2008



INCO-CT-2005-015416- Project QuarryScapes

QuarryScapes Workshop 3 Aswan, 12 - 15 October 2008 Programme, Abstracts and Field trip guide





QUARTY Scapes Conservation of Ancient Stone Quarry Landscapes in the Eastern Mediterranean

QUARRYSCAPES WORKSHOP 3 ASWAN 12 – 15 OCTOBER 2008 PROGRAMME

DAY ONE: 12 OCTOBER 2008

10.30	Welcome coffee
11.00	Opening of Workshop:
	Mohamed el-Biely, Director Antiquities Aswan and Nubia, Supreme Council of Antiquities
	Tom Heldal, QuarryScapes Co-ordinator, Geological Survey of Norway
11.30	Dietrich Raue, German Archaeological Institute Presentation and Protection of the Elephantine Cultural Landscape
12.10	Nizar Abu-Jaber, Ziad al Saad and Nihad Smadi, Yarmouk University, Jordan Jarash Quarryscapes: nature, status and threats
12.30	Patrick Degryse, Katholieke Universiteit Leuven, Belgium The Sagalassos Quarry Landscape: issues in conservation of small- scale stone extraction in the context of a monumental town
12.50	Discussion
13.00	Lunch
14.00	Emine N. Caner-Saltık, Tamer Topal, Vedat Toprak, Asuman Türkmenoğlu, K. Göze Akoğlu, Evin Caner-Özler, Taliye Yaşar and M. Cemre Üstünkaya, Middle East Technical University, Ankara Investigation of Ancient and New Marble Quarries of Ankara Region in Relation to its Roman Monuments
	Management Strategies for Ancient Quarries of Turkey Investigated in the QuarryScapes Project
14.40	Discussion
14.50	Per Storemyr, Geological Survey of Norway Risk Assessment and Monitoring of Ancient Egyptian Quarry Landscapes
15.10	Adel Kelany, Supreme Council of Antiquities, Aswan First Step for Protection of Ancient Quarry Landscapes in the Aswan Region

15.30	Discussion
15.40	Break
16.00	Rawda Yousri and Azza Shawarby, Supreme Council of Antiquities, Egypt WP7: Map of Ancient Egyptian Stone Quarries
16.20	Jon Bjornsson, North South Consultants Exchange, Egypt Jebel Qatrani Protection Measures
16.40	Discussion
16.50	Tom Heldal, Geological Survey of Norway Characterising Quarry Landscapes from Empirical Datasets
17.10	Elizabeth Bloxam, Institute of Archaeology, University College London Articulating Significance of Ancient Quarry Landscapes to a Wider Audience: four concepts of landscape
17.30	Discussion
17.40	Close

DAY TWO: 13 OCTOBER 2008

09.30	Coffee
09.30	Conee

Tom Heldal, Geological Survey of Norway
Characterising Quarry Landscapes from Empirical DatasetsElizabeth Bloxam, Institute of Archaeology, University College
London
Articulating Significance of Ancient Quarry Landscapes to a
Wider Audience: four concepts of landscape10.00Cornelius von Pilgrim, Swiss Institute, Cairo
Aswan - archaeology under the shadow of modern town
development

10.45 Wolfgang Müller and colleagues, Swiss Institute, Cairo

Rescue excavations in the city of Aswan - results and perspectives

11.30	Break
12.00	Ian Shaw, University of Liverpool Settlements and encampments in threatened desert landscapes
12.45	Lorenzo Lazzarini, Università IUAV di Venezia The Ancient Quarries of Greek Coloured Marbles: state of knowledge and preservation
13.30	Lunch
14.30	Naguib Amin 'Site Management' Myth and Challenge in Egypt
15.15	John Rodger, World Heritage Co-ordinator The Blaenavon industrial landscape: World Heritage Site
16.00	Torbjørn Løland, Hyllestad Millstone Quarries, Norway Small community, big heritage: the millstone quarry landscape in Hyllestad, Norway
16.45	Concluding remarks
17.00	Close

19.30 CONFERENCE DINNER, BASMA HOTEL

DAY THREE: 14 OCTOBER 2008

FULL-DAY FIELDTRIP TO THE WEST BANK ASWAN SILICIFIED SANDSTONE QUARRIES

- 08.45 Meet in Basma Hotel Lobby
- 09.00 Leave Basma Hotel mini bus
- **10.00** Arrive Aswan West Bank
- **10.00 12.00/30** Visit Gebel es-Sawan North

16.00	Leave Aswan West Bank (arrival at hotel approx 17.00)
13.30 - 15.30/16.00	Visit Gebel Gulab
12.30 - 13.30	Lunch at Gebel Gulab (packed lunches provided)

