The Polish-Egyptian Archaeological and Conservation Mission to the Hatshepsut Temple at Deir el-Bahari conducted its work from 5 December 2004 to 18 April 2005.¹

The main objectives of the season included the restoration of the Solar-Cult Complex, conservation of the North Chamber of Amun-Re, and continued documentation and excavation in the Royal Mortuary Cult Complex. Supplementary tasks included the final restoration of two of Hatshepsut's figures in the form of Osiris placed in the Upper (Coronation) Portico; cleaning of the northern outer face of the Upper Ramp; preliminary conservation of the sandstone painted statue of king Amenhotep I. The study of the decorative scheme in the Temple of Tuthmosis III is in progress.

The Mission took an active part in meetings of the Round Table for Conservation at Thebes. In co-operation with the Luxor branch of the SCA (Dr. Holeil Ghaly), a standardized model for documentation and conservation reports was recently proposed. Conclusions presented after the meetings should further international co-operation in the field of conservation.

¹ The staff included: Dr. Zbigniew E. Szafrański, Egyptologist (Director); Dr. Miroslaw Barwik, Egyptologist (Deputy Director); Mrs. Izabela Uchman-Laskowska, conservator (in charge of the conservation program); Mr. Ahmed Ellaisy Fath El-Bari, SCA inspector; Mrs. Olga Bialosocka, Egyptologist; Ms Małgorzata Czapinska, student of architecture; Ms Ewa Czyżewska, archaeologist; Mrs. Monika Dolińska, Egyptologist; Mr. Jerzy Gabryszewski, conservator; Ms Hanem Sadeek Kenawy, SCA inspector; Ms Jadwiga Iwaszczuk, Egyptologist; Mr. Maciej Jawornicki, photographer; Mr. Władysław Jurkow, documentalist; Ms Teresa Kaczor, architect; Mrs. Manal Mohamed el-Sayed, SCA inspector; Mr. Wiesław Kuczewski, constructor; Mrs. Maria Łukiewicz-Podkowińska, conservator; Mr. Mieczysław Michiewicz, constructor; Mr. Wojciech Myjak, conservator; Mr. Andrzej Sońnier, conservator; Ms Anastazja P. Stupko, student of archaeology; Prof. Dr. Zbigniew Taranienko, art documentalist; Ms Agata Urbaniai, student of archaeology. Plumbers Mr. Tomasz Gramatowski, and Mr. Tadeusz Żukowski helped specifically with the rehabilitation of parts of the Metropolitan House.

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Fig. 1. Solar Cult Complex. Restored upper part of the South Wall of the Altar Courtyard (Drawing T. Kaczor)
THE SOLAR CULT COMPLEX

Original stonework had been preserved only in the lower part (four to seven stone courses) of the South Wall of the Altar Courtyard, separating the Upper (Festival) and Altar Courtyards. In previous seasons (1983-1984), the core of the upper part of the wall had been reconstructed in red-brickwork and its outer (northern) surface was partly covered with concrete tiles. The uppermost part of the wall was left uncovered and its top open. Last year, these tiles were removed in preparation for final reconstruction and thorough restoration this season. The upper part of the wall (courses 10-13) was reconstructed of regular limestone tiles [Fig. 1] and the joints were filled with mortar. The top of the wall was completed up to its original height, i.e., 5.86 m, levelled flat and prepared for a covering installation in order to protect it against rain, dust, and other atmospheric conditions.

Four blocks of the cornice, consolidated last season, were now placed on the top of the North Wall [Fig. 2] of the Sun Altar Courtyard [Fig. 3]; the wall had earlier been restored of regular limestone blocks.

The architectural and archaeological documentation of the complex was checked and revised where necessary in preparation for a forthcoming publication.

ROYAL MORTUARY CULT COMPLEX

This season work concentrated on the documentation of the relief decoration in different parts of the Complex, not only the decoration existing in situ, but also hundreds of loose fragments attributed to this part of the Temple. Several dozens of new fragments were attributed to particular places in the Complex. Of particular interest are the fragments filling gaps in the inscriptions decorating the walls and ceiling of the Chapel of Hatshepsut and the Chapel of Tuthmosis I. The photographic documentation and drawings, which are essential for the restoration project, will also be used in a planned publication of the entire Complex. The drawings of the decoration of the Northern and Southern Niches of the Vestibule were completed during this season and plates of these parts are ready for publication. The conservation work in the Royal Mortuary Cult Complex is restricted for the present to parts in need of urgent treatment and is synchronized with the progress of documentation work.

