

Thebes in the First Millennium BC

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Edited by

Elena Pischikova, Julia Budka
and Kenneth Griffin

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P U B L I S H I N G

Thebes in the First Millennium BC,
Edited by Elena Pischikova, Julia Budka and Kenneth Griffin

This book first published 2014

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

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ISBN (10): 1-4438-5404-2, ISBN (13): 978-1-4438-5404-7

TABLE OF CONTENTS

Forewordxi

Acknowledgementsxv

Part A: Historical Background

Chapter One3
The Coming of the Kushites and the Identity of Osorkon IV
Aidan Dodson

Part B: Royal Burials: Thebes and Abydos

Chapter Two15
Royal Burials at Thebes during the First Millennium BC
David A. Aston

Chapter Three61
Kushites at Abydos: The Royal Family and Beyond
Anthony Leahy

Part C: Elite Tombs of the Theban Necropolis

Section 1: Preservation and Development of the Theban Necropolis

Chapter Four101
Lost Tombs of Qurna: Development and Preservation of the Middle Area
of the Theban Necropolis
Ramadan Ahmed Ali

Chapter Five111
New Tombs of the North Asasif
Fathy Yaseen Abd el Karim

Section 2: Archaeology and Conservation

Chapter Six	121
Kushite Tombs of the South Asasif Necropolis: Conservation, Reconstruction, and Research	
Elena Pischikova	
Chapter Seven	161
Reconstruction and Conservation of the Tomb of Karakhamun (TT 223)	
Abdelrazk Mohamed Ali	
Chapter Eight	173
The Forgotten Tomb of Ramose (TT 132)	
Christian Greco	
Chapter Nine	201
The Tomb of Montuemhat (TT 34) in the Theban Necropolis: A New Approach	
Louise Gestermann and Farouk Gomaà	
Chapter Ten	205
The “Funeral Palace” of Padiamenope (TT 33): Tomb, Place of Pilgrimage, and Library. Current research	
Claude Traunecker	
Chapter Eleven	235
Kushite and Saite Period Burials on el-Khokha	
Gábor Schreiber	

Section 3: Religious Texts: Tradition and Innovation

Chapter Twelve	251
The Book of the Dead from the Western Wall of the Second Pillared Hall in the Tomb of Karakhamun (TT 223)	
Kenneth Griffin	
Chapter Thirteen	269
The Broad Hall of the Two Maats: Spell BD 125 in Karakhamun’s Main Burial Chamber	
Miguel Angel Molinero Polo	

Chapter Fourteen	295
Report on the Work on the Fragments of the “Stundenritual” (Ritual of the Hours of the Day) in TT 223	
Erhart Graefe	
Chapter Fifteen	307
The Amduat and the Book of the Gates in the Tomb of Padiamenope (TT 33): A Work in Progress	
Isabelle Régen	
Section 4: Interconnections, Transmission of Patterns and Concepts, and Archaism: Thebes and Beyond	
Chapter Sixteen	323
Between South and North Asasif: The Tomb of Harwa (TT 37) as a “Transitional Monument”	
Silvia Einaudi	
Chapter Seventeen	343
The So-called “Lichthof” Once More: On the Transmission of Concepts between Tomb and Temple	
Filip Coppens	
Chapter Eighteen	357
Some Observations about the Representation of the Neck-sash in Twenty-sixth Dynasty Thebes	
Aleksandra Hallmann	
Chapter Nineteen	379
All in the Detail: Some Further Observations on “Archaism” and Style in Libyan-Kushite-Saite Egypt	
Robert G. Morkot	
Chapter Twenty	397
Usurpation and the Erasure of Names during the Twenty-sixth Dynasty	
Carola Koch	

Part D: Burial Assemblages and Other Finds in Elite Tombs

Section 1: Coffins

Chapter Twenty-one	419
The Significance of a Ritual Scene on the Floor Board of Some Coffin Cases in the Twenty-first Dynasty Eltayeb Abbas	
Chapter Twenty-two	439
The Inner Coffin of Tameramun: A Unique Masterpiece of Kushite Iconography from Thebes Simone Musso and Simone Petacchi	
Chapter Twenty-three	453
Sokar-Osiris and the Goddesses: Some Twenty-fifth–Twenty-sixth Dynasty Coffins from Thebes Cynthia May Sheikholeslami	
Chapter Twenty-four	483
The Vatican Coffin Project Alessia Amenta	

Section 2: Other Finds

Chapter Twenty-five	503
Kushite Pottery from the Tomb of Karakhamun: Towards a Reconstruction of the Use of Pottery in Twenty-fifth Dynasty Temple Tombs Julia Budka	
Chapter Twenty-six	521
A Collection of Cows: Brief Remarks on the Faunal Material from the South Asasif Conservation Project Salima Ikram	
Chapter Twenty-seven	529
Three Burial Assemblages of the Saite Period from Saqqara Kate Gosford	

