

# ARCHEOLOGIA E CALCOLATORI

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*All'Insegna del Giglio*

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## INDICE

MILANO INTERNAZIONALE: LA FRAGILITÀ TERRITORIALE DEI CONTESTI ARCHEOLOGICI, Atti del Convegno Internazionale (Milano, 13 marzo 2019), a cura di GIOVANNA BAGNASCO GIANNI, SUSANNA BORTOLOTTO, ANDREA GARZULINO, MATILDE MARZULLO

### SEZIONE ARCHEOLOGIA

- GIOVANNA BAGNASCO GIANNI, MATILDE MARZULLO, SUSANNA BORTOLOTTO, ANDREA GARZULINO, *Milano per una risposta internazionale e interdisciplinare alla sfida della fragilità territoriale nei contesti archeologici* 11
- CHRISTOPHER SMITH, *Stronger together: international collaboration in heritage management* 15
- PATRIZIA PIACENTINI, MASSIMILIANA POZZI BATTAGLIA, SAID MAHMOUD ABD EL-MONEIM, *The international cooperation between the Egyptian Ministry of Antiquities and the University of Milan for the excavation and preservation of an endangered site in Aswan* 21
- FILIPPO BRANDOLINI, MAURO CREMASCHI, ANDREA ZERBONI, MICHELE DEGLI ESPOSTI, GUIDO S. MARIANI, SILVIA LISCHI, *SfM-photogrammetry for fast recording of archaeological features in remote areas* 33
- SERENA MASSA, NELLY CATTANEO, con la collaborazione di YOHANNES GEBREYESUS, *Adulis (Eritrea). Criticità e peculiarità di un sito complesso nel Corno d’Africa* 47
- LUCA PEYRONEL, *Fragilità mesopotamiche tra passato e presente. Considerazioni a margine della ricerca archeologica nella regione del Kurdistan iracheno* 59
- GIOVANNA BAGNASCO GIANNI, MATILDE MARZULLO, ANDREA GARZULINO, *Scavo e scuola a Tarquinia. Internazionalizzazione e formazione a difesa della fragilità di un sito UNESCO* 71

### SEZIONE ARCHITETTURA

- LUIGI MARINO, *L’architetto, l’archeologo e Nostradamus* 85
- FRANCESCA VIGOTTI, *Fragile yet powerful. Rural landscape heritage as resource for inclusive and sustainable development in archaeological inhabited sites* 95
- SUSANNA BORTOLOTTO, REDHA ATTOUI, *Il recupero del genius loci del sito archeologico di Ghoufi (Aurès, Wilaya de Batna, Algeria)* 107