4 M. Barwik, PAM XIV, Reports 2002 (2003), 200f., Figs 2, 6-7. Contributing to the general idea of the restoration of the Courtyard is a theoretical reconstruction of the "Treasury" of Tuthmosis I in Karnak, cf. J. Jacquet, Karnak-Nord V. Le trésor de Thoutmosis Ier. Étude architecturale, FIFAO 30/1 (Le Caire 1983), Fig. 27.
5 Complementary to the volume prepared a few years ago: J. Karkowski, The Temple of Hatshepsut. The Solar Complex, Deir el-Bahari VI (Warsaw 2003).
Fig. 2. Solar Cult Complex, North Wall. Blocks of the cornice after restoration
(Photo M. Jawornicki)

Fig. 3. Solar Cult Complex. Axonometric perspective showing architectural elements restored in the 2004/2005 season and in previous seasons (Drawing T. Kaczor)
Our study in the chapel focused on both the documentation of its decoration and reconstruction of its architectural layout. New fragments were attributed to particular places in the chapel. The vaulted ceiling of the Chapel was inscribed with the so-called "Stundenritual" and the Chapel walls contain chapters from the Book of the Dead. Progress has been made on the reconstruction of the so-called "Night hours" decorating the northern part of the ceiling (Fig. 4).

The focus this season was on the West Wall of the Chapel of Hatshepsut in view of its decoration and the state of the foundations. A gap in the decoration of the western tympanum of the West Wall has now been filled with two new fragments.
Fig. 5. Chapel of Hatshepsut. Plan of excavated area with location of discovered shafts 7A/82, S.7B/82 and S.1/04 (Drawing T. Kaczor)
found in one of the temple's open-air storage spaces. The reconstruction of the tympanum of this wall has advanced.

Meanwhile excavations were carried out along the entire length of the bottom of the wall. Shaft tomb S.7B/82 of the Third Intermediate Period, located earlier but not excavated,7 was now explored [Figs 5, 6]. Following the two seasons of digging in the shaft tombs, it has been confirmed that the tombs had been plundered in modern times. Fragments of several coffins, pottery vessels and cartonnages, found in the two tombs, have been found to match. Therefore, the archaeological material from these two shaft tombs has been documented as one unit.

All the tombs were hewn in bedrock under the pavement of the Chapel. The shafts and burial chambers were undecorated and only roughly dressed, but the overall impression is that the builders aimed at plain and regular wall and floor surfaces. The data provides grounds for dating these burials to the late 22nd(?), 23rd and 25th Dynasties.

SHAFT 7A/82
Shaft S.7A/82, excavated in the 2003/2004 season, is located next to the so-called "Coptic blockage" by the western part of the North Wall and below the level of its bottom. The shaft, over 1.10 m to the side, was 6.30 m deep below the pavement of the

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7 For last year's excavation of Third Intermediate Period tomb shafts, see Szafrański, op. cit., 226-230, Figs 6-8.
Chapel, deepest of all the shafts explored so far, and led to a burial chamber with a northward sloping floor (maximum depth 6.40 m). The undecorated burial chamber, located on the north side, was 3.80 m long, 2.90 m wide and 1.70-1.80 m high [Fig. 7].

SHAFT S.7B/82
Shaft S.7B/82 was found hewn by the bottom of the South Wall and close to its corner with the West Wall [Fig. 8; cf. Fig. 5]. Apparently, the ground here had been weak from the start and the wall foundations had to be reinforced with limestone blocks standing on bedrock. To the west of the shaft mouth, a step in the rock was cut, c. 1.50 m deep, below the pavement, which was c. 0.30 m thick in this spot. The shaft itself was c. 1.20 m to the side and 4.70 m deep. The burial chamber measured c. 2.20 by 1.60 m and 1.64 m high.

SHAFT S.1/04
This shaft, unearthed in the northeastern corner of the chapel [cf. Fig. 5], also had a step-like depression cut in the rock to a depth of c. 0.70 m on the eastern side of the mouth. The shaft itself measured c.1.25-1.30 m to the side. It has not been fully explored as yet, but at a depth of c.1.50 m it appears that the burial chamber was located on the north side.

FINDS FROM THE SHAFT TOMBS
Both the shafts and the burial chamber of S.7A/82 contained relatively rich remains of Third Intermediate Period (family?) burials, mostly of the 23rd and 25th Dynasties, as well as late New Kingdom, Late Period and Coptic material. In addition to the previously mentioned objects, the funerary equipment from the tomb consisted of a big pottery vessel, at least three mud bricks

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8 Cf. Szafranski, op. cit., 229f.
Fig. 8. Chapel of Hatshepsut. Shaft tomb S.7B/82, section looking north and plan of chamber (Drawing T. Kaczor)
Fig. 9. Mud brick bearing name of Hatshepsut from shaft tomb S.7A/82 (Drawing A. Stupko)

Fig. 10. Top of Canopic jar in the form of a hawk, from the filling of shaft tomb S.7A/82 (Photo M. Jawornicki)

Fig. 11. Painted wooden cobras from the filling of shaft tomb S.7A/82 (Photo M. Jawornicki)
bearing the name of Hatshepsut [Fig. 9], fragments of ushebti and stone Canopic jars [Fig. 10], parts of wooden funerary equipment [Fig. 11], hieratic and Coptic ostraca, very small fragments of hieroglyphic and Coptic papyri, fragments of wooden coffins and linen cartonnages, including small pieces of excellent artistic quality.