Part E: Karnak

Chapter Twenty-eight	549
A Major Development Project of the Northern Area of the Amun-Re Precinct at Karnak during the Reign of Shabaqo Nadia Licitra, Christophe Thiers, and Pierre Zignani	
Chapter Twenty-nine	565
The Quarter of the Divine Adoratrices at Karnak (Naga Malgata) during the Twenty-sixth Dynasty: Some Hitherto Unpublished Epigraphic Material Laurent Coulon	
Chapter Thirty	587
Offering Magazines on the Southern Bank of the Sacred Lake in Karnak: The Oriental Complex of the Twenty-fifth–Twenty-sixth Dynasty Aurélia Masson	
Chapter Thirty-one	603
Ceramic Production in the Theban Area from the Late Period: New Discoveries in Karnak Stéphanie Boulet and Catherine Defernez	
Chapter Thirty-two	625
Applications of Reflectance Transformation Imaging (RTI) in the Study of Temple Graffiti Elizabeth Frood and Kathryn Howley	
Abbreviations	639
Contributors	645
Indices	647

FOREWORD

“Egypt in the First Millennium BC” is a collection of articles, most of which are based on the talks given at the conference of the same name organised by the team of the South Asasif Conservation Project (SACP), an Egyptian-American Mission working under the auspices of the Ministry of State for Antiquities (MSA), Egypt in Luxor in 2012. The organisers of the conference Elena Pischikova, Julia Budka, and Kenneth Griffin intended to bring together a group of speakers who would share the results of their recent field research in the tombs and temples of the Twenty-fifth and Twenty-sixth Dynasties in Thebes and other archaeological sites, as well as addressing a variety of issues relevant to different aspects of Egyptian monuments of this period.

Papers based on the talks of the participants of the conference form the bulk of this volume. However, we found it possible to include the papers of a few scholars who could not attend the conference, but whose contributions are pertinent to the main themes of the conference and could enrich the content of the present volume. Therefore, this volume covers a much wider range of sites, monuments, and issues as well as a broader chronological span. Discussions of the monuments of Abydos and Saqqara, along with the Libyan tradition, enrich the argument on interconnections, derivations, innovations, and archaism. The diversity of topics cover the areas of history, archaeology, epigraphy, art, and burial assemblages of the period.

Aidan Dodson deliberates on chronological issues of the early Kushite state by re-examining the identity of Osorkon IV and related monuments. His paper gives a historical and cultural introduction to the Kushite Period and the whole volume.

The papers of the General Director of the Middle Area of the West Bank Fathy Yaseen Abd el Karim, and Chief Inspector of the Middle Area Ramadan Ahmed Ali, open a large section in the volume dedicated to different aspects of research and fieldwork in the Theban necropolis. They concern the preservation and development of the necropolis, an incredibly important matter which assumed a new dimension after the demolition of the Qurna villages and clearing of the area being undertaken by the American Research Center in Egypt (ARCE) teams. Numerous tombs found under the houses need immediate safety measures to be applied as well as archaeological and research attention. The conservation, preservation, and recording of the elite tombs in the area are amongst the most relevant issues in the Theban necropolis today.

David Aston and Anthony Leahy examine the royal burials of Thebes and Abydos. Both papers present a remarkably large number of burials related to the royal families of the First Millennium BC. This time period in the Theban necropolis is traditionally associated with elite tombs, with the royal monuments often neglected. Research on the royal aspect of these sites provides a deeper perspective to the study of the elite tombs of the period.

The papers on the elite tombs of the Theban necropolis address a variety of aspects of work in this group of monuments such as archaeology, conservation, epigraphy, and burial assemblages, as well as relevant issues as archaism and innovations of the decoration and interconnections between the tombs of different parts of the necropolis. The areas of archaeology and conservation of the necropolis are presented by the papers of the Director of the SACP Elena Pischikova, and its leading conservator Abdelrazk Mohamed Ali. These papers give a summary of the re-discovery, excavation, conservation, reconstruction, and mapping work done in the tombs of Karakhamun (TT 223) and Karabasken (TT 391) over a period of eight years, with emphasis on the 2012 and 2013 seasons. This section is complemented by a paper on the fieldwork in another “forgotten” tomb of the South Asasif necropolis, Ramose (TT 132), by Christian Greco. The archaeological work in the South Asasif necropolis has resulted in the uncovering and reconstruction of a large amount of new architectural, epigraphic, and artistic information, some of which is presented in this volume for the first time.

The new project in the tomb of Montuemhat (TT 34), undertaken by Louise Gestermann and Farouk Gomaà, is another invaluable piece of information which, together with the work of Greco in the tomb of Ramose, and Molinero Polo in the tomb of Karakhamun, modifies our understanding of Kushite and early Saite burial compartments and their semantics within the tomb complex. The paper on the Twenty-fifth to Twenty-sixth Dynasty tombs of el-Khokha by Gábor Schreiber widens our perception of the geographic disbursement of Kushite tombs in the Theban necropolis. The amount of intrusive Twenty-fifth Dynasty burials within the primarily New Kingdom site of el-Khokha gives confidence that we may expect similar results from the numerous Qurna missions. Special attention paid to such intrusive burials in different areas may build a solid basis for our better understanding of Kushite presence and activities in Thebes in the future.

