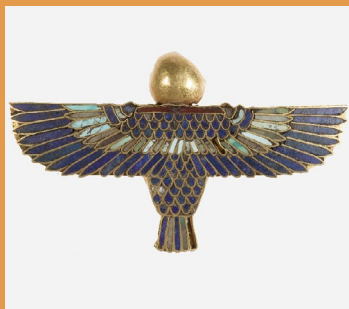




Royal Academy for
Overseas Sciences



International Conference

Minerals in Ancient Egypt, from Naqada to Alexandria



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October 3-4, 2022

Palace of the Academies,
Hertogsstraat - 1 - Rue Ducale, Brussels (Belgium)

Programme & Abstract Book



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PROGRAMME

DAY I

- 9.00 Welcome and opening speech by Pr. Dr Philippe DE MAEYER, Permanent Secretary of the Royal Academy for Overseas Sciences, and Dr Thierry DE PUTTER, Member of the Academy and Convenor of the Conference.
- 9.30 - 10.30 **KEYNOTE LECTURE**
MORENO-GARCIA Juan Carlos (École des Hautes Études en Sciences Sociales, Paris)
In search of coveted goods: Minerals and trade in ancient Egypt
- 10.30 - 11.00 **Re-examining the Implications of Lapis-Lazuli in Egypt's Predynastic Period**
GREINER Thomas (University of Toronto)
- 11.00 - 11.30 *Coffee break*
- 11.30 - 12.00 **Copper in the Old and Middle Kingdoms: What we know and what we do not**
ODLER Martin (Charles University, Prague) & KMOŠEK Jiří (Institute of Science and Technology in Art, Academy of Fine Arts Vienna; Nuclear Physics Institute, Academy of Sciences of the Czech Republic, Řež)
- 12.00 - 12.30 **Malachite exploitation and desert tracks in the Wadi Araba (Eastern Desert, Egypt)**
TRISTANT Yann (Katholieke Universiteit Leuven)
- 12.30 - 14.00 *Lunch*
- 14.00 - 14.30 **Quarrying calcite alabaster at Hatnub in the third millennium**
GOURDON Yannis (Université Lyon Lumière 2)
- 14.30 - 15.00 **Researches on Quartzite quarries in Egypt**
GALAZZO Daniela (Université Paris-Sorbonne)
- 15.00 - 15.30 **Self-presentation & symbolism: An epigraphic journey from Wadi Barramiya to Wadi Hammamat**
MOREL Vincent (Yale University)
- 15.30 - 16.00 *Coffee break*
- 16.00 - 16.30 **Invisible people. Small-size limestone statuary at the beginning of the New Kingdom**
DELVAUX Luc (Musée Royal d'Art et d'Histoire, Bruxelles)
- 16.30 - 17.00 **"Tears of the gods". Some fundamental remarks on the ancient Egyptian world of minerals**
BAUMANN Stefan (Universität Trier)
- 17.00 - 17.30 *Poster session*
- 17.30 *Cocktail for all participants*

DAY II

09.00 - 09.45

KEYNOTE LECTURE

NENNA Marie-Dominique (Centre d'Études Alexandrines)

Egyptian glass production and trade between the seventh century BC and the ninth century AD

09.45 - 10.30

KEYNOTE LECTURE

FAUCHER Thomas (Centre d'études Alexandrines)

Gold mining in Ptolemaic Egypt

10.30 - 11.00

Stones for the Locals – Quarrying and Construction in Roman Egypt

HIRT Alfred Michael (University of Liverpool)

11.00 - 11.30

coffee break

11.30 - 12.00

Beryl extraction and trade in the Egyptian Eastern Desert: Recent data coming from archaeological work in the *Smaragdus*

OLLER GUZMAN Joán (Universitat Autònoma de Barcelona)

12.00 - 12.30

Reconsidering the role of precious and semi-precious stones in the so-called Indo-Roman trade

COBB Matthew Adam (University of Wales Trinity Saint David)

12.30 - 13.45

Lunch

13.45 - 14.15

Producing, trading, collecting sculptures at Alexandria during Late Antiquity: The case of Mehamara

PENSABENE Patrizio (Sapienza Università di Roma) & GASPARINI Eleonora (Università degli Studi della Campania "Luigi Vanvitelli")

14.15 - 14.45

Dieux éponymes et lieux de culte dans les carrières romaines: regards croisés entre les sites égyptiens et le reste de l'Empire

GATTO Federica (UCLouvain)

15:00

Guided tour exhibition Alexandria by Arnaud Quertinmont (Musée Royal de Mariemont), separated registration (will be managed by the organizers).

