in use, but it seems to have lost its function in the late 19th dynasty as remains of that time are underrepresented on the site (in the current state of research). Only small parts of a poor settlement and of a cemetery were discovered in Area 9 in season 2012.⁷¹

It is remarkable that none of the levels of the Central Test Pit datable to the 20th dynasty features an increased intensity of occupation. One would expect that the reign of Ramesses III would stick out as at that time the fortress was rebuilt and its spatial organisation rearranged.⁷² The only indication is a “hard claylike layer” that was identified by the excavators under level V and that has been equated with a similar layer under the temenos walls of the temple (see above).⁷³ The excavators suspected “an intentional heightening of the level of occupation”.⁷⁴ As stated above, it might be associated with some levelling before the construction of the fortress of Ramesses III.

RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 64, 116–117.

⁶⁹ RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 142–152; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 64–65; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 108–116.

⁷⁰ The pottery from levels IX and VIII is said to have been quite homogenous (HOERTH, A. J. Comments for Central Test Pit and Temple Area, 1 April 1981, p. 3).

⁷¹ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 65–67.

⁷² RZEPKA, S., HUDEC, J., with appendix by C. Malleon. Tell el-Retaba, Season 2009. In *Polish Archaeology in the Mediterranean. Research 2012*, Vol. 21, p. 118.

⁷³ HOERTH, A. J. Comments for Central Test Pit and Temple Area, 1 April 1981, p. 3. The nature of the layer is not entirely clear; in one report “separation of Levels II-IV by heavy layers of clay” is mentioned (The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated, p. 4).

⁷⁴ The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated, p. 4.

Pottery sherds documented from ‘below level VII’ can be dated to the post-Amarna/Ramesside period. Among them is a neck of an amphora with a rolled rim and sharp throwing lines inside (no. 19D), probably made of Marl D,⁷⁵ and two everted rims of bowls (nos. 19B – flattened inside, 20D – flaring).⁷⁶

Drawings of only four sherds from levels VII – V are available for study. There is a fragment of a bowl with a ribbed profile and a direct rim (no. 18A) from level VII, for which there are parallels from the 20th dynasty.⁷⁷ The rolled rim of a jar (no. 14G)⁷⁸ from level V, most probably made of Marl D, can be dated to the late 20th dynasty.⁷⁹ However, the everted rim of a jar (no. 17A) from below level VI may well date to the Third Intermediate Period⁸⁰ and an everted rim of jar with a flat groove inside (no. 14B) from level V is disputable, but it may also be later than Ramesside.⁸¹

The levels of the 20th dynasty may correlate with several structures documented by the Polish-Slovak mission. Among them are the defence walls (Wall 2 and Wall 3) and the western gate of Ramesses III⁸² as well as the ancient road that runs eastward from the gate to the temple.⁸³ Furthermore, a large state-built house with a series of uniform flats, inhabited either by soldiers

⁷⁵ Photo available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017]. Compare e.g.: JACQUET-GORDON, H. *Karnak-Nord X*, fig. 83.b (P396). See also: ASTON, D. *Die Keramik des Grabungsplatzes Q1, Teil I, Corpus of Fabrics, Wares and Shapes*, p. 615 (2498).

⁷⁶ HEIN, Irmgard, Personal communication. For a photo of no. 20D see <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017]. For a parallel compare, e.g. WILSON, P. *Sais I. The Ramesside-Third Intermediate Period at Kom Rebwa*, p. 234, pl. 34.7.

⁷⁷ Compare e.g. WILSON, P. *Sais I. The Ramesside-Third Intermediate Period at Kom Rebwa*, p. 231, pls. 28.16, 28.19.

⁷⁸ Photo available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017].

⁷⁹ HEIN, Irmgard, Personal communication.

⁸⁰ Compare e.g. JACQUET-GORDON, H. *Karnak-Nord X*, fig. 95.n (P834).

⁸¹ Compare e.g. WILSON, P. *Sais I. The Ramesside-Third Intermediate Period at Kom Rebwa*, p. 245, pl. 54.3.

⁸² RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 139–142; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 68–75; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 116–118, 126–127.