LOGIC AND COMPUTING. THE UNDERLYING BASIS OF DIGITAL ARCHAEOLOGY, Proceedings of the MetroArchaeo 2019 Special Session, 2019 IMEKO TC-4 International Conference on Metrology for Archaeology and Cultural Heritage (Florence, 4-6 December 2019), edited by ALESSANDRA CARVALE, PAOLA MOSCATI	
ALESSANDRA CARVALE, PAOLA MOSCATI, <i>Introduction</i>	119
PAOLA MOSCATI, <i>Logic and computing: a historical background</i>	121
ALESSANDRA CARVALE, <i>From databases to archaeological online resources. The logic of object classification</i>	133
IRENE ROSSI, <i>Qualitative and quantitative approaches in digital epigraphy</i>	145
ALESSANDRO DI LUDOVICO, <i>The cylinder seal as a challenge for quantitative investigation, electronic cataloguing and digital visualization</i>	157
MARCO RAMAZZOTTI, <i>Modelling the past. Logics, semantics and applications of neural computing in archaeology</i>	169
SIMONE GARAGNANI, ANDREA GAUCCI, <i>The ArchaeoBIM method and the role of digital models in archaeology</i>	181
FRANCESCO GABELLONE, <i>A reconstructive proposal of Diocletian's Baths for the 5G experimentation in Rome</i>	189
EMANUELE BRIENZA, MASSIMO CULTRARO, ELEONORA DRAIÀ, <i>Settlement and views shed dynamics between the ancient sites of the Erei as a key of historical landscape interpretation</i>	199
GIOVANNI CARATELLI, <i>Form and function in Roman public architecture of the Late Republic. The exemplary case of the piazza Pozzo Dorico substructures in Cori</i>	211
MICHELE ARTURO CAPONERO, MARIALUISA MONGELLI, MAURA IMBIMBO, GIUSEPPE MODONI, EUGENIO POLITO, ERNESTO GRANDE, <i>Structural monitoring of the Ninfeo Ponari by fibre optic sensors, photogrammetry and laser scanning</i>	223
MARCO CARPICECI, ANDREA ANGELINI, <i>The shape of colour. The cave of San Michele on Monte Tancia (Italy)</i>	233
MAGDALENA WAŁEK, <i>Applying digital tools as an effective support for conservation research and design process: the Rocca Janula castle in Cassino, Lazio</i>	245
VALENTINO SANGIORGIO, SILVIA MARTIRADONNA, FABIO FATIGUSO, GIUSEPPINA UVA, <i>AHP-based methodology integrating modern information technologies for historical masonry churches diagnosis</i>	257
SILVANA BRUNO, ANTONELLA MUSICCO, ROSELLA ALESSIA GALANTUCCI, FABIO FATIGUSO, <i>Rule-based inferencing diagnosis in HBIM</i>	269
TATIANA D. PANOVA, ANDREY YU. DMITRIEV, OLESIA E. CHEPURCHENKO, VERONICA S. SMIRNOVA, YULIA G. FILINA, SVETLANA O. DMITRIEVA, <i>Events of Russian history of the Late Middle Ages in the light of neutron activation analysis data</i>	281

THE INTERNATIONAL COOPERATION  
BETWEEN THE EGYPTIAN MINISTRY OF ANTIQUITIES  
AND THE UNIVERSITY OF MILAN FOR THE EXCAVATION  
AND PRESERVATION OF AN ENDANGERED SITE IN ASWAN

1. INTRODUCTION

Several highly qualified international missions collaborate with the Egyptian Ministry of Antiquities towards the protection, preservation and valorisation of the Aswan Area. The remote and enduring history of this site materialises in an extraordinary composition of archaeological situations which range from the Prehistoric to the Roman and Coptic ones. Since the beginning of the past century and at an increasing pace that presently endures, the area has been subject to an intense agricultural and building development, which results in a densely populated territory. Pejorative side-effects of this expansion are the unauthorised construction of buildings and tomb robberies. Hence the Egyptian Ministry of Antiquities interest in the preservation of the area and a keen international cooperation towards its materialisation.

2. THE NECROPOLIS OF THE AGA KHAN MAUSOLEUM, WEST ASWAN

In this context, the University of Milan (Università degli Studi di Milano) and the Direction for the Antiquities of Aswan/Egyptian Ministry of Antiquities began a new joint mission at West Aswan in 2018 which also obtained the support of the Italian Ministry of Foreign Affairs and International Cooperation. A second campaign has commenced in 2019, continues in 2020 and for many years to come. The archaeological area surrounds and is partly covered by the Mausoleum of Aga Khan III, who was buried in an imposing tomb built especially for him there in 1959.

Since the 1970s, it seemed highly probable that a necropolis was present in the area. A Swiss-German team carried out a preliminary survey at that time and discovered large quantity of Roman pottery. However, no subsequent excavations were attempted (KAISER *et al.* 1977, 96-100). At the beginning of the 1990s, a French team discovered a possible pottery workshop in the area NE of the Mausoleum (BALLET, VICHY 1992, 113-116). Following some robbery attempts perpetrated in 2015, the archaeologists of the Egyptian Ministry of Antiquities carried out a survey and discovered some Late Period tombs. H.E. the Egyptian Minister of Antiquities Khaled el-Enany invited the present writer and her team to join the Egyptian

archaeologists to make a larger exploration of the area. Moreover, we were asked to help in the training of junior Egyptologists both in the field at Aswan and in the Egyptology Archives at the University of Milan (PIACENTINI 2013/2014, 11-12).