DAY FOUR: 15 OCTOBER 2008

09.00	Business Meeting (QuarryScapes consortium partners only – coffee will be served during meeting)
13.00	Close of workshop and lunch
	Optional trip to the 'Unfinished Obelisk Quarry' Aswan
14.15	Meet in hotel lobby and depart for 'Unfinished Obelisk Quarry'
16.00	Arrival back at Basma Hotel

DAY FIVE: 16 OCTOBER 2008

OPTIONAL FIELD TRIP: GEBEL EL-SILSILA SANDSTONE QUARRIES

08.45	Meet in Basma Hotel Lobby
09.00	Depart for Gebel el-Silsila sandstone quarries (lunch will be provided) - mini bus
16.00	Arrival back at Basma Hotel

END OF WORKSHOP PROGRAMME

ABSTRACTS

QUARRYSCAPES FINAL WORKSHOP ASWAN 12 – 15 OCTOBER 2008

DAY ONE: 12 OCTOBER 2008

Presentation and Protection of the Elephantine Cultural Landscape

Dietrich Raue German Archaeological Institute

Since 1969, the German Archaeological Institute is working, in cooperation with the Swiss Institute of Architectural and Archaeological Research, on the island of Elephantine. From the very beginning, Prof. Kaiser as director of the mission till 1996 had the vision of an archaeological park on Elephantine Island. Every project had - and has - to consider the incorporation in this publicly accessible arrangement for the temples, the tombs and the houses of more than 5000 years of history. Like this, the presentation for a wider public is combined with the best possible protection for the future.

Jarash Quarryscapes: nature, status and threats

Nizar Abu-Jaber, Ziad al Saad and Nihad Smadi Yarmouk University, Jordan

Jarash (Gerasa) is an important Greco Roman Decapolis city in northern Jordan. Human occupation of the site dates back to pre-historic times. When the Greeks took over the region in the second century BC, they built on the earlier settlement and enlarged it. However, the biggest expansion occurred in 115 AD, when the Roman emperor Trajan built the city and made it into a major regional center. The city continued to thrive during the Byzantine period, but a series of earthquakes weakened the city during the fifth and sixth centuries.

Stone used to build the city was mostly extracted from local Upper Cretaceous limestone exposures. These come from the Hammar and Wadi Sir Formations as well as small exposures of the Naur formation. Local exposures of caliche have also been used occasionally.

Quarrying sites have been mostly found to the north of the city, where higher elevations made it easier to transport the stone down hill to the construction sites. In addition, these higher elevations are the areas where the higher quality Hummar and Wadi Sir Formations are exposed.

Quarrying relied mostly on shallow extraction of near-surface exposures. Thus, the quarries are only about 1-2 meters deep, with evident tool marks indicating the extraction techniques used. The shallow extraction suggests that large areas were quarried to obtain the necessary amount of material to build the city. Clearly, it also means that much of the extraction evidence has been hidden or obliterated due to more recent building, plant cover, weathering and soil accumulation.

Three interesting quarry areas have been identified. These are the Majar, Asfour and Shawahed sites. These sites are easily observable and studied. However, they are also under various levels of threat. At Majar, expanding urbanization is slowly leading to the destruction of the site as new buildings and roads destroy the unprotected heritage. The situation is slightly better at Asfour, where part of the quarry is within a protected forest area, while other parts of the site (including an incomplete column) are under somewhat lower threat due to plowing and other agricultural activities. At Shawahed, which is the largest site, urbanization is not yet evident, although future plans do not take into account the archaeological significance of the site.

Taking in consideration the significance and fragility of these sites, it is imperative that immediate conservation and legal measures should be adopted and implemented to safeguard this important cultural heritage sites.

The Sagalassos Quarry Landscape: issues in conservation of small-scale stone extraction in the context of a monumental town

Patrick Degryse Katholieke Universiteit Leuven, Belgium

Within the territory of Hellenistic to Byzantine Sagalassos (SW Turkey), several ancient limestone quarries were identified. The first building stone extraction can be seen in 6th to 4th century BC Ur-Sagalassos. There, beige limestone and limestone breccia was split off from the bedrock following natural fissures to produce material for dry rubble wall constructions. The first ashlar building stones were quarried at the site of monumental Sagalassos proper and can be traced to the middle Hellenistic period. The beige and pink limestone from the Lycean nappe near monumental Sagalassos remains to be extracted throughout the Julio-Claudian and Hadrianic to Severan period. All these quarries in the territory of Sagalassos are an integral part of the cultural landscape and are witnesses to the monumental purpose they served, as predominantly this local stone was used for large building activities in the area in Antiquity. They are hence imperative in telling the integrated story of the region and town. The greatest risk for the quarries at Sagalassos lies in natural weathering and in remaining unidentified as cultural heritage sites. This is all the more important, as in the recognition of these sites as cultural resources, part of the local heritage, lies the essential aspect to their conservation. Local inhabitants are their most evident custodians when engaged. In particular the small size and geographical spread of the Sagalassos quarries make their effective protection (outside their legal status) difficult. Therefore, informing the local stakeholders is the first step in raising the profile of these sites, and ensuring their conservation. Also, at monumental Sagalassos, guided tours are offered to visitors which include a presentation of the quarries in relation to the city, opening up this information to a lay audience and raising the awareness of their significance.