⁸³ RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, p. 136.

or by civilians, was uncovered in area 9.⁸⁴ Apart from that, in Area 1 located next to the northern defence wall (north-west from the Central Test Pit), several phases of deposits dated to the late New Kingdom were uncovered.⁸⁵ They indicate that this area was used for storage purposes and later on for workshops.⁸⁶

In the area of the Central Test Pit, new impetus followed not until the Third Intermediate Period. The Third Intermediate Period levels (levels IV – III) can be linked to structures excavated in Areas 2 and 3 (houses of large size with several stages of occupation), in Area 4 and 7 (settlement),⁸⁷ in Area 5 (industrial zone – ovens, silo), in Area 6 (stable)⁸⁸ and in Area 9 (settlement).⁸⁹ The rooms abutted to the temple and discovered by the mission of Johns Hopkins University (see above) as well as the later occupation of the Great House discovered by Petrie also seem to belong to this period.⁹⁰

Concerning the pottery sherds, the documentation of rims of three bowls is available. The form of no. 6B (strongly everted, flaring) found in level III is attested from the 18th dynasty⁹¹ and the form of no. 13E (direct, straight) from

⁸⁴ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 75–86; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 118–126.

⁸⁵ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, pp. 250–258, 267–268.

⁸⁶ The settlement of the Third Intermediate Period located above it was badly preserved at the time of excavations due to *sebbakhin* digging.

⁸⁷ RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 135–136.

⁸⁸ RZEPKA, S. et al. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, pp. 258–266; RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 129–138.

⁸⁹ RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 86–92; RZEPKA, S. et al. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 127–135.

⁹⁰ PETRIE, W. M. F., DUNCAN, J. G. *Hyksos and Israelite Cities*, p. 29.

⁹¹ Compare e.g.: JACQUET-GORDON, H. *Karnak-Nord X*, figs. 55.u (P142), 92.e (P502).

below level IV from the Ramesside period onwards.⁹² The rim no. 11E (everted, flattened inside) from level IV may be dated to the Third Intermediate Period.⁹³

Finally, levels II – I can be associated with the Late Period and the same can be stated in regards to the short heavy rims of storage jars found on the surface (nos. 1A and 3A).⁹⁴ Structures datable to the Late Period at Tell el-Retaba are so far rare because of the heavy disturbance of the tell's surface, but the presence of pottery (and architecture) clearly indicates that the site was occupied in that period.⁹⁵

4. Conclusions

Results of Goedicke's mission are notably contributing to the overall picture of the ancient occupancy at Tell el-Retaba. They complement the finds discovered during earlier excavations and, combined with contemporary research, allow us to acquire new knowledge or gain new insights.

Probably there was a temple of Ramesses II at temenos which was rebuilt or enlarged by Ramesses III. The mission of Goedicke discovered a claylike layer below the western N-S temenos wall which might support the idea on some sort of levelling that was done before Ramesses III rebuilt the temple and built the Wall 2. The western wall of temenos has a parallel orientation to Wall 1 and Wall 2 of the western defence as well as to the walls of storerooms in Areas 3 and 5. Furthermore, the temple seems to have been modified in the Third Intermediate Period before it was dismantled at a later stage of the Third Intermediate Period.

According to Goedicke's mission the gezira sand was reached 7.5 meters below the surface of the Central Test Pit and 11 major stratigraphic levels had

⁹² Photo available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017]. HEIN, Irmgard, Personal communication.

⁹³ Photo available from <http://users.stlcc.edu/mfuller/Retaba/Retaba1978pots.html> [cit. 6 January 2017]. Compare e.g.: WILSON, P. *Sais I. The Ramesside-Third Intermediate Period at Kom Rebwa*, p. 233, pl. 31.10.

⁹⁴ For no. 3A compare e.g. DEFERNEZ, C. *La céramique d'époque perse à Tell el-Herr*, pl. XVII.48. Compare also REDFORD, D. An Interim Report on the Temple of the Ram-God at Mendes. In REDFORD, D. (ed.). *Delta Reports (Research in Lower Egypt)*, Vol. I, fig. 14.

⁹⁵ For Late Period pottery found by the Polish-Slovak mission see: RZEPKA, S. et al. New Kingdom and the Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 159–160; RZEPKA, S. et al. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 114–115.

been identified and tested for phosphate content to estimate the intensity of occupation. However, both the presence of gezira sand and the values of the phosphate content could be doubted according to contemporary state of research.

The bottommost Level XI, dated by Fuller to a later part of the Second Intermediate Period, corresponds rather to the early 18th dynasty (Thutmoside), mixed with the remains of the late Second Intermediate Period. Earlier cemetery and settlement from the 15th dynasty and from the mid to late 15th dynasty, respectively, as well as contemporary dated Black houses (and a Green house?) were discovered recently by the Polish-Slovak archaeological mission.

Level X, dated to the mid-late 18th dynasty, represents occupancy, which is rare in the recently excavated parts of the tell, probably due to the above mentioned levelling of layers for mud brick production during the rules of Ramesses II and III.