Since the latter half of the Fourth Millennium BC, well into the present day, the geographic position of Aswan immediately downstream from the first cataract of the Nile (and today of the Great Dam) has been considered strategic. This was the natural border of Egypt, the seat of military garrisons, but also an important trading place between Egypt and subtropical Africa (JIMÉNEZ-SERRANO, SÁNCHEZ-LÉON 2019, 1-9). From here, the Egyptians left with their caravans to fetch luxury goods such as ivory, exotic animals skins but also gold, incense, and spices. The ancient Egyptian name of Elephantine was *Abw* “elephant/ivory”, which already appears written on the labels discovered in Tomb U-j at Abydos (DREYER 1998, 119, 127, Abb. 79 [59]; KAHL 2003, 122-124). The ancient Egyptian name of Aswan (*Swenet*, later *Suan* in Coptic and then *Syène* in Greek) means “trade”. The area was also important for its stone quarries, mainly of granite. Numerous rock inscriptions attest to this activity over more than three millennia (GASSE, RONDOT 2007).

The history of the inhabitants of Aswan and the crucial economic and military role of this town in the Late Pharaonic and Ptolemaic-Roman Periods (7<sup>th</sup> century BCE-3<sup>rd</sup> century CE) are well known, thanks to discoveries made at Elephantine and Aswan. However, the place where the population of those periods is buried was unknown until recently. This very large “missing” cemetery is precisely the one that has been found by the Egyptian-Italian Mission at West Aswan (EIMAWA) led by P. Piacentini and S.M. Abd El-Moneim, seconded by M. Pozzi Battaglia and Shazli Ali Abdelazem. At the beginning of the past century (1907-1911), the Archaeological Survey of Nubia, directed by G.A. Reisner first and then by C.M. Firth recorded necropolises in the Southern Aswan area and in Lower Nubia with similar chronological and material features to that excavated by EIMAWA (REISNER 1908, 1909a, 1909b; REISNER, ELLIOT SMITH, WOOD JONES 1910; FIRTH 1910a, 1910b, 1911, 1912, 1915, 1927). The Archaeological Survey of Nubia concentrated on the ethnographical component of the cemeteries towards the anthropological identification of the Nubian population and therefore paid the Predynastic and Early Dynastic burials more attention than the rest (FIRTH 1912, 32-34). A great number of pictures, together with notes on the subject are preserved in the Egyptological Archives of the University of Milan and will be published in the near future. Not only will the study of the Aga Khan necropolis allow to reprise Reisner’s and Firth’s materials through what will be a revealing comparison but will also supply a similar context to necropolises that were covered by the waters of the Aswan Dam and no longer at the disposal of archaeologists.

### 3. THE TOPOGRAPHICAL WORK AND THE DISCOVERY OF A NEW TOMB

A preliminary survey allowed the EIMAWA team to distinguish two main types of tombs: rock-cut and hypogeal. In each group, many differences in size and structure were identified. From a chronological perspective, the tombs in this area of the necropolis area range from the 7<sup>th</sup>-6<sup>th</sup> century BCE to the 3<sup>rd</sup> century CE as suggested by the pottery and different objects discovered on its surface, such as fragments of coffins or stelae, and decoration of visible tombs. The main objective of the January/February 2019 mission was a topographical survey. This was carried out successfully as 226 tombs were mapped in the NE sector of the necropolis, which covers ca. 20,000 m<sup>2</sup> and includes twenty tombs already identified and partly excavated by the archaeologists of the Egyptian Ministry of Antiquities between 2015 and 2018. Professor Gabriele Bitelli of the University of Bologna was in charge of the topographical team which included Egyptian and Italian topographers. Surveying activities were performed, applying geomatic techniques, with two main objectives: the support of the topographical survey of the site through GNSS (Global-Navigation-Satellite-System) measurements on some points belonging to the network establishing the insertion of data on an international geographical frame and resulting in an optimal georeferencing of the site. The survey of the W and S sectors, not yet fully explored, will be hopefully completed around 2021/22.