Investigation of Ancient and New Marble Quarries of Ankara Region in Relation to its Roman Monuments

Emine N. Caner-Saltık, Tamer Topal, Vedat Toprak, Asuman Türkmenoğlu, K. Göze Akoğlu, Evin Caner-Özler, Taliye Yaşar and M. Cemre Üstünkaya.

Middle East Technical University, Ankara

Marble sources of Ankara Region are rather scarce. They are heterogeneously distributed among Paleozoic metamorphics and ophiolites. Hoewever, marble was extensively used in the standing Roman Monuments of Ankara region. This study aimed at tracing back the Roman marble quarries by comparisons of the ancient and new quarries' marbles with the marbles used in the important Roman monuments namely, Temple of Augustus in Ankara and Roman Theatre in Pessinus Archaeological Site in Ballihisar - Sivrihisar.

Investigations have shown that there was a new marble quarry, that was İstiklalbağı quarry near Sivrihisar, and an ancient quarry in the close vicinity of İstiklalbağı village near to the Pessinus archaelogical site, Pessinus Quarry. Thus this study was focussed on the characteristics of Istiklalbaği Quarry and Pessinus Quarry marbles and their comparison with the marbles of the Roman monuments. Marbles were compared for their bulk density, effective porosity characteristics, ultrasonic pulse velocities, CIELAB color values of fresh marble surfaces, quantitative fabric analyses of thin sections expressed as mean grain size, mean axial difference, mean perimeter/surface ratio and shape factor as well as their mineralogical and petrographical analyses by optical microscopy and XRD analyses.

Although the samples taken from the Pessinus Archaeological Site and Temple of Augustus were considerably deteriorated and had pores developed, it was possible to detect the similarities in petrographic properties of those marbles and the quarry marbles. It was seen that they had similar microstructures having mosaic texture with almost straight intergranular borders. However, the analyses of the marbles collected from different parts of the new Istiklalbağı quarry showed heterogeneous characteristics in terms of colour and mineral composition being white to grey in colour and variable presence of dolomite in calcite dominant rock. On the other hand, ancient Pessinus Quarry marbles were found to be whiter and calcite was the dominant mineral with traces of dolomite. They were in close relationship with the marbles of Roman monuments, Pessinus Archaeological Site and Temple of Augustus. In addition, ancient Pessinus quarry has visual signs of tool marks, extraction of big blocks and waste pits.

Pessinus Ancient Quarry is in the close vicinity of Pessinus archaeological site and Ballihisar village. The ancient quarry is an additional value in the conservation of that site. Conservation studies and the management plans should provide sustainable development of Ballihisar village and its cultural heritage values.

Management Strategies for Ancient Quarries of Turkey Investigated in the Quarryscapes Project

Emine N. Caner-Saltık, Tamer Topal, Vedat Toprak, Asuman Türkmenoğlu, Ayşe Tavukçuoğlu, K. Göze Akoğlu, Evin Caner-Özler, Taliye Yaşar and M. Cemre Üstünkaya

Middle East Technical University, Ankara

As part of this project, four ancient quarries, namely Roman andesite quarries in Ankara, 13th century tuff quarries in Saratlı village - Aksaray, Hittite limestone quarries near Ortaköy township – Çorum, and Roman marble quarry near Ballıhisar village–Sivrihisar, Eskişehir were studied for enquiring data in order to initiate management strategies for these sites. Each quarry presents different conservation problems; therefore, their management strategies should be designed accordingly. All these quarries need to be registered as historic monuments as a first step of their conservation.

Geological location maps, digital elevation models of the quarries and visual characteristics of each ancient quarry and the verification of the quarries' relationship with the monuments and archaeological sites were compiled to help with the development of the management strategies.

Important issues of management plan for the quarries were summarized by considering their individual cultural and historic significance, their existing conservation problems, their links to the archaeological sites and modern settlements.