Abstract Book

Day I

In search of coveted goods: Minerals and trade in ancient Egypt

Moreno-Garcia Juan Carlos¹

KEYWORDS. — Ancient Egypt; Minerals; Mobile Populations; Royal Expeditions; Sahara; Sinai.

SUMMARY. — Located at one of the most important crossroads of the ancient world, the search of minerals was of paramount importance in pharaonic Egypt. An important craft sector produced luxury items that, in some cases, were exported to the Near East, like stone vessels. So, kings organized and dispatched expeditions in search of rare and semi-precious stones. In other cases, their efforts sought precious metals, which contributed to the legend that in Egypt “gold was more abundant than sand”. Pigments and other goods from the desert (like natron) helped experiment and develop new crafts, from glass making to dyeing. Finally, rare minerals imported from remote regions fuelled exchanges that involved collaboration with trading partners and mediators in the Near East and the Red Sea. That was the case of lapis lazuli and the Syrian kingdom of Ebla or obsidian and the land of Punt. However, these activities usually involved the participation of other actors and costly strategies to find and have access to alternative supply sources. The role of such actors remains somewhat downplayed in the official record, but archaeological as well as occasional textual evidence reveals that mobile populations crossed the deserts that surrounded the Nile Valley, extracted minerals as a complementary seasonal activity and carried them into Egypt in small caravans. Hence, far from the dominant role attributed to royal initiatives, it appears that many other actors supplied Egypt with considerable quantities of coveted minerals, not necessarily as subordinates but as partners, mediators and indispensable collaborators. The elaborated rituals that celebrated their cooperation show striking similarities with other areas of the ancient world, while their shared interests with Egyptian authorities promoted alliances that influenced the politics of their time, both in the Nile Valley and in neighbouring areas.

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Re-examining the Implications of Lapis-Lazuli in Egypt's Predynastic Period

Greiner Thomas H.^{1*}

KEYWORDS. — Egyptology; Archaeological Data; North Africa (Egypt); Lapis-Lazuli; Trade.

SUMMARY. — In the early fourth millennium BC, contacts between Egypt and the southern Levant were confined mostly to the Nile Delta with imported finds in the Valley being very limited or virtually non-existent (Hartung, 2014). Beginning in the Naqada IIC period, however, the number of foreign objects found in Upper Egyptian contexts increases dramatically, demonstrated by the abundant finds of lapis-lazuli that are first attested around this time (Hendrickx and Bavay 2002, table 3.3). Since the ancient sources of lapis-lazuli (Afghanistan, Tajikistan, and Pakistan) are over 3,000 km to the east of Egypt, the stone is a major component for analyzing Egypt's contacts with the southern Levant as stated above. Thus, when exactly did lapis-lazuli occur first in Egypt? What does its distribution in Egypt reveal about contacts to the southern Levant and beyond?

A recent reexamination of archaeological contexts with lapis-lazuli discoveries produced several new insights which likely pushes its arrival in Egypt to several centuries prior to the Naqada IIC period. At Matmar, for example, grave 3094 may date to the Badarian period (*e.g.*, its place in the cemetery) and contains a string of beads tentatively identified as lapis-lazuli. Another tomb in the same region (grave 1218 at Mostagedda) stems from the same period and contains a lapis-lazuli disc bead. These contexts also contain material (*e.g.*, shells from the Red Sea as well as turquoise) that corroborates their place in the Badarian period.

Thus, in light of these finds of lapis-lazuli at Matmar and Mostagedda, to name some, our understanding of Egypt's foreign relations appears to be more complex, particularly with an eye to Upper Egypt, than previously thought.

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Copper in the Old and Middle Kingdoms: What we know and what we do not

Odler Martin^{1*} & Kmošek Jiří²

KEYWORDS. — Ancient Egypt; Copper; Old Kingdom; Middle Kingdom; Archaeometallurgy.