The epigraphical studies of Kenneth Griffin, Miguel Molinero Polo, and Erhart Graefe within the tomb of Karakhamun, and Isabelle Régen in the tomb of Padiamenope, concern the reflection of tradition and innova-

tions in the texts of the Book of the Dead, the Amduat, the Book of the Gates, and the Ritual of the Hours of the Day, as well as their new architectural and contextual environment. The comparative research of these texts in different tombs will eventually lead to a better understanding of the reasons for selections of certain traditional texts, reasons for their adjustments, as well as their interpretations in the new contexts of temple tombs of the period.

Although Kushite and Saite tombs demonstrate a rich variety of architectural, textual, and decorative material they are all interconnected by certain aspects and concepts. The next group of papers by Silvia Einaudi, Filip Coppens, Robert Morkot, Aleksandra Hallmann, and Carola Koch concern such aspects, relevant to most of the monuments. Silvia Einaudi raises the incredibly important question of interconnections and inter-influences between the tombs of the Theban necropolis, origins of certain patterns and traditions within the necropolis, and their transmissions from tomb to tomb. Filip Coppens and Aleksandra Hallmann concentrate on smaller elements of the tomb complexes, such as a piece of garment or a single architectural feature, to track it within a group of monuments. Thus, Coppens traces similarities and differences in the Sun Court decoration in different tombs, its connection with the temple concept, and discusses its symbolic and ritual meaning in temple tombs. Robert Morkot discusses the sources and chronological developments of archaism in royal and elite monuments. Carola Koch addresses the Saite approach to Kushite monuments by re-examining the phenomenon of the erasure of Kushite names during the Twenty-sixth Dynasty.

A large group of papers on the burial assemblages and other finds in elite tombs enrich and expand the discussion of the burial complexes of the First Millennium BC. Eltayeb Abbas, Simone Musso and Simone Petacchi, Cynthia Sheikholeslami, and Alessia Amenta discuss the issues of construction techniques, workshops, and iconography of coffin decoration and its ritual meaning. Julia Budka and Salima Ikram discuss finds in the tomb of Karakhamun. Budka analyses Kushite pottery found in the burial compartment and its usage in a Twenty-fifth Dynasty temple tomb, while Ikram remarks on the faunal material from the First Pillared Hall. Kate Gosford broadens the boundaries of the discussion with some burial assemblages from Saqqara.

The last section of the volume is dedicated to the new archaeological research at Karnak presented by Nadia Licitra, Christophe Thiers, Pierre Zignani, Laurent Coulon, Aurélia Masson, Stéphanie Boulet, and Catherine Defernez. Their papers concern different areas of the temple complex such as the temple of Ptah, the Treasury of Shabaqo, the “palace”

of the God's Wife Ankhnesneferibre in Naga Malgata, and offering magazines as well as the new evidence of ceramic production at Karnak in the chapel of Osiris Wennefer. Another Karnak paper introduces a new technology, with Elizabeth Froid and Kathryn Howley describing the use of Reflectance Transformation Imaging (RTI) as a means of studying graffiti at the site.

Most of the information included into this volume is being published for the first time. We feel that the research presented here brings together a range of current studies on royal and elite monuments of the period, putting them into a wider context and filling some gaps in First Millennium BC scholarship. This time period is still one of the least researched and published area of study in Egyptology despite the numerous recent developments in field exploration and research. The present volume offers a discussion of the First Millennium BC monuments and sites in all their complexity. Such aspects of research as tomb and temple architecture, epigraphy, artistic styles, iconography, palaeography, local workshops, and burial assemblages collected in this publication give a new perspective to the future exploration of these aspects and topics. We hope that the present volume will inspire new comparative studies on the topics discussed and bring First Millennium BC scholarship to a new level.

ACKNOWLEDGEMENTS

We would like to thank the Minister of Antiquities Mohamed Ibrahim and the Ministry of State for Antiquities for their support in organising the conference “Thebes in the First Millennium BC” in Luxor in October 2012 and permission to work in the South Asasif necropolis. We are grateful for the support our Egyptian-American team, the South Asasif Conservation Project, has received over the years from Dr. Mohamed Ismail Khaled, Director of the Department of Foreign Missions MSA, Dr. Mansour Boraik, Director General of Luxor Antiquities until 2013; Ibrahim Soliman, Director of Luxor Antiquities; Dr. Mohamed Abd el Aziz, General Director for the West Bank of Luxor; Fathy Yassen Abd el Kerim, Director of the Middle Area; Ramadan Ahmed Ali, Chief Inspector of the Middle Area; Ahmed Ali Hussein Ali, SCA Chief Conservator and Director of the Conservation Department of Upper Egypt; Afaf Fathalla, General Director of the Conservation Department of Upper Egypt; the MSA conservation team; and all our team members and volunteers. We are very grateful to our sponsors, IKG Cultural Resources, directed by Anthony Browder (USA), and the South Asasif Conservation Trust, directed by John Billman (UK). Without all this help and support we would not have been able to accomplish the field work and research included in the present volume.

Special thanks to the participants of the conference, particularly to our Luxor colleagues Nadia Licitra, Christophe Thiers, Pierre Zignani, Laurent Coulon, Claude Traunecker, Isabelle Régen, Louise Gestermann, and Farouk Gomaà who showed their sites to the participants.