Successful management plan for the ancient quarries should emphasize the integration of the quarries in the conservation planning of the archaeological sites together with the local settlements which ensure the participation of the local communities, municipalities and other stakeholders including governmental organizations of cultural heritage. The management plan should provide the sustainable development of the sites regarding their individual historic values as well as their potentials for scientific, cultural, educational, economical and tourism values.

Risk Assessment and Monitoring of Ancient Egyptian Quarry Landscapes

Per Storemyr Geological Survey of Norway

A tentative analysis made by QuarryScapes of all known (c. 200) Egyptian quarries of Pharaonic to Roman date shows that 9% are entirely or largely destroyed, 20% are partially destroyed and 38% are largely intact, whereas 25% are still in good condition. The main reason for destruction is modern quarrying and mining, to which c. 40% have been subjected. About 11% have been or are influenced by urban and rural development, agricultural development accounting for 2%. The latter is a main risk for Prehistoric quarries (pre-3,000 BC). For 45% threat has not been specified, but the immediate risk of destruction is considered rather low.

The main risk in the near future is clearly modern quarrying and mining, also in areas that have not previously been influenced by such activities. This is because the Egyptian quarrying and mining industry is developing fast. Also risks associated with the development of new cities and villages are strongly increasing, especially in greater Cairo, Minya and Aswan. Natural hazards (rainstorms, flash flood) are a noteworthy factor in the Eastern Desert, whereas deep gallery quarries along the Nile can be at risk from partial collapse.

Based on available, official protection decrees, only 5% of the ancient quarries have a secured legal status as owned or supervised by the SCA, but perhaps 50% may be known to regional SCA inspectorates. One quarry (the Unfinished Obelisk in Aswan) is part of a World Heritage Site (WHS) because of its value as an ancient production site; a few others are coincidentally part of other WHS (e.g. in Giza and Luxor). About 10% are coincidentally part of existing or proposed nature protectorates. Apparently, only three quarries are promoted to the public. Such quarries are the only receiving regular management.

Including detailed examples from four quarry landscapes (Gebel el-Ahmar, Northern Faiyum, Gharb Aswan and Chephren's Quarry) this contribution will present the above main results of the risk assessment programme and introduce possible indicators applicable to future monitoring by SCA using the QuarryScapes work as a baseline.

First Step for Protection of Ancient Quarry Landscapes in the Aswan Region

Adel Kelany Supreme Council of Antiquities, Aswan

Aswan is one of a few Governorates that has a complex geological base and hence Aswan is a key area of quarries both ancient and modern. Materials such as granite, sandstone, silicified sandstone and gold were the main quarried materials over deep time. Today, about 500 modern quarries are active in Aswan, quarrying different materials, including *El Alaki* area . Two types of clay and granite were the main quarrying materials in Aswan region . In the last 10 years, quarrying activities are growing very fast because of the needs of the world market and so many quarries have been opened by private companies. Because most of the modern quarries activities centre around exploiting the same materials which were quarried in ancient times, crashes were expected between antiquity sites and modern quarry companies. Today, these activities, present and past, more or less live side by side. However, this could never have been achieved without many of the steps taken by SCA as follows:

- Establishment of a new department in SCA for protecting ancient quarries and mining sites.
- Complete changes to the system of dealing with modern quarry companies.
- Training courses for inspectors of antiquities from different regions after the success in Aswan .
- Increase the interest of ancient quarry and mining sites by documentation and conservation

What has been done in the Aswan region is the first step for protecting ancient quarries all over Egypt. This has been achieved not only by extending the new system of dealing with modern quarry companies, but with the aid of the quarry database and quarry maps, which have been just some of outcomes of the QuarryScapes project.

WP7: Map of Ancient Egyptian Stone Quarries

Rawda Yousri and Azza Shawarby

Supreme Council of Antiquities, Egypt

Our activities, which extended over almost 28 months, have led to the general conclusion that the value of the Egyptian Quarry landscape is underestimated. Extreme efforts need to be exerted to initiate a concrete protection and preservation strategy, plans and practices.

Efforts should primarily focus on changing how the quarries are being regarded through conducting awareness raising campaigns that target concerned institutions (SCA, Governorates and quarrying authorities), inhabitants living adjacent to the sites, as well as specialists in the field of archaeology. Setting and conducting national and international projects similar to the QS project and encouraging research in the field of ancient quarrying, should be encouraged as part of the long term sustainable strategy.

By the end of the project's 28+ months time span, we conclude that the project activities, while being primordial for the long term safeguard of the quarries heritage, are a start to continue actions. Though the activity of this project only permitted conducting general research activities for each of the quarry's identified. Additional, more focused, long term activities need to be designed and implemented to specifically identify and establish the status, conditions and intervention measures of each classified quarry landscape. Consequently, designing and applying systematic methodology to classify and inscribe other quarry sites.