During the first 2019 mission, Piacentini chose to begin the excavation west of two large tombs previously explored by the Egyptian archaeologists, since she observed a shallow depression in the ground almost completely covered by sand, almost aligned with the two abovementioned tombs. After a short dig, the northern side of a new tomb cut directly into the *tafla* stone emerged and was given the code AGH026. It is oblong, with a N-S orientation (Fig. 1). It was partly built with large rock blocks covered by sand and partly cut directly in the stone. Stairs lead to two funerary chambers, which is quite common in the Ptolemaic-Roman Period. The higher southern steps are built with blocks, while those nearest to the entrance of the funerary chambers are cut directly into the rock. Some blocks were piled up as a partition over the last steps. Similar walls have been found in Douch in the oasis of Kharga (DUNAND *et al.* 1992).

A great number of amphorae and offering vessels were found inside and around the tomb. This is a common kind of pottery that dates from the Ptolemaic-Roman Period. Few decorated pieces were discovered. These had simple, phytomorphic designs, especially vine-leaves, very typical of the local production, but inspired by Meroitic pottery (Fig. 2).

The first room discovered (A) was hewn to the E side of the steps at a later date, probably, than the main chamber (Room B). Room A is in a SE-NW position and around one meter higher than the main chamber. Inside,



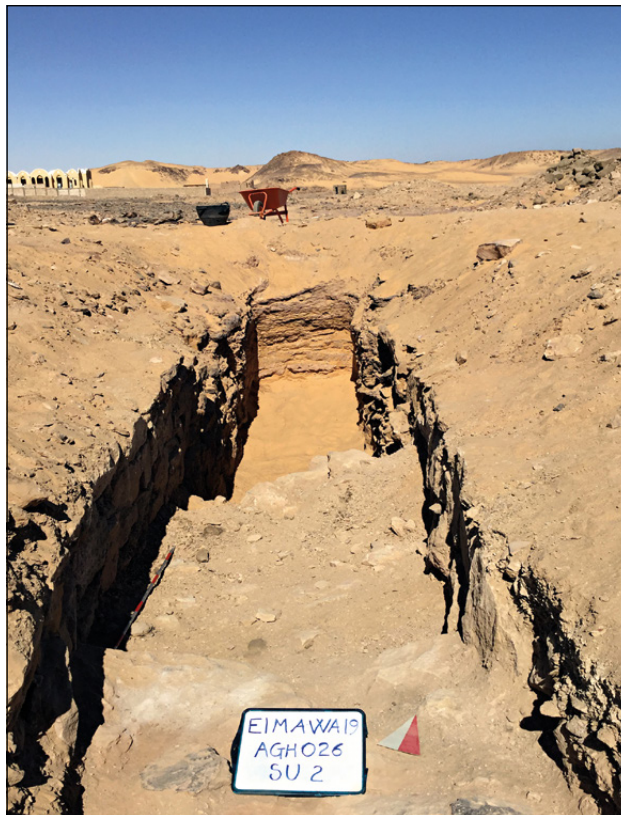


Fig. 1 – General view of tomb AGH026 under excavation, Aga-Khan Necropolis (EIMAWA: Egyptian-Italian Mission at West Aswan).

four mummies were found, together with painted *cartonnages* and vessels. Two intact mummies, possibly of a mother and her child, had been overlaid and were still covered by a painted *cartonnage*. Ongoing forensic anthropological and paleo-pathological analysis will allow us to identify the sex, age and perhaps the circumstances of the death of these two persons. The body of a third mummy was lying near the “mother and child”. A fourth had been partly pulled out of a round-topped coffin which had been hewn directly in the *tafla* and provided with a stone lid. The way the mummies are bandaged is typical of the beginnings of the Roman Period.

The main room (B) was cut into the rock ca. 4.5 metres underneath the surface area. It consists of two parts, on two different levels, the second being 60 centimetres higher than the first. The higher level is in the N half and



Fig. 2 – Detail of a reconstructed vase from fragments found in Room B and in the space in front of Room A of tomb AGH026 (EIMAWA: Egyptian-Italian Mission at West Aswan).

functioned as a monumental bed. A long niche was cut on the E side. Inside, six small mummies had been deposited, that need to be closely examined. On the W side there are two other niches of which one was found empty while the second contains two bodies still covered in bandages and in good condition, that will be X-rayed and CT-scanned. In the higher level of the room lay over 20 mummies, badly preserved mostly, due to damage by ancient thieves, who ripped off their bandages and their *cartonnages* in search for precious goods. On completion of the excavation and study, all mummies will be probably relocated in their original positions, in an ethical attempt to preserve their original desire for eternal burial.