CHAPTER TWENTY-FOUR

THE VATICAN COFFIN PROJECT

ALESSIA AMENTA
Vatican Museums

Abstract: The *Vatican Coffin Project*, an international team project, was set up in 2008 by the Egyptian Department of the Vatican Museums. The project is concerned with the polychrome coffins of the Third Intermediate Period. Its first goal is the study of the construction techniques of these coffins, and the second, the identification of any “workshop”. The first coffins to be studied for the project were those from the cachette of Bab el-Gasus, primarily because they represent a coherent corpus for dating, provenance, and commissioning. The first results of the analyses concerning the painting techniques are presented here.

In 2008 the Egyptian Department of the Vatican Museums set up the *Vatican Coffin Project* in collaboration with the Diagnostic Laboratory for Conservation and Restoration of the Vatican Museums.¹ The *Vatican Coffin Project* is concerned with polychrome coffins of the Third Intermediate Period.² At the moment the following people and institutions are participating in the Project:

- Giovanna Prestipino, restorer
- Victoria Asensi Amorós, xylologist
- Rijksmuseum van Oudheden in Leiden (The Netherlands)³
- Musée du Louvre in Paris (France)⁴
- Kathlyn M. Cooney⁵

¹ The Laboratory is directed by Ulderico Santamaria together with his assistant Fabio Morresi.

² The Vatican coffins have already been published as a catalogue in Gasse 1996. See also Niwiński 1988, nrs. 400–405; PM I/2², 640. As additional bibliography, see also: Gasse 1998 for coffin inv. 25035; Bongrani, Haikal, and Nolli 1978; Corona 1979 for coffin inv. 38073 (ex 22954); Marucchi 1928 for coffins inv. 25021 and inv. 25005; Marucchi 1915; Capart 1941 for coffin inv. 25008; Heyne 1998 for coffin inv. 25021; van Walsem 2000; Cooney 2007; Cooney 2011 for coffin inv. D2066.

³ A partnership agreement for the *Vatican Coffin Project* was signed between the Vatican Museums and the Rijksmuseum van Oudheden in Leiden in 2011.

⁴ A partnership agreement for the *Vatican Coffin Project* was signed between the Vatican Museums and the Musée du Louvre (Paris) in 2012.

The Project has as its first goal the study of the coffin construction techniques and, as a consequence, identification of modern interventions. The intention is to develop a database containing the data of the coffin construction techniques. The second goal is the identification of any “workshop”. This sort of conclusion will also need to be supported by studies of coffin iconography and texts. The objective of the analyses of this project is carried out by the Diagnostic Laboratory of the Vatican Museums. This includes image analyses, spot analyses without sampling, and sample spot analyses.

Image Analyses⁶

- a) Visible light⁷
- b) Ultra-violet fluorescent light
- c) False colour ultra-violet fluorescent light
- d) Infra-red in black and white at various spectrum wavelengths (650, 780, 850,900, 1000 nm)
- e) Infra-red false colour (650, 780 nm)
- f) Luminescence with monochrome led illumination
- g) Digital radiography
- h) Structured light 3D scanning⁸
- i) Colourmetric measurements

⁵ For the re-use of the coffins of the Twenty-first Dynasty.

⁶ An image of the coffin is obtained with different photographic exposures taken in different fields of the electromagnetic spectrum. The photographs thus obtained are later developed and mounted so as to obtain a complete image of the object (photo stitching).

⁷ The technique known as photo stitching was used for this. Generally, about 20 shots are needed to achieve a complete view of the exterior of the coffin case, about 20 more for the vertical sides inside the case, and about 10 for the bottom of the case. The lid, which has a large relief, needs more, up to about 40 shots.

⁸ 3D scanning allows not only the virtual study of the object, but also three-dimensional multi-spectral study. The images already acquired from different image analyses can be superimposed on the “mathematical file”.

Spot Analyses without Sampling

- j) Infra-red spectroscopy (FT-IR)
- k) Raman spectroscopy IR
- l) Spectroscopy NMR
- m) X-ray fluorescence spectroscopy (XRF)

Sample Spot Analyses⁹

- n) Micro-graphic analysis of cross-section
- o) Thin section petrography
- p) Chemical and morphological analysis SEM-EDS and μ XRF
- q) Fourier transform infra-red spectroscopy (FT-IR) equipped with ATR and 3D mapping
- r) Raman spectroscopy IR
- s) X-ray scattering (XRD)
- t) Chromatographic analyses GC-MS and HPLC
- u) Micrographic wood analysis¹⁰

The objective is in continuous evolution and experimentation, and moves with the latest technologies applied to cultural heritage. It will continue to be further updated. This objective is shared by all those who are participating in the project, with the aim of speaking a single language and arriving at a common database.

For the Vatican collection the analyses are carried out by the Diagnostic Laboratory of the Vatican Museums. The coffins in Leiden are analysed both by Rijksdienst voor culturele erfgoed in Amsterdam (RCE) and the Diagnostic Laboratory of the Vatican Museums. Furthermore, for the collection of the Louvre it is the Centre de Recherche et de Restauration des Musées de France in Paris (C2RMF) that is dealing with the scientific imaging and analyses, particularly Sandrine Pagès-Camagna, a chemical engineer.

⁹ All the samples taken from the coffins must be accompanied by the sampling point photograph together with a brief description of the purpose of the analysis. This information should be put into the 3D “mathematical file” so as to give the point a geo-reference.