Fortunately the Egyptian administration, has already taken first measures towards the reorganization of the value and significance of quarry landscapes through the establishment of the Quarry department within SCA. The role of this administration is to prescribe and undertake result oriented measures that would, when implemented, provide protection and enhance the value of Egypt's quarry landscapes. However, and based on their previous experience and flexible resources, the involvement of international expertise remains crucial for creating a long-term safeguard system for the protection of ancient quarry landscapes.

Jebel Qatrani Protection Measures

Jon Bjornsson North South Consultants Exchange

A review of present status of the Qatrani quarries and the ancient road. Initiatives implemented during the project period, awareness and protective measures, agencies involved.

With a view to possible expansion of the UNESCO World Heritage Site (Wadi Heitan), a review of status of that project (foreign funding and management is finished). A look at protective measures implemented as well as visitor facilities, information dissemination and support structures (in part likely to be repeated in case of extension). A review of current development trends for the overall northern Qaroun area, roads and possible construction projects.

Characterising Quarry Landscapes from Empirical Datasets

Tom Heldal Geological Survey of Norway

Within the framework of Quarryscapes, field studies of eleven different quarry landscapes in Egypt, Jordan and Turkey were carried out. These studies involved the characterization of various aspects of quarry landscapes on the road towards conservation and management; the identification and recognition of ancient quarries, detailed surveying and characterization of their features, how to approach the significance of them, the evaluation of risks and threats and finally aspects of management on a local and a national scale. Although quarry landscapes differ in many ways, being cultural and historical context or longevity of use, there are certain common aspects that are characteristic for quarry landscapes, and that can be transferred from one context to the next. Such aspects can be described and analysed in a systematic way.

A quarry site may be visualized as *the resource* which was exploited and *the remains* from the various processes involved in the exploitation of it. Such remains include features such as the actual traces of extraction, the discarded material (spoil), tools, work areas and features related to sustaining the people involved in the quarrying and other marks they put on the landscape. The remains from quarrying may be characterized from a purely physical and descriptive perspective. However, when characterizing quarries at a micro-level, this analytical phase has to achieve a basic overview of the quarrying process. Therefore, we have tried to develop a characterization procedure that groups material remains (features) into *key elements of quarrying*, which can be defined as:

- Selection (of stone to be quarried); resource element
- Extraction of stone blocks, size reduction down to the unit to be further processed, shaping of the more or less finished product that will be brought away from the quarry site; *production element*
- Transport of stone in the quarry and out from it; logistics element
- Social processes related to sustaining the work force and the "social life" around quarrying; *social infrastructure element*

The presentation will discuss how features (the material remains) within each of these groups can be addressed systematically and analysed to form a basis for finding similarities and differences of quarrying activities in the landscape. A key issue in how to define and get to the values of quarry landscapes is to identify groups – or complexes – of quarries, that articulate unique quarrying activities limited in space, time or by commodity. Particularly, such methods will help in characterising multi-faceted and multi-period quarry landscapes and in providing tools for comparing quarry landscapes in different settings.

Articulating Significance of Ancient Quarry Landscapes to a Wider Audience: four concepts of landscape

Elizabeth Bloxam Institute of Archaeology, University College London

The next stage in the conservation process, after characterisation of ancient quarry landscapes at a micro-level and the identification of quarry complexes (as discussed by Tom Heldal) - is to find ways to articulate the significance of value of quarry landscapes at a broader level in a 'statement of significance'. In WP8 we developed four macro-level concepts of landscape as a possible road to articulating significance in a meaningful way to decision-makers, heritage management and others. Given that quarry landscapes comprise at worst the invisible, and at best, often confusing sets of material remains, we have to make them accessible across a broad range of interests if they are to be conserved and protected. Moreover, we need to find ways of articulating significance not only holistically of an ancient quarry landscape, but be able to 'best project' where historical and informational values may be attached to specific material remains within a quarry landscape. 'Best projections' being a planning tool for decision-makers when landscapes are under pressure from modern development needs.

In summary, these four concepts are as follows:-

Associative historical landscapes: at a macro-level, some ancient quarry landscapes may be provide additional evidence, and/or be connected with significant events and transformations in history and prehistory.

Socially constructed landscapes: can put across significance related to ancestry, social embeddedness, tradition and allows for the historical value context to be assessed across a quarry landscape in its totality. This concept is particularly relevant to articulating significance when there are multiple traces of quarrying over deep time and where these may be connected to other activities occurring across the landscape.

Contact landscapes (consumption): part of the historical significance of the ancient quarry, although this may be hard to visualise and attach to actual physical remains, may be its connection to another more highly visible and significant place through consumption of its products.

