

Documentation - Field Schools in Tuna el-Gebel

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Why is documentation an important part of conservation?

Documentation in heritage preservation encases every investigation and interventions done by conservators. Every information available about an object, collected in investigations and analysis, and treatments performed by different researchers and conservators have to be reported. Keeping and managing this information and making it accessible, is essential for any further involvement in the preservation of a heritage art object. Documentation done by conservators usually comprises three main areas: a written part, a photographic and a graphic part.

In the necropolis in Tuna el-Gebel a German-Egyptian Field School Programme for conservation of wall paintings was performed in 2012, 2014, 2015 and 2018.¹ Here documentation was considered highly important and much time was taken to teach and practice this.

The first step was an investigation with a purely phenomenological examination of the wall paintings through accurate optical analysis without mechanical intervention in the substance. The investigation of wall paintings can never be limited to visible signs of deterioration. It is always necessary to take the entire building's situation into account. Exteriors and interiors of a building, its structure consisting of foundation and roof, masonry and plasterwork must be considered and examined.²

The Necropolis in Tuna el-Gebel is a complex site with different tomb houses with different interior designs made of different materials. Today about 60 Tomb houses are excavated and can be seen at least in parts on the archaeological site of Tuna el-Gebel. Most of them have been excavated between 1931 and 1952. Since then the tomb houses have been exposed to various external influences. To understand why a wall painting is in its present state, the occurring deterioration phenomena had to be exactly detected, defined and

¹ A cooperation of the HAWK university of applied science and art in Hildesheim by Prof.Dr. Nicole Riedl-Siedow, the university of Minia by Prof.Dr. Hussein Mohammed Ali, State Museum of Lower-Saxony Hanover by Prof.Dr. Katja Lembke. See for more information „cooperation and exchange“ written by Heike Pfund

² Sharon Cather: „The conservation of wall paintings“, the Getty Conservation Institute, 1987

documented. Based on this information an individual conservation concept for the wall paintings was developed.

Emergency measures were done as part of the field school. One distinctiveness of working in a trainee programme was, to work once a year in a relatively large group doing the emergency measures in a relatively small period of time. In the following year the group was remixed, with the exception of the supervisors. Therefore, it is all the more important to pass on into the future all information and changes made to the art object.

To document the complex mix of different tomb houses with different interior design made of different materials in different states of deterioration a combination of documentation tools are necessary. The documentation includes written descriptions of the existing condition before and after treatment, material composition and technology, the conservation methods and materials used. A photographic documentation was added. The graphic documentation is an important part of documentation, too. It completes the written and photographic documentation and provides simplified and concentrated overviews on the location and distribution of the existing inventory, materiality, the damage and the measures carried out.

Example of description in the documentation glossary		
Brick wall repair, made of burned bricks for reconstruction of a wall in GB 21.	Mauerwerksergänzung aus gebrannten Ziegeln zur Rekonstruktion einer Wand in GB 21.	الصورة رقم اصلاح جدار من الطوب مصنوع من الطوب المحروق واعادة اصلاحه الجدار من موقع GB21

Written text

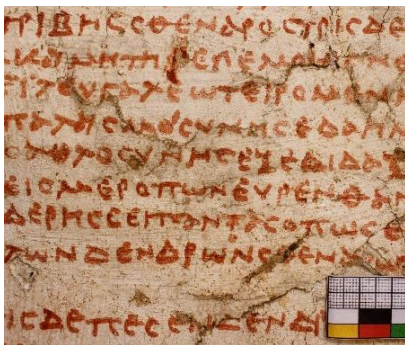
An important part of the documentation is a written text reporting the wall painting, its support and the building it belongs to. It should contain a description of the existing inventory and the condition assessment. Based on these information of the first investigation and their evaluation, it is possible to define a conservation concept individually adapted to the object.

If treatment is done, all measures undertaken should be reported, including what materials were used, their recipes and application methods. Additionally, recommendations for further maintenance should be written into the documentation, transferring as much information as possible to the next conservator in charge.

A short glossary was produced as a list of findings with a definition of the individual phenomena in German, English and Arabic and was attached to the graphic documentation.

The investigation and treatments done in the field schools have been documented twice. On the one hand a “final report” in English was written each year directly after the field school

including the most important records of the objects condition and any treatment done in the respective year. Each year the “final report” was handed out to the Ministry of Antiquities, Egypt. Additionally, students of the HAWK University of Applied Science Hildesheim wrote a “conservation-report” in German containing all collected detailed information about the site, the tomb houses and wall paintings investigated and treated. Every year information was added to the “conservation-report”, so one comprehensive documentation was produced for all field schools undertaken.