¹⁰ The micrographic wood analyses are carried out by Victoria Asensi Amoros.

The first coffins to be studied for the project were those from the cachette of Bab el-Gasus, because they represent a coherent corpus for dating, provenance, and commissioning. Lot 17 of the cachette was destined for the Vatican, and it arrived at the museum in August 1894 in four crates.¹¹ The crates were first opened in October 1894 to reveal four coffins, three mummy boards, together with other objects that were all inventoried.¹² The coffins arrived in very poor condition and were restored immediately.¹³ They were then displayed in the Museum until the end of 1895.¹⁴

The scientific investigations carried out for the study of coffin construction techniques and painting techniques of Lot 17 are now concluded.¹⁵ There are many unanswered questions concerning these topics. Where were the coffin workshops?¹⁶ Were there different workshops? Did each workshop have regular customers? Who chose the texts and the iconography? Was there a master painter? Who was responsible for the materials used, such as the pigments for the colours and the varnishes? How did they get supplies? Is it possible to identify certain pigments with certain workshops (e.g. Egyptian blue)? Is it possible to attribute a certain painting technique with a certain workshop? What about the varnish? What was its value and consistence? Was the production of coffins still a sequential production as in the Ramesside Period?¹⁷

¹¹ Three crates each contained one box, one lid, and one mummy board. The fourth crate contained one box, one lid and 49 shabtis.

¹² The inventory numbers of the coffins are: 25015, box and lid of Takhybiat (Gasse 10–11); 25035, box, lid, and mummy board of Ikhy (Gasse 7–9); 25016, box and lid (Gasse 12–13); 51515, lid (Gasse 15); 25021, box; 25020, mummy board (Gasse 16); 25022, mummy board (Gasse 17).

¹³ The restoration was performed by the artist Enrico Pennelli.

¹⁴ The then director of the Vatican Egyptian Museum Orazio Marucchi, in a paper presented to the Accademia Pontificia Romana di Archeologia on 30 January 1896, announced officially that the coffins from the cachette had been displayed immediately following careful restoration, cf. *L'Osservatore Romano*, Wednesday 12–Thursday 13 February 1896, 2.

¹⁵ To these are added those carried out on the coffin of Djedmut, inv. 25008 (Gasse 1–2). Thus the restoration campaign for these coffins was begun, thanks to which we will also be able to deepen our understanding of the conservation history of these objects and as a consequence the techniques used in previous restorations.

¹⁶ van Walsem (1997, 366–367, and n. 1371) suggests both the East Bank of Thebes, in the area of the Karnak complex (the House of Life), and the West Bank, in the complex of Medinet Habu.

¹⁷ See Cooney 2007, 159: “Each man seems to perform his speciality, often exchanging craftwork for craftwork, from artisan to artisan, until the object was

After the first investigations on the Vatican Egyptian coffins, what most impressed the Vatican Diagnostic Laboratory were the similarities between Egyptian painting on the coffins and medieval panel painting.¹⁸ The painting stratigraphy of an Egyptian coffin corresponds perfectly to the stratigraphy of a medieval panel painting, as described by the painter Cennino Cennini.¹⁹ From Cennini's time the oral tradition of the workshops became written memory.

In this first phase of the *Vatican Coffin Project* the coffins have been intended as works of art painted on wooden panels, the most ancient example of panel paintings in the West. Furthermore, in the same way as panel paintings are examined, we intend to look at the “yellow coffins” from Bab el-Gasus as follows:

1. Wooden support (identification of wood species, coffin technology construction, marouflage/“incamottatura”)
2. Ground layer
3. Colour (background colour, underlying drawing, pigments, and binding media)
4. Varnish

We are pleased to be able to say that, notwithstanding the fact that we are dealing with general conclusions, we are also encountering peculiarities in some coffins or elements of coffins. Therefore, if it is possible to trace a consistent methodology, it is also possible to recognise specific aspects of individual workshops. The database on which we are working will allow a precise “typing” of these specific features, which will enable us to better understand exactly how the production of coffins in the region around Thebes was organised,²⁰ as it required many different specialists to be involved in the different stages.

It is not possible to say for certain whether or not there was serial production of coffins and other funerary goods. Cooney defines an “open market” of goods produced without a prior commission, although this is

finished and ready for sale to the individual who commissioned the piece. This type of labour organisation is called sequential production”.

¹⁸ We plan to present the many arguments on this subject at a later date.

¹⁹ The fourteenth century Tuscan painter, Cennino Cennini, who was a contemporary of Giotto, wrote a *Treaty of Painting* and the text is a veritable photograph of the painting techniques of the period, cf. Cennini 2012.

²⁰ The Theban tradition as “southern tradition” runs parallel to a “northern tradition” for the whole Third Intermediate Period, even after the reunification of Egypt under the Twenty-sixth Dynasty kings. See Taylor 2009, 397–399.

much debated.²¹ There is interesting evidence, however, of the addition of decorative elements and inscriptions on top of the varnish. Among the Vatican coffins from Bab el-Gasus, for example, the name of Ikhy on the mummy board (inv. 25035.3.2) was added in Egyptian blue on top of the varnish. No trace of an earlier name has been found beneath the varnish and therefore the name was inserted into an empty space (figs. 24-1).