Dynamic landscapes: a concept to use when a quarry landscape has been totally integrated into a modern city and where we need to assess historical and informational values through human agency as characterising the *present-day* landscape, rather than its past.

We tested these concepts in WP8 and this presentation aims to give examples of how this approach can be used on ancient quarry landscapes across the project region, particularly given the diverse material remains and contexts in which we are all working. The aim is also to get feedback from consortium members as to the transferability of these concepts, in terms of their effectiveness in articulating significance to heritage authorities and others, in their particular countries.

DAY TWO: 13 OCTOBER 2008

Aswan - archaeology under the shadow of modern town development

Cornelius von Pilgrim Swiss Institute Cairo

Despite the historical significance of Aswan the history of the town is almost unknown. Several monuments have already disappeared during the last century and all urban remains still hidden in the ground are now seriously threatened by the booming development of the town. There is a serious conflict between the needs of a modern town and the obligation to protect its cultural heritage. A solution is only possible by achieving a fair balancing of both needs. Since 2000 the Swiss Institute of Architectural and Archaeological Research on Ancient Egypt in Cairo and the Supreme Council of Antiquities Aswan conduct a joint archaeological project in Aswan focusing on the protection of the town's cultural heritage. The objectives of the project are twofold:

On the one hand, a main focus was put on the introduction of systematic rescue excavations in current construction sites. It is in the nature of things that the results of this work can not be preserved on the spot but they contribute considerably to a better understanding of the history of Aswan, to our knowledge of the past being an essential part of our cultural heritage.

On the other hand, there are antiquities areas in Aswan including completely preserved temples, monumental fortification architecture and rock inscriptions, which were neglected for a long time. They represent the backbone of any archaeological work and they offer the unique opportunity to visualize the history of the town. As a prerequisite for a sustainable protection, however, these areas must not only be made recognizable as antiquities areas. In a complex organism of a modern town they cannot be developed and protected as separated islands, but they should be integrated into the entire process of modern town development.

The paper shall contribute to a discussion on the future of these sites and the possibilities of their preservation by means of establishing archaeological zones in the centre of Aswan and its vicinity.

Rescue excavations in the city of Aswan - results and perspectives

Wolfgang Müller Swiss Institute, Cairo

The Swiss-Egyptian Joint Mission is monitoring modern building activity in Aswan since 2000. During the last four years nearly no construction work within Old Aswan went without prior archaeological investigation. Following the model of European urban archaeological units procedures have been established in order organize the different kinds of response triggered by a specific threat to the archaeological remains covered by the modern town. The stepped response covers a continuous search all over the town for unannounced diggings, the monitoring of the actual excavation process (the first stages of excavation are generally within the responsibility of the contractor), stopping non-archaeological excavation work if archaeological structures come to light, conducting the ensuing salvage excavation while the surrounding conditions for undisturbed work and the necessary time frame have to be arranged with the local authorities and finally the results of the excavation have to be processed and be the basis for a decision-making process as to what has to be done with the area, whether modern construction work and destruction of the ancient remains shall be allowed or the salvaged structures shall be protected. All these actions are carried out jointly by the Swiss Institute of Architectural and Archaeological Research on Ancient Egypt and the SCA Aswan

The focus of the paper lies on the last points of the above mentioned course of action. What is the final result of a typical rescue excavation? Usually the archaeological structures are destroyed after documentation is finished. Only in one case before the start of the Joint Mission the land has been disowned after a salvage excavation. The "Roman Shrine" (Area 5), one of the most fascinating examples of Early Roman architecture in Upper Egypt, was protected but no additional measures could be taken due to the vicinity of derelict modern buildings. The trench with the monument at its bottom is now nearly completely filled in with waste. It is therefore crucial what happens after excavation, both with respect to preserved and destroyed heritage. Structures can only be preserved permanently as parts of larger clearly marked and fenced in Areas.

In spite of the archaeologist's inclination to save and protect any excavated structure, the needs of the modern population have to be taken into account. Any approach that neglects the rules of ownership will lead to additional animosities against archaeological work. In a place like Aswan continuity poses a considerable problem for the archaeologist. Modern towns on exactly the same spot as their ancient forerunners make rescue work necessary. The limited timeframe is even more problematic because several meters of cultural deposits and structures have accumulated over time. Continuity is on the other hand also a possible point of contact with the local population and decision makers. Thus visibility is becoming an issue. As nearly all excavated structures are vanishing irrevocably to be finally replaced by modern buildings, the richness of the cultural heritage is not evident for the present population. The primary task is to process the archaeological information in a scholarly way; alas archaeological publications have a very limited audience. It is crucial to increase the coverage otherwise the only not archaeologically involved people knowing about an excavation will be the ones being in conflict with it because their building project is delayed. An additional approach, especially with the authorities, would be tourism.