While clearing the tomb, EIMAWA found some well-preserved objects. A remarkable stretcher constructed with palm wood planks and coated with bitumen and linen strips, leaned against the N wall. Due to its perishability, few parallels exist for this kind of object. Three specimens were found, for example, in Douch (DUNAND *et al.* 1992, 76, pl. 61.5). Large fragments of a decorated wooden anthropoid coffin were discovered as well as important parts of a dismantled wooden funerary bed. The central panel of the latter presents a complete hieroglyphic text, including the name of its owner, Pa-merih, and his titles, one of which was Chief of the Army of Swenet (Aswan). At the entrance of Room B, two bowls containing bitumen and a lamp had been placed. Fragments of two funerary gilded masks, one carved in wood and the other made in *cartonnage*, were found (Fig. 3). Nearby, over twenty *cartonnages*, some of them presenting almost vanished inscriptions, and a well-preserved statuette of the *Ba*-bird were discovered.



Fig. 3 – Fragmentary wooden mask, from Room B of tomb AGH026 (EIMAWA: Egyptian-Italian Mission at West Aswan).

We also found an impressive quantity of mummy bandages. Most of the strips are ecru but many are dyed, especially red. A technical sheet has been developed, with all the characteristics of the specific textile, for insertion into a database. Experts in “Big data” of the University of Milan have started working with EIMAWA in order to organize all the information collected during the excavation, the topographical work, and the study of the necropolis. On the basis of the objects discovered and their context, it has been deduced that tomb AGH026 was used over many centuries probably in two different periods, from the 4<sup>th</sup> century BCE to the 1<sup>st</sup> century CE. It was surely robbed in antiquity but has not been disturbed in recent times.

During the 2019/2020 season, the number of members of the team was increased to a larger group of experts so as to meet the specific requirements that the first mission has brought to light. EIMAWA now includes Cristina Cattaneo, Professor of Forensic Anthropology at the University of Milan, seconded by experts in radiological techniques, human tissues and bones to study the human remains. X-ray is the first line technique, especially for mummies in a bad state of preservation. For this purpose, a portable X-ray device is used for an on-site evaluation. A paleo-pathologist has also been recruited to help discover the diseases and the death causes of the bodies found. The study of the mummies will allow us to add information on the environment and the way of life of the population of Aswan in the late Pharaonic and Ptolemaic-Roman era.

Chemists from the University in Milan and restorers have also been included in the team. The non-invasive analytical approach requires a small amount of sample, strictly analysed in Egypt. The mummy' fragments, previously selected by forensic anthropologists, will be washed by distilled water, digested by trypsin enzyme and the resulted peptide mixture will be analysed by high resolution mass spectrometry. The identification will be performed by bioinformatic and statistical tools using different protein databases. This will help the discovery of death cause of the mummies and their previous lifestyle (VANDENABEELE *et al.* 2009).

P.P.

#### 4. SAFEGUARDING THE FINDS FROM TOMB AGH026

The finds excavated in our first mission have immediately placed a wide range of issues related to conservation and their consequent enhancement. When dealing with a systematic excavation of such a vast and promising area, one of the first criteria to adopt is that of material collection, assessing logistics and space-related problems. As a matter of fact, storage space in Aswan is good compared with international standards but by no means unlimited. During the clearing phases of the stairs leading to AGH026, numerous ceramic finds were recovered albeit few were intact. Knowing the shelving at our disposal at the warehouse of the Aswan Inspectorate it was necessary to adopt a compromise by collecting all the intact specimens for the transfer to the warehouse and making choices on the fragmented material, after an attempt at recomposing them. The collection of decorated fragments, handles tips and mouths was privileged, which can be indicative of forms and periods of production. For votive cores the entire ceramic group, integral and fragmentary elements, was collected by referring to a subsequent study phase the evaluation of any intentional fractures linked to particular phases of the funeral ritual.