[photographic documentation](#)

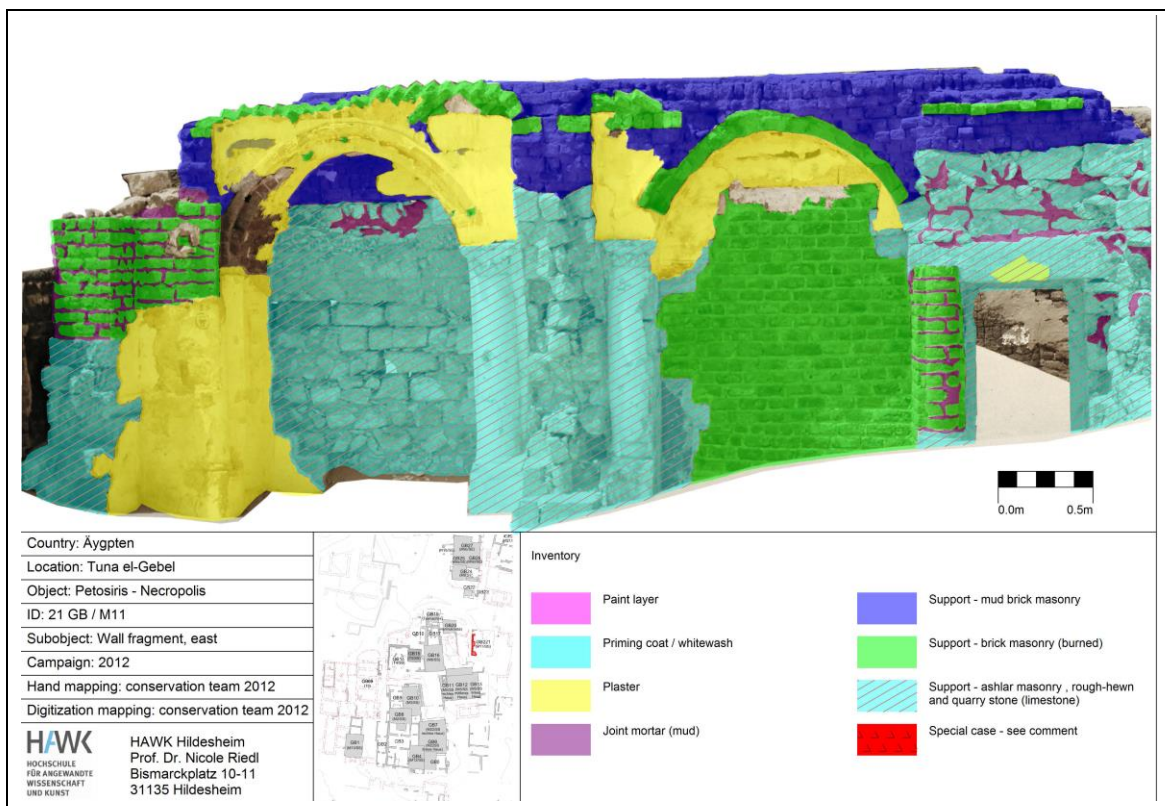
The photographic documentation is always added to a written documentation. Photos capture the pre-state before emergency stabilization, document the process of conservation and the final state after emergency stabilization. It is also important to visualize technological and alteration phenomena regarding the overall situation as well as in details. Photos of the typical phenomena on site should be added to the glossary to give a better understanding of deterioration patterns.