The exact way of visualization is depending on the situation. Simple means like permanent labels marking the spot of an excavation and giving an account of its results may be sufficient. A first step is to define zones within the town with a special function, both modern and ancient. A good example would be the Souk – Area where, due to a recent remodelling

several excavations have taken place. The whole history of the Souk from its beginnings in the Early Islamic Period up to the present became evident in this work. In Roman times it was part of the cemeteries of Syene and in Pharaonic times it was the place of quarry activities. Of special interest are changes in the river landscape, shifts of the river bank. Today's Souk-Street was in the immediate vicinity of the river bank during the Roman and Pharaonic periods and occasionally inundated. So the factor of the ancient environment, of the interaction between human and river and of the exploitation of natural resources (granite) comes into play. Here the element of change between now and then is especially captivating. The zones may be organized internally either along existing modern paths or routes connecting areas of interest. The zones are linked to each other by overall topics. Vantage point for the whole scenario should be the large central Area around Areas 1 and 2, introduced in the lecture by Cornelius von Pilgrim, because there actual monuments are preserved and hopefully accessible for a wider public in the near future.

Settlements and encampments in threatened desert landscapes

Ian Shaw

University of Liverpool

This paper will use three archaeological case-studies drawn from different locations and time periods in Egypt, with the aim of studying the problems posed by both ephemeral and complex ancient settlements located in the desert and currently exposed to threat from modern quarrying, eco-tourism, irrigation and agriculture. The three sites to be examined from this point of view will be the Hatnub travertine quarries in Middle Egypt (exploited primarily during the Old and Middle Kingdoms), the amethyst and gold mines at Wadi el-Hudi (Middle Kingdom to Roman), and the ancient city at Medinet el-Gurob in the Faiyum region (18th-20th Dynasty).

The ancient quarries of Greek coloured marbles: state of knowledge and preservation

Lorenzo Lazzarini L.A.M.A., Dipartimento di Storia dell'Architettura, Università IUAV di Venezia

As is well known, Greece has been much favoured by nature as regards the occurrence of decorative stones, namely of white marbles largely used in ancient classical times. Less known is that it was also an important source of coloured stones that were extensively exploited in some Roman and Byzantine periods. Unfortunately many of these stones were also massively extracted in the last century (a few are still in commerce), thus destroying many traces of ancient quarrying.

The presentation considers the main polychrome species, giving a short information about their use over the centuries, and distribution in the ancient world, then concentrating on their known quarries. These are briefly described, taking into consideration their recent state of preservation and conservation/ possibilities.

'Site Management' myth and challenge in Egypt

Naguib Amin

The term "Site Management" is fashionably propagated as the magic potion among Egypt's' heritage and antiquities players and stakeholders. Site management is foreseen as the priority obligation, the inevitable solution and the urgent prerequisite to protect eternal Egypt's' legacy from menacing physical mortality.

To which extent are site management visions rational and realistic? And to which extent do they translate into efficient actions?

This presentation will critically expose the existing conditions to include:

- current organizations; strategies; regulations; operations and the tools of Site Management in Egypt,

- predominant threats (both physical and institutional) and management improvement needs.

- the complementing and the conflicting site management roles (or the immobility) of the multitude of actors: (UNESCO versus SCA; ICOMOS versus Ministry of Tourism; archaeological Missions versus Inspectors; or local authorities versus population living near or within sites and monuments.

After documenting the existing conditions, in addition to projecting them in a 20 or so year's timeframe perspective, the presentation will attempt to propose, from a Planner's perspective, rational Site Management requirements that would effectively contribute to the safeguarding of Egypt's very threatened heritage.

The Blaenavon industrial landscape: World Heritage Site

John Rodger, MBE World Heritage Co-ordinator

The Blaenavon Industrial Landscape was inscribed by UNESCO as a World Heritage Site in December 2000.

"The area around Blaenavon bears eloquent and exceptional testimony to the pre-eminence of South Wales as the world's major producer of iron and coal in the 19th century."

ICOMOS Dec - 2000

At Blaenavon the broken landscape of former mineral exploitation, now substantially revegetated, exhibits the "combined works of nature and man" and provides clear evidence of the development of industrial activity associated with extraction of iron, coal and limestone during the early formative years of the Industrial Revolution.

The Blaenavon landscape extends to 33,000 hectares over mountain land, the area is basically the hinterland which provided the raw materials of iron ore, coal and limestone and contains the transportation network which served the main monument the Blaenavon Ironworks (1789). At that time the ironworks was the most up to date in the world and is now the best preserved of its period. The landscape also provides the context for the Big Pit National

Mining Museum, a completely preserved coal mine and for the historic town of Blaenavon where the miners and colliers lived.