Level IX could be dated to the early 19th dynasty (the fortress of Ramesses II) and level VIII to the mid-late 19th dynasty. Levels VII – V could be dated to the 20th dynasty. Goedicke's mission suspected "heightening of the level of occupation" before the construction of the fortress of Ramesses III. Levels IV – III and Levels II – I could be associated with the Third Intermediate Period and the Late Period respectively.

REFERENCES

Archival documents related to Tell el-Retaba, former archive of Prof. Hans Goedicke, now the property of the Agyptos Foundation

Manuscripts

COOLEY, Robert E. Report about the Preliminary Survey in Wadi Tumilat by the Joint Johns Hopkins Archaeological Expedition, Manuscript Report, 1977.

FULLER, Michael J. Preliminary Report of Excavations at Tell el-Retaba, Egypt, Manuscript under preparation, 17 January 1986.

HOERTH, Alfred J. Preliminary Report for Tell Rataba, 1978, Manuscript Report, 29 June 1978.

Archaeological documentation and correspondence

CALABRIA, M. Letter to Mrs. Dryer, 11 September 1981, with 14 drawings of pottery from the Central Test Pit.

HOERTH, Alfred J. Comments for Central Test Pit and Temple Area, 1 April 1981.

HOERTH, Alfred J. Daily Log “Temple”, 4 June 1978 – 24 June 1978 (3 June 1978 by H. Goedicke).

HOERTH, Alfred J. Slide Captions, not dated.

Sketches attached to the Daily Log “Temple”, 4 June 1978 – 24 June 1978.

The Johns Hopkins University Explorations at Tell el Rataba. General remarks, Manuscript Report, not dated.

Electronic resources

Website of Michael J. FULLER, Ph.D, Professor Emeritus of Anthropology, St. Louis Community College. Available from <http://users.stlcc.edu/mfuller/> [cit. 6 January 2017].

Bibliography

ASTON, David. *Die Keramik des Grabungsplatzes Q1, Teil 1, Corpus of Fabrics, Wares and Shapes*, unter Mitwirkung von B. G. Aston, N. Böer, B. Ditze, J. Klang, E. B. Pusch und A. Seiler, Forschungen in der Ramses-Stadt. Die Grabungen des Pelizaeus-Museums Hildesheim in Qantir – Pi-Ramesse, Band 1, herausgegeben von E. B. Pusch und M. Bietak. Mainz am Rhein: Philipp von Zabern, 1998.

CORNWALL, Ian Wolfram. *Soils for the Archaeologist*. London: Phoenix House, 1958.

DEFERNEZ, Catherine. *La céramique d'époque perse à Tell el-Herr. Étude chrono-typologique et comparative*, Cahier de recherches de l'Institut de papyrologie et d'égyptologie de Lille Supplément N°5/1-2. Lille: Université Charles-de-Gaulle-Lille III, 2003.

HEIN, Irmgard. Erste Beobachtungen zur Keramik aus °Ezbet Helmi. In *Ägypten und Levante*, 1994, Vol. 4, pp. 39–43.

HOLLADAY, John S. *Tell el-Maskhuta. Preliminary Report on the Wadi Tumilat Project 1978 – 1979*, Cities of the Delta 3, American Research Center in Egypt Reports 6. Malibu: American Research Center in Egypt Reports, 1982.

HOLLIDAY, Vance T., GARTNER, William G. Methods of Soil P Analysis in Archaeology. In *Journal of Archaeological Science*, 2007, Vol. 34/2, pp. 301–333.

HOPE, Colin A. Innovation in the decoration of ceramics in the mid-18th Dynasty. In *Cahiers de la céramique égyptienne*, Publications de l'Institut Français d'Archéologie Orientale, 1987, Vol. 1, pp. 97–122.

HOPE, Colin A. Possible Mid-18th Dynasty Examples of Blue-Painted Pottery from the Egypt Exploration Society's Excavations at Memphis. In ASTON, David, BADER, Bettina, GALLORINI, Carla, NICHOLSON, Paul, BUCKINGHAM, Sarah (eds.). *Under the potter's tree: studies on ancient*