Fig. 24-1: The name of Ikhy in visible light, on the left, and in false-colour infrared light, on the right (© Vatican Museums).

Returning to the stratigraphy of a coffin, we examined the four points listed above.²² The painting technique used is referred to as tempera.

1) As for the wooden structure, analyses of the wood and construction techniques of these coffins will be published shortly by Victoria Asensi Amorós and Giovanna Prestipino respectively.²³ The woods used for the long planks are usually *Ficus sycomorus L.* or, less often, *Acacia nilotica*, and in a single case, *Faidherbia/Acacia albida*. The dowels and tenons are generally made from *Tamarix* type *tetragyna*, or, less frequently, *Acacia nilotica*.

A large number of techniques have been identified for the construction of “yellow coffins”, of both the box and the lid, as well as the mummy board. The construction of the feet of the outer coffin, in particular, present many different variations in construction and can be considered to be

²¹ Cooney 2007, 172–175.

²² There is no space to present all the detailed results here.

²³ In the forthcoming proceedings of the *First Vatican Coffin Conference, Vatican Museums, 19–22 June 2013*, eds. Alessia Amenta, Christian Greco, and Hélène Guichard. Vatican: Edizioni Musei Vaticani, Città del Vaticano.

one of the most interesting “typing” for the identification of individual workshops.

2) Two ground layers have generally been applied to the “yellow coffins” of Lot 17.

“Ground layer 1” was applied to the wood by hand. This plaster is made up of clay mixed with fragments of stone and, sometimes, wood fibres. It is a heterogeneous paste, held together by a mixture of plant gums, a very weak binding medium that is neither adhesive nor cohesive.

“Ground layer 2” is finer and applied with a brush as a viscous liquid. The residues of this viscous ground layer are clearly visible on Vatican lid inv. 25016, with proof also that the layer was applied when the lid was in a horizontal position (fig. 24-2). It is more compact and more resistant than the first layer, and it is white calcium carbonate. The binding medium is the same as that of “ground layer 1”.



Fig. 24-2: Residues of the viscous ground layer well visible in the back of the lid inv. 25016 (© Vatican Museums).

An interesting example is that of the mummy board of Ikhy (inv. 25035.3.2) which reveals two ground layers, one above the other, made of the same composition of “ground layer 1”. The upper layer shows a much finer grain. In some areas there is also a third layer, of similar composition, which has been used to model for example the abdomen (fig. 24-3). This mummy board, however, did not have the calcium carbonate layer that gave such particular hardness and compactness to the supporting wood. This itself is the probable reason for the poor condition of the object.



Fig. 24-3: three different ground layers are clearly visible on the mummy board of Ikhy (© Vatican Museums).

After the construction of the coffin wooden joints were sometimes strengthened with canvas, which is sometimes visible through fissures, as in the case of the mummy board fracture of Ikhy (inv. 25035.3.2). It is likely that an adhesive was applied to fix the canvas to the wood, but this is not easy to identify. This material, which has been identified as linen, is to be defined *marouflage/incamottatura*.²⁴ Linen was also sometimes in-

²⁴ Fastening linen or canvas on the wood, beneath the ground layer and the paint layers, is a custom that dates back at least to the Middle Kingdom. This technique was widely practised in medieval times, which slowly disappeared during the sixteenth century.

cluded beneath or within the ground layer. This technique protected the painting from the natural movement of the wood. (fig. 24-4)



Fig. 24-4: “Incamottatura” is clearly visible beneath the ground layer (© Vatican Museums).

3) A layer of yellow colour was then applied over the “ground layer 2”, to provide a background for all the decoration and the anatomical details. The pigments used for this yellow colour were found to be yellow ochre and/or orpiment, spread either as a single layer, or in two layers one above the other, or otherwise mixed. We do not believe that this yellow layer is a sort of “secondary ground layer” as described by Stein and Lacovara.²⁵ We believe that this yellow background layer can be compared with the gilding of medieval panel paintings. The use of a gold background in medieval painting was done to create a vision that rose above the earthly world. In the same way, in the pharaonic age, this golden yellow background had an important symbolism. It identified the deceased with the solar light, symbol of eternal regeneration, and metaphor of transfiguration into a divine being.

Over this yellow background the decorative composition of the coffin would have then been portioned out using horizontal and vertical lines. All the decorative elements were outlined with a soft red line in red ochre.

²⁵ Stein and Lacovara 2010, 6.

Sometimes this red line is gone over again with a blue or black line. When the preliminary drawing had been completed, the relief mouldings were placed directly onto the yellow background. The reliefs were formed of white stucco, similar to that used for “ground layer 2”, but more dense, in order to obtain a firmer ground layer. A protein-containing binder, casein, has been found, one that assures greater hardness and resistance than a resin or gum binder.

4) The table below includes the palette of colours found on the coffins so far analysed.²⁶ For reasons of space the details of each pigment cannot be included here, but one of the interesting features resulting from the *Vatican Coffin Project* is the investigation into Egyptian blue. The research is continuing with analyses of crystals from many different microsamples. We are trying to understand whether or not it might be possible from these analyses to identify the products of different workshops although this work is still in progress.