SUMMARY. — “Ancient” Egypt was rather late in the adoption of some technological and other novelties, we now understand based on radiocarbon chronology of the Ancient Near East. But among its few hard-won firsts can be counted the unification of a vast territory, creation of a territorial state, and a habit of weighing materials, especially metals.

Ancient Egyptians were in the forefront in the Old World facing the problem of supplying the whole area of their territorial state with everything that was necessary for the effective running of a Bronze Age economy. For the Early Dynastic Period, Old and Middle Kingdoms, we have available sources to uncover the movements of the metals around Egypt in this particular realm of their early state. But we need to move above the level of analyses of singular artefacts, and thus a framework is needed.

In this paper, I would like to define, in broad terms, what we already know on the *chaîne opératoire* of copper in the centralized territorial phases of the Egyptian history, before the wide-spread introduction of tin bronze in the New Kingdom / Late Bronze Age. I would like to propose a framework for dealing with these data, so that it is clear, what we could potentially understand with the right set of research questions.

The paper stems from my PhD research, aided by the long-term cooperation with Ing. Jiří Kmošek and associated researchers, focused on obtaining new batches of data on ancient Egyptian metalwork, with the use of current archaeometallurgical techniques. Egyptology cannot ignore the results of archaeometallurgical research, but it also cannot take them as undisputable facts. Both in the humanities and in the science, the interpretation of data matters. And this is also the reason, why we need an Egyptological framework for the incorporation of scientific data.

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Malachite exploitation and desert tracks in the Wadi Araba (Eastern Desert, Egypt)

Tristant Yann^{1*}

KEYWORDS. — Archaeologie; Malachite Exploitation; Desert Track; Egypt; Eastern Desert.

SUMMARY. — The survey of Wadi Araba (Eastern Desert of Egypt) conducted from 2008 to 2018 on behalf of the Institut français d'archéologie orientale led to the discovery of malachite mines exploited from the Old to the Middle Kingdom. A track regularly marked by stone cairns links malachite exploitation sites to various water sources in the region. This presentation focuses on the functioning of these sites in relation to the Egyptian Red Sea coastal sites and harbours known from the same periods.

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Quarrying calcite alabaster at Hatnub in the third millennium

Gourdon Yannis^{1*}

KEYWORDS. — Egyptology; Hatnub; calcite alabaster.

SUMMARY. — This paper aims to report, through the work carried out by the Franco-English mission in the Hatnub quarry P, how the ancient Egyptians extracted the Hatnub calcite alabaster in the 3rd millennium.

The richness and complementarity of the new textual and archaeological data discovered since 2012 in quarry P allow a better understanding of the technical and logistical means implemented to quarry calcite alabaster. They also show that this ancient site seems to have been profoundly reshaped during the 4th Dynasty, a period during which calcite alabaster saw an increased development of its use in hitherto unexploited domains, such as the great royal statuary or architecture.



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Researches on Quartzite quarries in Egypt

Galazzo Daniela^{1*}

KEYWORDS. — quarrying; stone working; roughed stone; pounders; Egypt

SUMMARY; — The following proposal is part of my unpublished PhD dissertation in Egyptology submitted in 2017.

Sedimentary quartzite is a sandstone made up of grains of sand well cemented by quartz and formed through various processes of lithification, compaction, cementation and recrystallization of sediments (sand, pebbles, etc.), all from the erosion of pre-existing siliceous rocks.

Quartzite is characterized also by its texture: it is one of the hardest rocks worked by Ancient Egyptians. The main extraction sites were: the Gebel el-Ahmar, in the north-eastern suburb of Cairo; the Gebel Tingar and Gebel Goulab, west of Elephantine Island, in Aswan; Wadi Abou Aggag, on the east bank of the Nile, a little north of Aswan.

Aswan quartzite presents layers more or less resistant and silicified, while the Gebel el-Ahmar rock is more impermeable to erosion. The degree of silicification, which determines the resistance of the stone, was a deciding factor in choosing a quarry.

Although these quarries began to be exploited as early as the Old Kingdom (2592-2118 BCE), they were mainly active between the New Kingdom (1539-1076 BCE) and the Roman period (30 BCE-395 CE). These quarries (for instance Gebel el-Ahmar) are today under threat because of urban expansion and modern extractions developing on their margins.