- Egypt presented to Janine Bourriau on the occasion of her 70th birthday*, Orientalia Lovaniensia Analecta 204. Leuven: Peeters, 2011, pp. 495–512.
- HUDEC, Jozef, FULAJTÁR, Emil, STOPKOVÁ, Eva. Historical and Environmental Determinations of the Ancient Egyptian Fortresses in Tell el-Retaba. In *Asian and African Studies*, 2015, Vol. 24, No. 2, pp. 247–283.
- JACQUET-GORDON, Helen. *Karnak-Nord X. Le Trésor de Thoutmosis I^{er}. La céramique*, 1. Texte, 2. Figures et planches, Fouilles de l’Ifao 65.1 – 65.2. Le Caire: Institut français d’archéologie orientale, 2012.
- NOUR EL-DIN, Mustafa, HULKOVÁ, Lucia, ŠEFČÁKOVÁ, Alena, HUDEC, Jozef, WODZIŃSKA, Anna. Egyptian Mission Rescue Excavations in Tell el-Retaba. Part 2: The Second Intermediate Period Cemetery. In *Ägypten und Levante*, 2016, Vol. 26, pp. 75–114.
- PAWLIKOWSKI, Maciej, WASILEWSKI, Michał. Geology, sedimentology and mineralogy. In CHŁODNICKI, Marek, CIAŁOWICZ, Krzysztof M., MACZYŃSKA, Agnieszka (eds.). *Tell el-Farkha I. Excavations 1998 – 2011*. Poznan – Krakow: Poznan Archaeological Museum, Institute of Archaeology, Jagiellonian University, 2012, pp. 375–382.
- PETRIE, William Mathew Flinders, DUNCAN, John Garrow. *Hyksos and Israelite Cities*. London: School of Archaeology, 1906.
- REDFORD, Donald. An Interim Report on the Temple of the Ram-God at Mendes. In REDFORD, Donald (ed.). *Delta Reports: Research in Lower Egypt*, Vol. I, Oxford: Oxbow Books, 2009, pp. 1–55.
- REDMOUNT, Carol A. *On an Egyptian/Asiatic Frontier: An Archaeological History of the Wadi Tumilat*. PhD. dissertation. University of Chicago, 1989.
- RZEPKA, Sławomir, HUDEC, Jozef, with appendix by MALLESON, Claire. Tell el-Retaba Season 2009. In *Polish Archaeology in the Mediterranean. Research 2012*, Vol. 21, pp. 107–123.
- RZEPKA, Sławomir, HUDEC, Jozef, JARMUŹEK, Łukasz, DUBCOVÁ, Veronika, HULKOVÁ, Lucia, ODLER, Martin, WODZIŃSKA, Anna, TRZCIŃSKI, Jerzy, ŠEFČÁKOVÁ, Alena, SÓJKA, Piotr, FULAJTÁR, Emil, ČERNÝ, Miroslav, TIRPÁK, Ján. From Hyksos Settlers to Ottoman Pipe Smokers. Tell el-Retaba 2014. In *Ägypten und Levante*, 2015, Vol. 25, pp. 97–166.
- RZEPKA, Sławomir, HUDEC, Jozef, WODZIŃSKA, Anna, JARMUŹEK, Łukasz, HULKOVÁ, Lucia, DUBCOVÁ, Veronika, PIORUN, Malwina, ŠEFČÁKOVÁ, Alena. Tell el-Retaba from the Second Intermediate Period till the Late Period. Results of the Polish-Slovak Archaeological Mission, Seasons 2011 – 2012. In *Ägypten und Levante*, 2014, Vol. 24, pp. 39–120.
- RZEPKA, Sławomir, NOUR EL-DIN, Mostafa, WODZIŃSKA, Anna, JARMUŹEK, Łukasz. Egyptian Mission Rescue Excavations in Tell el-

- Retaba. Part 1: New Kingdom Remains. In *Ägypten und Levante*, 2012/2013, Vol. 22/23, pp. 253–287.
- RZEPKA, Sławomir, WODZIŃSKA, Anna, HUDEC, Jozef, HERBICH, Tomasz. Tell el-Retaba 2007 – 2008. In *Ägypten und Levante*, 2009, Vol. 19, pp. 241–280.
- RZEPKA, Sławomir, WODZIŃSKA, Anna, MALLESON Claire, HUDEC Jozef, JARMUŻEK, Łukasz, MISIEWICZ, Krzysztof, MAŁKOWSKI, Wiesław, BOGACKI, Miron. New Kingdom and Third Intermediate Period in Tell el-Retaba. In *Ägypten und Levante*, 2011, Vol. 21, pp. 129–184.
- SHACKLEY, Myra L. *Archaeological Sediments: A Survey of Analytical Methods*. London: Butterworths, 1975.
- WILSON, Penelope. *Sais I. The Ramesside-Third Intermediate Period at Kom Rebwa*, with contributions from Louise Bertini, Alan Clapham, Claire Malleison, Nicola Harrington, Salima Ikram, Veerle Linseele, Illustrations by Lauren Woodard, Rebecca Crawford, Marina Escolano Poveda, Egypt Exploration Society, Excavation Memoir 98. London: Egypt Exploration Society, 2011.