One of the cartonnages belonged to Vizier Pa-di-amonet, identified as the son of Vizier Pamiu ("Pimui"), related to the royal family of Takeloth III of the 23rd (Theban) Dynasty. The name of the vizier is also attested on one of the mummy bandages from shaft S.7B/82 [Fig. 12]. The 27th regnal year of king Wser-maat (prenomen of Osorkon III? or Piye?) was found on at least two fragments of mummy bandages discovered in shaft S7A/82 [Fig. 13].

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The painted blocks had to be cleaned of a coating of dust, occasional greasy stains and bat guano. The lower part of the walls was covered with a black organic substance, probably the effect of some conflagration. Cleaning agents were selected taking into account the character of the dirt and the resistance properties of original material constituent with the paint layer. Good cohesion of the painting layer permitted the use of soft brushes and Vishab sponges for removing of loose dust on the surface. Greasy dirt and bat guano was softened first with a mixture of three solvent agents (one part acetone, one part ethanol and one part of 0.2% ammonia), applied with absorbing soft tissues. The dirt layer was then removed with a scalpel. Solvents were neutralized with distilled water. The black organic soot substance was softened with distilled water, applied on tissues, and removed with glass fiber tools.

The painting had been applied to the stone surface without any ground coat of plaster or mortar. These parts were consolidated with ready-made FUNCOSIL STEINFESTIGER 300 (product of Remmers). However, there were some parts of the walls which had mortar placed on the stone surface. This appears to have been the ancient method for reconstruction and restoration of former decoration. The adhesion of the ancient mortar was not satisfactory and required consolidation treatment. Ethanol mixed with water (1:1) was applied in order to reduce the tension of the mortar surface. The actual consolidation was done with an acrylic resin dispersion (PRIMAL AC-33 by Lascaux), diluted in water and injected into the mortar.

The final part of the treatment consisted of filling gaps, especially at the edges. Deeper gaps were filled with a double layer of new mortar, the first layer containing one unit of Portland white cement and three units of medium-sieved sand and the second layer one unit of Portland white cement, one of hydrated lime, 3.5 units of sand (original limestone, fine-sieved), 0.5 unit of natural mineral pigments (fine-sieved, from Deir el-Bahari). The proportions of the components of the newly applied mortar were arrived at through a series of tests.

The surface of the new mortar filling was always recessed c. 1-3 mm compared to the original block surface in order for the extent of restoration work to be readily discernible.11

Egyptological documentation of the restored northern part of the East Wall and the eastern part of the North Wall was completed in preparation for a publication of scenes of the "Beautiful Feast of the Valley" [Fig. 14].


11 For the principles of such treatment, see Z.E. Szafrański, PAM XII, Reports 2000 (2001), 186, Figs 7, 13; R.W. Gazda, PAM XII, op. cit., 207, Figs 1-3.
Fig. 14. Upper (Festival) Courtyard. East Wall, northern part. Scene from the "Beautiful Feast of the Valley"
(Drawing J. Iwaszczuk)
STATUE OF AMENHOTEP I FROM ASASIF

The painted sandstone statue of Amenhotep I was unearthed in Asasif in 1982\[^{12}\] and moved to the Chapel of Tuthmosis I on the Upper Terrace of the Temple of Hatshepsut. Conservation treatment was now applied\[^{13}\] to c. 40% of the statue fragments, which were consolidated with **Funcosil Antihydro** and then with **Funcosil Steinfestiger 300** (Remmers). The whole assemblage was covered and wrapped in large plastic sheets. The conservation work and restoration will be continued in the upcoming season.

TEMPLE OF TUTHMOSIS III

After over 20 years of work the decoration of nearly all the temple walls has been established and the drawings of some of them have already been made. At present, the drawings of three rooms connected with the King's Cult are being digitalized in order to prepare the first volume of the temple publication.\[^{14}\]

All the drawings, which were made on the basis of photographs in 1:4 scale, need to be checked with the originals and corrected. In the course of this season, the documentation of Rooms G, H, and D has been checked. A detailed description has also been made of all the identified and reconstructed scenes from these rooms, laying emphasis on colors which are of paramount importance in the temple of Tuthmosis III, owing to their generally excellent state of preservation.

During these works some new fragments were identified and added. All the new pieces, as well as parts of the wall drawing in need of correction, were photographed with a digital camera and a conventional one.

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\[^{13}\] W. Myjak was in charge of this project.

\[^{14}\] M. Dolińska, who is responsible for this publication project, has been included in the Hatshepsut Temple team.