According to their use in Antiquity, the quarries can be divided into some main categories: those for prehistoric tools, for utility stones, for ornamental stones and, finally, for building materials.

Stone tools, particularly hammers (or “pounders”), were used for the extraction of hard stones such as quartzite.

The choice of the extraction site depends on several variables: a good quality of stone to be extracted; steep walls to be used as a “mass front” for the exploitation of usable rock beds; a location near the destination site and close to the Nile, in order to reduce problems of transportation.

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Self-presentation & symbolism: An epigraphic journey from Wadi Barramiya to Wadi Hammamat

Morel Vincent¹*

KEYWORDS. — Egyptology; Philology; Semiology; Landscape Archaeology; Eastern Desert.

SUMMARY. — Since the days of early explorers, a vast corpus of rock inscriptions from the Eastern Desert has been published, translated and more or less commented (e.g. Couyat & Montet 1912; Eichler 1993; Rothe, Rapp & Miller 2008). Yet, little has been said about them. Studied out of context, these hundreds of rock inscriptions have been analysed in the abstract for their referential data rather than interpreted as artefacts that played a meaningful role in the context of their desert location—in quarries and along ancient roads (e.g. Bloxam 2015, 2020). To escape this heuristic cul-de-sac, I will show how an original approach that associates spatial, visual and (inter)textual dimensions can tell us more about these engravings, and how one can address complex issues such as the intelligibility of these material, graphic and symbolic investments (the author's unpublished thesis). By integrating landscape archaeology and anthropology with semiology and philology, the lecture will move from the *micro* stories of given rock faces or specific desert places, to *macro* stories dealing with regional and inter-regional dynamics. Through case studies related to the notion of 'inscriptional device' (i.e. the strategy of displaying multiple inscriptions in one or more locations), the lecture will broach the questions of private self-presentation and quarrying symbolism to better understand the engravings' ancient contexts of elaboration. Rich are these desert spaces: linking several worlds travelled by the ancients, exploited and inhabited, they reveal remote graphic investments that beckon to be questioned.



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Invisible people. Small-size limestone statuary at the beginning of the New Kingdom

Delvaux Luc^{1*}

KEYWORDS. — Egyptian statuary; Limestone in art.

SUMMARY. — A small, unpublished female head from the collection of the Royal Museums of Art and History of Brussels (Inv. E.09135) is part of an abundant corpus of painted limestone statuettes of similar size and style (Delvaux & Derriks 2002).

This group of works presents several singularities: predominance of female representations, constancy of material and colours, frequent use of curved back plates, asymmetrical arrangement of inscriptions, homogenous clothes and wigs, flat, plain and regular faces, without indications of bone structure, etc. The modest sociological profile of the individuals depicted can be determined from the inscriptions on the statuettes.

These statuettes are the product of an artistic movement and of a Theban sculptor's workshop specialised in limestone, active from the beginning of the 18th Dynasty to the reign of Thutmose III. Its clientele is essentially made up of modest members of the Theban little bourgeoisie. According to their offering formulas addressed to the gods of the necropolis, these statuettes have a funerary character.

The research on this corpus has several objectives:

- to outline the characteristics of this production, and identify the sociological profile of the individuals represented, as well as the vocabulary through which they express their identity,
- to recontextualise these works within the Theban sacred landscape of the early New Kingdom,
- to appreciate the place of this production within the overall artistic activity of the Theban workshops in the early New Kingdom,
- to investigate its sources within the statuary currents that mark the end of the Second Intermediate Period at Thebes.

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“Tears of the gods”. Some fundamental remarks on the ancient Egyptian world of minerals

Baumann Stefan^{1*}

KEYWORDS. — Lexicography; Egyptian Temple Inscriptions.