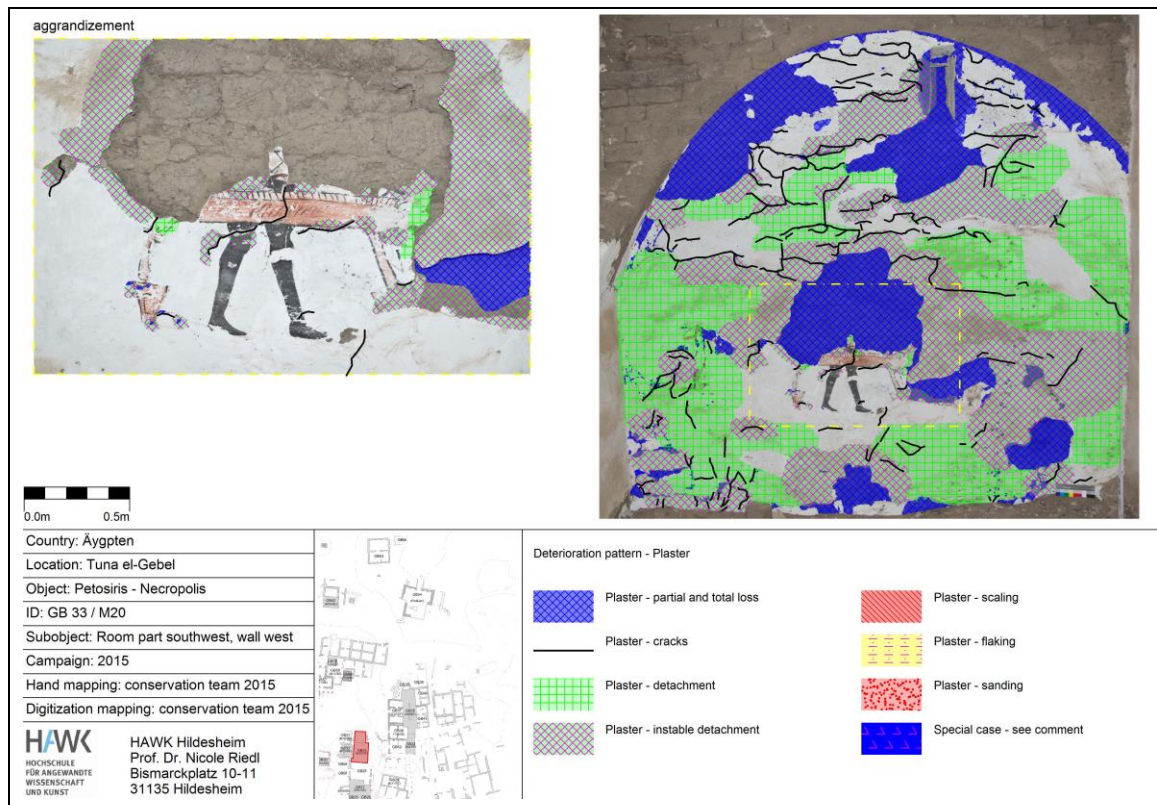
The HAWK University of Applied Science Hildesheim archived all photos done on site and chose a meaningful selection included to the “final report” and to the “conservation-report” of each campaign.



graphic documentation

Another type of visual documentation is an illustration which is drawn in colours on a ground map. Graphic documentation is a tool of investigation to visualize individual phenomena of the state and the condition of an architectural structure. Additionally, mapping can document the location and distribution of the existing inventory and its condition at a specific point in time. If mapping is performed in certain time intervals, the progression of deterioration of a painting can be shown. Mapping therefore not only has an achievable documentation purpose, but also enormously increases the knowledge of an object.





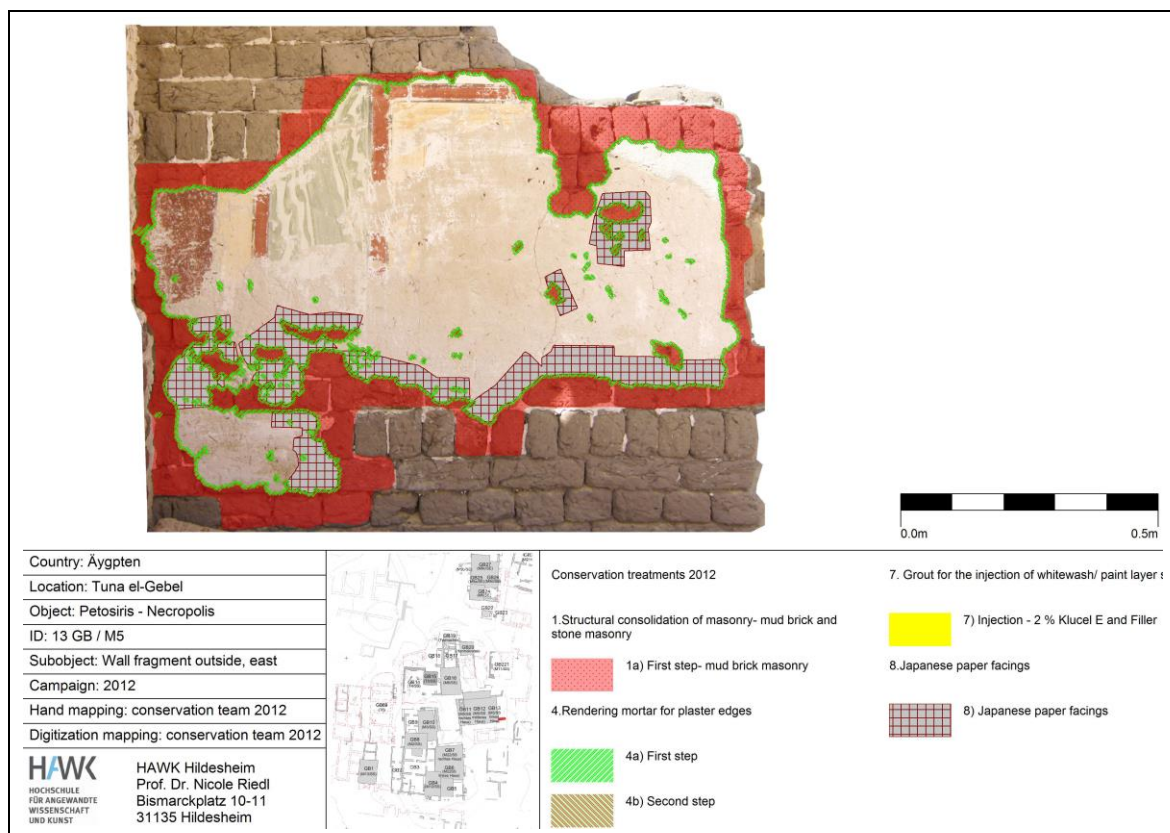
For all walls to work on first a rectified overview photo was made as ground map for the graphic documentation. On site mapping was done by hand with colour pens. The working language was English. 2012 started the first field school with a standard key for mapping inventory and condition state.³ With each field school campaign the mapping key was better adapted to the actual phenomena found in Tuna el-Gebel. All measures taken on site were documented as well.