Colour	Chemical Compound	Pigment
Yellow ²⁷	Yellow ochre (clay and silica, coloured by various hydrated forms of iron oxide) Orpiment (arsenic sulphide)	1) Orpiment 2) Yellow ochre 3) Layer 1: yellow ochre Layer 2: orpiment 4) mixture of yellow ochre with orpiment 5) Layer 1: mixture of yellow ochre, with calcite and huntite Later 2: orpiment
Blue ²⁸	Egyptian blue (cuprorivaite with wollastonite, silica glass)	1) Egyptian blue
Light blue ²⁹	Egyptian blue mixed with calcite (calcium carbonate)	1) Grinding of Egyptian blue

²⁶ The results of analyses by Sandrine Pagès-Camagna and Hélène Guichard on Egyptian pigments in French collections are most interesting, cf. Pagès-Camagna and Guichard 2010. See also Scott 2010. For comparison with the palette of colours of coffins from the Ramesside Period, see Cooney 2007, 213–218, 397–484.

²⁷ 1) inv. 25020/4; 2) inv. 25035.2/7, 11; 3) inv. 25020/6, 7; inv. 25022/2,3; 4) inv. 5035.3.3/1, 10, 11; inv. 25016.2.1-2/11; inv. 25008.2.1-2/3,4,5,7,11; inv. 51515/10, 13; 5) inv. 25035.3.1/3, 4.

²⁸ 1) inv. 25020/1,5; 25022/1,10; inv. 25035.3.1 and 25035.3.3,2,5,7; inv. 25035.3.2/3,4; inv. 51515/17; inv. 25016.2.1-2/15; inv. 25008.2.1 /2,3,10.

	Huntite (magnesium calcium carbonate)	2) Layer 1: huntite Layer 2: Egyptian blue 3) Mixture of Egyptian blue with calcite
White ³⁰	Calcite (calcium carbonate) Huntite (magnesium calcium carbonate)	1) Mixture of calcite with huntite 2) Huntite
Green ³¹	Paratacamite (basic copper chloride) Moolooite (hydrated copper oxalate) Calcite (calcium carbonate)	1) Mixture of paratacamite with calcite 2) Mixture of paratacamite, moolooite, calcite 3) Mixture of paratacamite, calcite, huntite
Red ³²	Red ochre (clay and silica, coloured by anhydrous iron oxide) Realgar (arsenic sulphide) Haematite (anhydrous iron oxide)	1) Red ochre 2) Realgar 3) Mixture of haematite with black charcoal 4) Mixture of red ochre with realgar
Black ³³	Black charcoal	1) Black charcoal
Pink ³⁴	Red ochre (clay and silica, coloured by anhydrous iron oxide)	1) Mixture of red ochre with huntite

5) The “yellow coffins” are varnished over the colour, but the application of the varnish seems not to have been homogenous, with more layers in some places. All the varnish samples analysed have been identified as mastic (*Pistacia* resin). It was never applied over white pigments and usually not over the blue of the wig, as clearly visible in UV images.³⁵ The

²⁹ 1) inv. 25020/8; 2) inv. 25022/8; inv. 25035.3.2/5; inv. 25035.3.1/11; 3) inv. 51515/16.

³⁰ 1) inv. 25022/6; 2) inv. 25035.3.3/6; inv. 25016.2.1-2/5; inv. 25008.2.1/6; inv. 25008.2.2/12.

³¹ 1) inv. 25022/4; inv. 25035.3.1/2,5; inv. 25035.3.2/2,6; inv. 51515/13; 2) inv. 25035.3.3/10; 3) inv. 25008.2.1/6.

³² 1) inv. 25020/3; inv. 25022/2; inv. 25035.3.1/1; inv. 51515/14,15; inv. 25016.2.1-2/3,6; inv. 25008.2.1-2/5,8,10,11; 2) inv. 25016.2.1/4; 3) inv. 25016.2.2/9; 4) inv. 25035.3.2/1.

³³ 1) inv. 25022/7; inv. 25035.3.1/1,5; inv. 25008.2.1/2.

³⁴ 1) inv. 25008.2.2/13.

³⁵ It is difficult, however, to know if this lack of resin on the wig is not evidence of later restoration. The face is certainly the feature that has undergone the most

varnish was applied all over the outer surface of the coffin and on some specific parts of the inner surface of the box. We are hoping to get some information from these selected varnished elements, if any.

The yellow colour of the varnish is due in the first place to the more or less brilliant yellow background of the decoration. One very interesting finding is the discovery of some yellow pigment (yellow ochre and orpiment) in the varnish of the samples of one Leiden coffin (F93/10.2a). The varnish of the coffin of Tanetshedmut, Chantress of Amun during the Twenty-first Dynasty, in the Musée du Louvre, is also mixed with orpiment.³⁶ The pigmented varnish was intended to give the coffin a better gilded effect. More often the varnish is originally transparent, as confirmed by the carelessness with which it was applied, as is clearly visible in UV images.³⁷ This carelessness would seem to also indicate that we are not dealing with an aesthetically perfect finish, but rather with giving a magical and religious significance to the object. The purpose of the varnish is, therefore, symbolic rather than aesthetic. We can imagine in the darkness of the funeral chamber, during the funeral or during the burial, what visions the torchlight reflected on the yellow-gold surface could produce. Assmann has suggested a close connection between the nocturnal rites and recitations of the wake and the decoration of Egyptian coffins.³⁸

At this point we should also think of the technique of the varnishing of a panel painting. In writing about the varnishing of panels, Cennino Cennini noted that: 1) the panel painting must be fully dry before the varnishing can commence; 2) both the panel and the varnish must be warmed in the sun; 3) the varnish should be applied by hand or with a sponge; 4) the panel painting must be left to dry in the sun.