SUMMARY. — Ancient Egyptian temples are monumental structures built of enduring stone, designed with the intention of honoring the gods for all eternity. The sheer amount of hieroglyphic texts placed on their walls – especially in the Greco-Roman period – echoes this theological function of the buildings on the written level. At the same time, these inscriptions form a rich ‘lithic library’, preserving and transmitting various branches of knowledge over millennia. For instance, temple inscriptions constitute an important source of information about Egyptian geography and mineralogy. In many temples there is even a specific chamber, the so-called treasury, dedicated to the world of minerals. Even though these texts are primarily concerned with cultic matters, they nonetheless provide valuable insight into how substances were systematically classified and ascribed with hierarchical value – practices that form the beginnings of scientific inquiry. Thus, they make up a hitherto completely neglected source on the history of mineralogy, which, according to traditional understanding, only begins with the Greek and Roman natural philosophers.

My paper will highlight temple inscriptions as important sources for the history of this scientific field and focus on the methodological difficulties involved in determining Egyptian mineral designations. Scholars in disciplines outside of Egyptian philology in particular, but also many Egyptologists themselves, run the great risk of a false conclusion due to their desire to make simple and unambiguous equations between Egyptian terms and common minerals.

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Day II

Egyptian glass production and trade between the seventh century BC and the ninth century AD

Nenna Marie-Dominique^{1*}

KEYWORDS. — Archaeology; Archaeometry; Glass; Egypt; Mediterranean.

SUMMARY. — Our understanding of Egyptian glass production and trade has greatly improved over the last thirty years, thanks to archaeological and archaeometrical studies. In this communication I address the issues of primary glass production in Egypt and trade between the seventh century BC and the ninth century AD. I draw on textual sources (literature and papyrology), studies of artefacts, archaeological discoveries of primary glass production centers coming from surveys and excavations in Mareotid, Wadi Natrun, Sinai and Middle Egypt, along with the development of our understanding of glass chemistry to try to define the major steps of the development of glass industry from a discreet and small scale production to a mass production, centered on local consumption on one side and on raw glass and luxury vessels for exports on the other. Four main phases can be distinguished with moments of technological changes and shifts in the modalities of trade and in the taste of the customers at the end of the third c. BC, at the end of the first c. AD, in mid fourth century AD and at the end of the sixth c. AD.

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Gold mining in Ptolemaic Egypt

Faucher Thomas^{1*}

KEYWORDS. — Archaeology; Gold; Mining; Ptolemies; Egypt.

SUMMARY. — Gold and the pyramids, two subjects that fascinate people about Ancient Egypt. If thousands of golden objects have been recovered from tombs and excavations, its mining and its places of extraction are less well known. We fortunately possess a description of the gold mining process delivered by Agatharchides of Cnidus. If the original text is lost, its use by Diodorus and Photius allows to reconstruct what could have been a gold mine in the second century BC, when the Ptolemies had the control over Egyptian land.

The excavations led on several sites of the Eastern desert of Egypt give the opportunity now to compare this text with the result of archaeological works, shedding new lights not only on the mining process itself but on the life of the workers processing the ore. Experimental archaeology helps to go further. First to understand better the process of extracting, grinding and washing the quartz to obtain the gold, but also, by means of elementary analyses, to provide insights on the production of gold, the origin of the metal, and the movements of the gold stocks during the Hellenistic period.

This presentation aims at presenting the latest archaeological results made by the French Archaeological mission of the Eastern Desert (MAFDO) in the gold mining districts of Samut and Ghozza, and to replace these data in the history of gold mining in Egypt, with a special focus on the Ptolemaic period, from Alexander until the death of Cleopatra.

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Stones for the Locals – Quarrying and Construction in Roman Egypt

Hirt Alfred Michael^{1*}

KEYWORDS. — Quarrying; Written Evidence; Roman Egypt; Local Supply and Demand.

SUMMARY. — This paper aims to provide an overview of the available written evidence on quarrying and construction with stone for local demand in Roman Egypt and is of relevance to economic historians and geologists interested in the broader historical context of the use of stones and minerals in antiquity. The documentary evidence from Roman Egypt ranges from papyri to graffiti and inscriptions in Latin and Greek (mostly) and includes texts referring to the provision and use of stone for construction projects in the Nile Valley. This not only raises questions of access to mineral resources in Roman Egypt and patterns of land ownership and possession, but also what types of stones were preferred and whether a geological nomenclature existed. Not all building material in stone was quarried afresh: papyri also evidence the re-use of stone elements (columns, architraves, capitals) for new projects.