A mapping key for conservation is structured like a tree starting from the basic buildings structures of a wall painting: masonry – plaster layers – paint layers. Each basic sub-structure was investigated and documented individually. It was developed one mapping key for the inventory and one for the deterioration pattern. After having documented the existing inventory, it was checked for typical deterioration phenomena like cracks, sanding, flaking, crumbling and detachment. The basic system allows to divide from broadly structures into more and more details up to unique special phenomena.

³ see for more information EwaGloss and ICOMOS Glossary on Stone Deterioration Patterns

Cutout of the used mapping legend 2015:	
material	Deterioration phenomena
masonry	partial and total loss
	cracks
	sanding
	crumbling
plaster	cracks
	detachment
	sanding
white wash and paint layer	loss
	flaking
	powdering (of pigments)
	Blistering/deformation
particularities	e.g. graffiti, iron nail, insect nest

The graphic documentation was complemented by a glossary, with a definition of each individual phenomenon in text and image.⁴ It is important to define exactly the typical deterioration patterns of a site to guarantee comparability of condition mappings over the years. This guarantees correct work done with a big group of people in a training situation.



⁴ For deterioration phenomena definition see EwaGloss and ICOMOS Glossary on Stone Deterioration Patterns

Additionally to the work on site, a concept was developed for the converting hand mapping into a digital system, valid for all phenomenas of inventory and condition found in Tuna el-Gebel. The digital mapping was performed with “metigoMAP” software, combining image processing and CAD-functionality.⁵ Digitization was so far implemented on a few examples. Further work has to be done.

All hand-drawn-mappings produced in the field schools 2012, 2014, 2015 and 2018 are archived at the Museum of Lower-Saxony Hanover. A copy of all hand-drawn-mappings and the exemplary digitalization of the graphic documentation are archived at the HAWK University of Applied Science and Arts Hildesheim.

[conclusion](#)

The graphic documentation gives, in a few glances, information about the exact location and dimensions of different materials used to fabricate a wall painting. It informs about additions from previous repairs, the extent of different deterioration patterns and, last but not least, allows to locate exactly all recent conservation measures.

The written text informs about more details and gives additional information. The photographic documentation helps to visualize the situation before and after the emergency measures. The complete documentation is a textural and visual record of the objects condition, any treatment done to the object and any observation and conclusion made by the conservators. It is a strong and informative base for any further investigation and processing treatment of the wall paintings in Tuna el-Gebel.

Additionally, it was important to build up a documentation system open to further work that will come. In the field schools campaign 2012-2018 an extendable documentation system was developed to archive all collected information of the different tomb houses investigated and treated. Also, the emergency measures to every single wall can be traced and understood.

The detailed and full documentation is maintained and archived by the Museum of Lower-Saxony Hanover and the HAWK University of Applied Science Hildesheim. We tried to improve accessibility by transferring the basic information on the web to be available for everybody, like you the reader of this paper.

⁵ See for more information: www.fokus-gmbh-leibzig.de

[acknowledgement](#)

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