The other material class that raised the need for a reflection on the safeguarding criteria is that of *cartonnages*, found in great number. *Cartonnages* are made with linen and a calcium-based preparation (carbonate and sulphate and natural glues) which are very pliable so long as they are still wet. This allowed to shape it according to the anatomical parts that were going to be covered and painted with colours of essentially mineral origin, including gold leaf (D'AMICONE *et al.* 2009, 173-191; SCOTT *et al.* 2009, 923-932). As it is well-known, only the exceptional dry climate assured by the desert environment of the Egyptian necropolises, has been able to allow this type of material to exceed millennia and reach the present fundamentally unaltered. Therefore, the collection, handling and storage of the items is a great responsibility.

Ensure the consolidation of manufactured articles prior to transportation to the warehouse of the Aswan Inspectorate is fundamental. Sand is heavy

and shifty and does not allow one to remove the area immediately around the object and returning the micro-excavation to the laboratory. Hence the need to use on-site consolidating agents which sublimate in about three days and then for expert restorers to work in the warehouse for a lasting consolidation treatment.

Wood was also a material to be found in large quantities. This last category has raised space and conservation issues, the latter being the most complex. Among the wooden finds are elements of boxes that still have plaster residues and inscriptions on them. Particularly interesting are the dovetail joints. Each relevant element was collected so as to respect the groups in which they had been found, and add to the photographic, documentation texts and drawings a congruent storage and labelling of crates. The sarcophagus presented the problems related to the attack of xylophagous insects. In the upper part of Room B, not “sealed” by sand, the wooden materials presented “galleries” dug by colonies of termites that eat wood cellulose. Since in the tomb the insects are no longer active, the work consisted in the collection of every fragment by nucleus, referring to the restoration phase a reconstruction which in some cases was provisionally prepared during the excavation.

That the conservation conditions of the tomb are not homogeneous in all parts of Room B is also demonstrated by two small sculptures of the *Ba*, probably mounted originally to the opposite sides of a sarcophagus lid (SCALF 2012, 201-202). While the one that looked to the southern side was recovered in an excellent conservative state, the one to the northern side was unfortunately seriously flawed. The cover that was plastered and painted had a kind degradation in which the sand gradually replaced the fibre. The process of material replacement in the wood usually leads to crystallization phenomena but in this case the sand led instead to a dissolution phenomenon that brought the find to break.

Finally, the collection of food and vegetable offerings was a challenge but even these small finds will be fundamental once the analyses are complete as they will yield many useful details to understand the community that lived in Aswan in the Ptolemaic-Roman Periods.

M.P.B.

## 5. APPENDIX

### *5.1 Important challenges facing the archaeological sites in Aswan Antiquities Zone*

The Aswan Antiquities Zone faces many challenges, which the Inspectorate tackles in a highly professional manner, in order to protect the archaeological sites and the environment surrounding them in all possible ways. One of the most important problem is the issue of the increasing of the water level

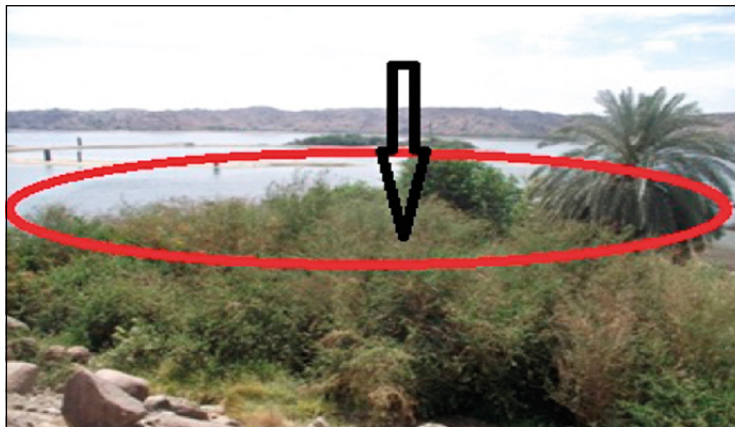


Fig. 4 – The original location of the temple of Philae. In front of a group of trees is the proposed place to move the temple of Biga (Egyptian Ministry of Antiquities).