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Beryl extraction and trade in the Egyptian Eastern Desert: Recent data coming from archaeological work in the *Smaragdos*

Oller Guzman Joan^{1*}

KEYWORDS. — Roman Egypt; beryl; Eastern Desert; Wadi Sikait; *Smaragdos*.

SUMMARY. — The *Smaragdos* region was well-known in ancient times as the only source for emeralds in the Roman Empire and several classical authors refer to it, such as Strabo (*Geog.* 17.1.45), Pliny the Elder (*HN* 37.17.65, 37.18.69), Claudius Ptolemy (*Geog.* 4.5.15.4), Olympiodorus (*FHN* 3.309), the fourth-century monk and bishop Epiphanius (*FHN* 3.305) and the sixth-century monk Cosmas Indicopleustes (*Christian Topography* 11.21). Rediscovered at the beginning of the 19th century by the French mineralogist F. Cailliaud, more recent archaeological work identified this region, *grosso modo*, with the current Wadi el Gemal National Park, in the Egyptian Eastern Desert. There, an extensive network of mining settlements was documented by a team directed by S. E. Sidebotham, from the University of Delaware [1]. This network shows the relevance of emeralds in Antiquity and the intensive extraction of this mineral.

In the Wadi el Gemal National Park area there are three main zones concentrating most of beryl sources: The Wadi Sikait – Wadi Nugrus zone, Gebel Zabara and Umm Kabu. All of them have evidence for ancient mining operations. However, from an archaeological point of view, the most relevant area is in the Wadi Sikait, where several mining settlements have been identified, including the most important ancient community in the region: the site of Sikait. The presence of such settlements, together with the extensive mining operations documented all along the wadi, promoted several archaeological interventions since the end of the 20th century. This work has been resumed by the Sikait Project since 2018 [2]. The main goal of this paper is to offer an insight about the first results of this recent work in the emerald mines of Wadi Sikait during the 2020, 2021 and 2022 seasons.

NOTES

- [1] For a recent summary about this archaeological work, see: Sidebotham, Gates-Foster & Rivard 2019.
- [2] Regarding the first results of the Sikait Project, see: Oller *et al.* 2019; Oller *et al.* 2021a; Oller *et al.* 2021b.

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Reconsidering the role of precious and semi-precious stones in the so-called Indo-Roman trade

Cobb Matthew Adam^{1*}

KEYWORDS. — Ancient History; Historical and Archaeological Analysis; Indian Ocean; Indo-Roman Trade Links.

SUMMARY. — Earlier scholarly discourse (18th to early 20th centuries) on the so-called Indo-Roman trade frequently framed this exchange as the flow of “luxuries” (gemstones, spices, textiles, etc.) westwards, and gold and silver eastwards (for an overview, see Cobb 2015). This included a retrojection of mercantilist anxieties onto the Roman world (De Romanis 2015). A shift took place during the latter 20th century, where some scholars viewed this trade as largely peripheral to the Roman (heavily agrarian) economy (Finley 1999 [1973]). But the last few decades have seen two further conceptual shifts. The first seeking to examine how Indian Ocean imports were embedded into Roman social practices (medicine, cuisine, funerary rituals, etc.) (Sidebotham 1986; Cobb 2013). The second has re-emphasized the importance of this exchange for the Roman economy, and its revenue potential for the Roman state (for example, Wilson 2015).

While this allows for a more holistic understanding of the socio-economic and cultural impacts of the trade, this new analytical framework could be said to privilege the discussion of commodities like spices and aromatics over items like precious gemstones. This is because many aromatics and spices, while not necessarily cheap compared to everyday staples, tended to be much less costly than precious gemstones. Items like black pepper and (frank)incense were imported on a large scale and consumed by a wide spectrum of the population (Cobb 2018a and 2018b). Indeed, E. Mayer (2018) has gone so far as to exclaim that: “Roman traders made most of their profit with relatively cheap bulk cargoes and not with a few precious commodities that only the truly rich could afford”.