Varnishing was the most delicate part of the whole process. It had to be carried out in a place free from draughts that might carry dust. Where in ancient Egypt could such an environment be found? What better place could there be than the funerary chamber or the Place of Embalming during the wake.

interventions during the period from the late nineteenth to the early twentieth century, when artists were employed to make the exhibits “more beautiful”.

³⁶ The restoration and study of this coffin will be published by Guichard, Pagès-Camagna, and Timbart in the proceedings of the *First Vatican Coffin Conference, Vatican Museums, 19–22 June 2013*, eds. Alessia Amenta, Christian Greco, and Hélène Guichard. Vatican: Edizioni Musei Vaticani, Città del Vaticano.

³⁷ Serpico and White (2001, 36) also confirm the messy application of varnish on objects of the New Kingdom, because the purpose was not an aesthetic one.

³⁸ Assmann 2005, 269–270.

The coffin was also the subject of rituals,³⁹ being activated for eternity, as is possibly confirmed by one of the abnormalities encountered in the varnishing technique. Many outer coffin boxes have been found without varnish in the head area, as is clearly visible to the naked eye and as has later been confirmed with corresponding UV images (fig. 24-5). Surely an oversight on the part of the craftsman/ritualist(?), who was at first varnishing the two long sides when the box was in a vertical position.⁴⁰ The varnishing could have marked the high point of the ritual: the deceased who is reborn in the light of the sun inside the coffin. The gilded splendour of the varnish would have symbolised rebirth through the light of the sun. In the funerary rituals of the New Kingdom one of the most important moments was the contact with sunlight: the erection of solar stelae in front of the tomb and the erection of the mummy at the entrance to the tomb.⁴¹ The vertical position was that required during the exposure. The varnishing could therefore be seen as that moment in the funeral rites when the mummy within the inner coffin was born to eternal life by being placed in the outer coffin, probably within the funeral chamber.⁴² The yellow/gold varnishing inside the tomb substituted for the solar light outside.

The yellow/gold colour of these Twenty-first Dynasty coffins, as analysed in this first phase of the *Vatican Coffin Project*, relates to the cult of sun worship in the New Kingdom, which is also confirmed by findings of “yellow coffins” as early as the first half of Eighteenth Dynasty.⁴³ The new typology of coffins, which appeared during the reigns of Sheshonq I and Osorkon I, and the sudden end of the production of “yellow coffins” would seem to suggest the fact that a new style was imported in its fully developed form. Additionally, that there was also a new concept concerning the value of the coffin, one that is essential to investigate further.⁴⁴ Major advances have been made in this direction in recent years, in particular on internal textual dating criteria (palaeography and orthography) and

³⁹ See, for example, Abbas in this volume.

⁴⁰ The vertical position of the lid during the varnishing is also confirmed by Singleton (2003, 84–85), who studied two lids in the British Museum.

⁴¹ Placing the deceased or a statue of the deceased in the light of the sun is an ancient rite dating back to the Pyramid Texts, which can be traced right through to the “Union with the Disc” in the Late Period. cf. Assmann 2005, 310–329.

⁴² Niwiński (1988, 63, § 58) and Goyon (1972, 97) maintain that the Ritual of the Opening of the Mouth could be performed not only on the mummy, but also on the coffin.

⁴³ Dodson (2000) has published the “yellow coffin” of Teti (Brooklyn Museum 37.15E), which is dated to the reign of Amenhotep III and comes from Deir el-Medina. For the symbolism of the “yellow coffins”, see Taylor 2001, 169–171.

⁴⁴ van Walsem 1997, 349–375; Taylor 2009, 375–377.

on general similarities of design, colouring, and iconography.⁴⁵ Taylor has added a later distinctive element, “the cultural and ethnic partition of the land in these centuries of Libyan rule, a ‘north-south’ divide”.⁴⁶



Fig. 24-5: UV image of the head area of the box inv. 25016.2.2
(© Vatican Museums).

In conclusion, there appear to be numerous objective difficulties before we are able to arrive at a certain typology for the coffins of the Third Intermediate Period, and there are many gaps in the archaeological data for understanding the whole process from construction to decoration and the final consecration during the funerary rituals. As far as the “yellow coffins” are concerned, an important role was played by the re-use of cof-

⁴⁵ Taylor 2003, 102–103.

⁴⁶ Taylor 2009.

fins during the Twenty-first Dynasty and the frequent difficulty found in reconstructing the ensemble (inner box, outer box, and mummy board), which is important in itself and not just as many distinct components. The *Vatican Coffin Project* is part of this debate arguing how the construction and painting/decorative techniques are also functional elements in creating a typology.

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