beside the temples of Philae and Biga Island. The Inspectorate is currently trying to put forward many proposals to protect the latter, through the repair of the back area of the temple and eventually its transfer to preserve it from the water. The island of Philae, located amid the First Cataract some seven kilometres south of modern Aswan, housed an ancient settlement and one of the most extensive and best preserved temple complexes of Ptolemaic and Roman Egypt. Together with the *abatón* on the neighbouring island of Biga, Philae was the most important cultic centre of Isis and Osiris in Upper Egypt and Nubia. According to the ground plan published by Lyons (LYONS 1896, plan 1), the island measured ca. 385 m in length (orientated S/N) and ca. 176 m in width. Today, it is submerged under the lake between the first Aswan Dam and the modern Aswan High Dam. For their preservation, the monuments of Philae were transferred to the nearby island of Agilkia (KOCKELMANN 2012, 1). The biggest challenge in this regard is now the temple of the island of Biga, which the inspectorate is trying to move to the back area of the temple (Fig. 4).

Another challenge is the protection of the numerous rock art sites in the Eastern and Western Sahara, since the increasing urbanization and the proportion of quarries are growing next to those sites. The Inspectorate is trying to create large distances between quarries and urban areas and between rock art sites to preserve the identity of these ones. One of the most dangerous risks concerning these sites is the modern quarries and the process of cutting stones randomly by the local population. The Inspectorate is working hard to spread archaeological awareness among the local people and legalise quarries so as to put them under surveillance. There were palaeolakes in many valleys

such as Abu Subeira and Kubbaniya (WENDORE, SCHILD, CLOSE 1989), the remains of which the Inspectorate is trying to preserve. The last main challenge is the groundwater in some archaeological sites, first of all in the area of the Temple of Kom Ombo. The Inspectorate has taken all necessary precautions, such as separating the basic soil from the stone foundations and establishing a large trench around the region with giant wells to draw groundwater in. The groundwater problem has also appeared in the unfinished obelisk site, in the city of Aswan. The Antiquities Zone is trying by all means and scientific methods to protect it from the increasing level of water.

S.M.A.E.-M.

PATRIZIA PIACENTINI

Dipartimento di Studi Letterari, Filologici e Linguistici  
Università degli Studi di Milano  
patrizia.piacentini@unimi.it

MASSIMILIANA POZZI BATTAGLIA

EIMAWA: Egyptian-Italian Mission at West Aswan  
massimiliana.pozzi@libero.it

SAID MAHMOUD ABD EL-MONEIM

Aswan and Nubia Antiquities Zone  
Egyptian Ministry of Antiquities  
abdelmanem1144@gmail.com

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## ABSTRACT

The Egyptian Ministry of Antiquities and the University of Milan collaborate in the protection, preservation and valorisation of the large necropolis surrounding the Mausoleum of the Aga Khan in West Aswan. The first mission has been completed, the second is underway. Director Patrizia Piacentini describes the work and finds from the first mission and the experts from different fields (anthropology, palaeopathology, chemistry, botany, restoration, the computer sciences) that will be deployed during the second phase. Particular emphasis has been given to the historical meaning of the necropolis, in general, and, in particular, of tomb AGH026, which was excavated in 2019. They promise to yield information on the history and international contacts of the population of Aswan during the Late Pharaonic and Ptolemaic-Roman Period. Vicedirector Massimiliana Pozzi Battaglia enumerates some of the particular issues that were encountered from the point of view of conservation and transport. Inside Tomb AGH 026 different conditions were encountered, depending mostly on whether sand had covered a specific spot or not, which conditioned the preservation of the human bodies, *cartonnage*-making and wooden items and influenced their transportation and storage. Said Mahmoud Abd El-Moneim, General Director of Aswan and Nubia Antiquities Zone and Co-director of the mission at Aga Khan necropolis, widens the scope of the article to address other endangered sites that at present concerns of the Egyptian Ministry of Antiquities. He describes the challenge posed by raising water levels and increased quarrying activity at Kom Ombo, Philae and Bigga, the rock art and palaeolake sites in the Aswan area.