This begs the question then, where do precious and semi-precious gems sit within this new framework for analyzing Indo-Roman trade? Should they be considered peripheral or did their high value and low bulk compensate for their modest scale of import (with modest space required to transport them)? The present paper seeks to interrogate these issues. Making use of traditional textual analysis, as well as more recent archaeological finds, this paper will also draw upon gemmological analysis to assess issues of provenance and trading routes. It is argued in this paper that precious and semi-precious stones should not be seen as merely peripheral to the so-called Indo-Roman trade, but intimately bound up in the processes of exchange taking place in the early centuries AD. Moreover, the array of hard minerals being exchanged, and the social uses to which they were put in the Roman Empire, complicates attempts to impose the label “luxury” on this class of material.

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Producing, trading, collecting sculptures at Alexandria during Late Antiquity: The case of Mehamara

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KEYWORDS. — Roman Sculpture; Alexandria; Marble trade; Late Antique collecting.

SUMMARY. — This paper is aimed at reflecting on the different use of imported marble and local stone in relation with the sculptural subjects chosen in Alexandria during the Greco-Roman and especially Late Imperial period.

For this purpose we focused on a group of sculptures found in the eastern suburbs of Alexandria in Egypt. It offers the opportunity to broaden the discussion on the phenomenon of production, trade and the staging of statuary furnishings in domestic architecture. The main feature of this thirteen-piece collection is that it is made in different marbles and stones. Moreover, eight sculptures are small in size, the others slightly larger. They fall into the widespread typology of mythological statuettes used to decorate domus and late antique villas. Two portrait statues Two portrait statues are an exception as they allude to the owners' family. Finally, three elements, the only ones not in white marble, consist of a figurine of Isis, a sphinx and a table stand.

The provenance of marbles, even though based only on autoptical examination, as well as the analysis of the processing and the stylistic characteristics allowed us to identify two distinct groups that indicate different methods of production and trade. Anyway, the sculptures could flow into the same architectural context as they expressed the ideology and the esthetics of the owners.

In conclusion, we had confirmation of how the hybridism of the Alexandrian culture is also reflected in the production of statues and in the choice of materials.



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Dieux éponymes et lieux de culte dans les carrières romaines: regards croisés entre les sites égyptiens et le reste de l'Empire

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MOTS-CLÉS. — Carrières romaines; Religion romaine; Égypte romaine; Réseau des dieux des carrières.

RÉSUMÉ. — La province romaine d'Égypte était connue pour la richesse et la variété de marbres colorés et de pierres précieuses, largement appréciées et employées dans l'architecture urbaine et provinciale. Parmi les nombreux gisements égyptiens, majoritairement exploités dans le désert oriental et dans l'aire autour d'Assouan, je m'intéresserai au Mons Claudianus (Gebel Fatirah) et au Mons Porphyrites. Un corpus d'inscriptions témoigne de l'habitude des mineurs de donner aux carrières des noms des dieux appartenant à des panthéons variés. Les sites en question ont également restitué des lieux de culte, tels que des niches ou petites chapelles, édifiés dans le périmètre de la zone d'exploitation. Devant ces sources, on cherchera à dégager le rapport entre le champ d'action des puissances évoquées (en particulier de celles appartenant au panthéon romain) et les retombés du choix des dévots sur le travail dans la carrière. De plus, étant donné que l'appellation des carrières par théonyme n'est pas une particularité égyptienne, des comparaisons seront faites avec d'autres contextes de l'Empire où ce phénomène est attesté. On se demandera aussi si les compétences spécifiques des dieux éponymes des carrières ont un poids dans la formation du panthéon local.

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Posters

A BORING STORY Stone vessel production and more in al-Shaykh Sa'īd / Wādī Zabayda

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KEYWORDS. — Egyptology; Calcite Alabaster; Stone Drills; 18th Dynasty; Middle Egypt.

SUMMARY. — At al-Shaykh Sa'īd / Wādī Zabayda – a site c. 280 km south of Cairo – the enormous amount of stone artefacts littering the surface catches the eye immediately. Not only objects of local rock-types, like silicified limestone and silex, are present, but also pieces of non-local rock-types, like dolerite, sandstone, granite, greywacke. About half of the artefacts of the various rock-types have been used as tools, like borers, drills, pounders, and polishers. The other half of the stone objects consists of sherds of calcite alabaster. Excavations at the site have made clear that in the 18th dynasty all kinds of products of calcite alabaster were produced here, for instance ear rings, weights, elements of chariots, or gaming pieces. But the main activity clearly was the production of stone vessels.

The aim of my research is to find out a) which tool was used in which stage of the *chaîne opératoire* of the various object categories, and b) where the non-local rock-types come from. The source material, calcite alabaster, was extracted from a nearby quarry. Except workshops of calcite alabaster, there is evidence that glass and faience were produced at the site. Considering the large amount and the different categories of artefacts, the production is likely to have been state-organised. Until now, SS / WZ is one of the very few sites of the New Kingdom where stone vessel production took place. Since the site lies only 2 km north of Amarna, the city which was for a short period in the 18th dynasty the capital of Egypt, its presence is likely to be related to this.



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Ox-hide Shaped Ingots in Ancient Egypt

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KEYWORDS. — Ingots shape; Metalworking scenes; Visual vs Semantic signs; techniques.

SUMMARY. — The metalworking scenes offer a unique chance to understand the *chaîne opératoire* of melting process in ancient Egypt. They represent 13.64 % of the total available sub-themes attested in elite Old Kingdom tombs. The visual as well as the textual details of such scenes are of vital importance to understand the technical evolution in ancient Egypt and the aesthetics of ancient Egyptian writing, as well.

An important example of such technical details, is the ingot shape and its semantic meaning. The early discovery of copper ingots dates back to 5000 BCE, since small ingots were discovered at Maadi. The ingots have a hole at one end, probably to facilitate its transportation. In the Middle Kingdom, the ox-hide ingots are represented, on wooden sarcophagi. Lacau and Jequier referred to certain objects on Middle Kingdom sarcophagi friezes. They called these objects as nms. In the meantime, they didn't recognize them as ingots. Nibbi mentioned that the ox-hide-shaped ingots that portrayed on Middle Kingdom sarcophagi come from El-Bershah. For example, the exterior of Sopi's sarcophagus. It is now conserved in the Louvre. Inv. no. E 10779 A. An ingot is painted on one of the friezes. It takes the shape of 'Pillow'. The word nms is written with the two arms of negation (D35), and the three fox skins tied together (F31).

Although, the ox-hide ingot sign reads nms, however, it shows significant technical tips of metallurgy in ancient Egypt. Therefore, the poster sheds lights on the different ingots shapes coming from Middle Kingdom, as to understand the visual and technical details. An investigation of the different examples will be accomplished, then an analysis on both visual and technical levels, that will give more information on the innovative use of visual tools (ingot shape), in metalworking scenes.

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Distribution and value of Egyptian calcite-alabaster drop jars throughout the Eastern Mediterranean

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KEYWORDS. — Archaeology; Calcite-Alabaster; Drop Jar; Eastern Mediterranean; Late Bronze Age.

SUMMARY. — During the 2019 excavation campaign, an Egyptian calcite-alabaster drop jar was exposed at the Late Bronze Age Cypriot site of Pyla-Kokkinokremos (ca. 1200 BC). The exceptional discovery of this type of stone vessel in a settlement context resulted in the establishment of a study on the origin, the function, and the value of the drop jar by examining the archaeological contexts in which the jars were found throughout Egypt, the Levant, and Cyprus. Drop-shaped vessels emerged during the First Intermediate Period as a commonly used shape for large ceramic storage jars, and was adopted for smaller unguent containers in calcite-alabaster, bronze, and faience starting from the beginning of the New Kingdom. Eight calcite-alabaster drop jars were encountered in royal and elite funerary contexts with rich burial goods in Lower as well as Upper Egypt, while — in addition to the Pyla drop jar — seven complete calcite-alabaster drop jars were unearthed in the Levant; in private houses of high officials in Ugarit, in the royal palace of Megiddo, and in a rich common tomb in Beirut. All these drop jars were embellished with unique floral and geometric designs, sometimes combined with a hieroglyphic inscription. Not only the manpower and resources required for the quarrying of the raw calcite-alabaster, but also the application of decorations indicate the high value of this type of stone vessel. Additionally, the find contexts of the calcite-alabaster drop jars, always in association with other rich objects, suggest a high symbolic value as well as the appreciation of these jars in upper-class circles.

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