Here in South Wales early industrial society developed, a difficult relationship was forged between management and workers which proved very significant in political development world wide. The new industrial society is reflected in the housing, educational, social and religious buildings in the town as well as the surrounding landscape.

One of the main aims in securing World Heritage inscription was the conviction that the international status could act as a catalyst for regeneration and help secure sustainable future for this run down area. World Heritage recognition has, in fact, greatly assisted in attracting funding for the protection, promotion and development of the area. Inscription also helped in the growth of cultural tourism including informal recreation within the landscape with a network of walks and cycle-ways. However the greatest contribution has been changing perceptions and restoring community pride which has been reflected in the revival of the local property market.

Small community, big heritage: the millstone quarry landscape in Hyllestad, Norway

Torbjørn Løland Hyllestad Millstone Quarries, Norway

The Hyllestad millstone quarries cover an extensive area in the Hyllestad Municipality, situated in a coastal landscape on the Norwegian West coast. The millstone quarrying started before the Viking Period and did not end until the last millstone was produced around 1930. The presentation will focus on the local engagement in this heritage and the connection to professional research environments at universities and research institutes. In the community, research within several disciplines such as geology, archaeology and ancient craft techniques are tightly integrated with the local cultural life and measures for promoting and managing the millstone quarry heritage. This integration has been achieved due to active engagement by voluntary organizations, the school and the municipality. The presentation will, furthermore, show how the local people can contribute to bringing life to the history of millstone quarrying, in cooperation with researchers and heritage authorities.

QUARRYSCAPES FIELD TRIPS

Getting to the quarries and what to wear: both Gebel es-Sawan North and Gebel Gulab at the Aswan West Bank are easily accessible and involve only a 20 minute walk to each place from the tarmac road. Also Gebel el-Silsila only involves a short walk from the bus. The terrain is easy to walk on, sand-covered and with a few minimal inclines. Good, but light walking shoes will be needed, sun-screen and a hat. A packed lunch will be provided.

14 OCTOBER 2008

Aswan West Bank ancient quarry landscape field trip: visit to the quarries of the earliest stone producers, grinding stone quarries and the lost quarries of Seti I

Introduction

A total of seven seasons of archaeological and geological survey have been conducted on the Aswan West Bank (2004-2007), both before and during the QuarryScapes project. Exploitation of silicified sandstone (often termed 'quartzite') across the West Bank in antiquity, covering an area of approximately 60 km, has been the major factor in transforming and shaping the landscape we see today. Past research of the silicified sandstone quarries had largely assumed that the ornamental stone quarries of the New Kingdom and Roman Period, complete with their elaborate networks of roads at Gebel Gulab and Gebel Tingar. represented the key periods of quarrying here. However, during the QuarryScapes survey we discovered that ornamental stone quarrying of the New Kingdom and Roman Period constitutes only a minor part (a few hundred years) of silicified sandstone quarrying across the West Bank. Rather, the Aswan West Bank is an extensive quarry landscape largely transformed by the production of utilitarian objects, such as grinding stones, from the Late Palaeolithic into the Roman Period. In addition, the history of silicified sandstone quarrying goes even further back into the Lower - Middle Palaeolithic where the resource was quarried for tools. In sum, QuarryScapes research of the Aswan West Bank has revealed it as being one of the world's only remaining quarry landscapes that testifies to human engagement with a single resource for upwards of 150,000 years.

The aim of this field trip is to show participants where we can see some of the best examples of this quarrying, across time, in terms of products produced, production methods and other elements of the material culture. This journey will take us across a range of time depths, from the Lower-Middle Palaeolithic into the Roman Period, where we will visit some of the earliest Palaeolithic stone tool quarries, Predynastic grinding stone quarries and New Kingdom to Roman Period ornamental stone quarries. This field trip will reveal the complexity of this ancient quarry landscape and how we have identified and documented this range of quarries. Moreover, the aim is to discuss with participants ways in which we can develop survey techniques and further research activities in this region.



Map of the Aswan West Bank and location of field trip areas

Gebel es-Sawan North: Lower – Middle Palaeolithic tool workshop and Predynastic grinding stone quarries

Located 2 km west of the Nile, Gebel es-Sawan North is a key place (or quarry complex) that is representative of some the earliest remaining Lower – Middle Palaeolithic silicified sandstone tool workshops. We will explore some of these places and also the instances of some early silicified sandstone grinding stone quarries of at least the Predynastic (4th millennium BC). We will also look at other material culture in the area such as ancient rock art (petroglyphs), shelters and instances where younger grinding stone exploitation of the New Kingdom/Roman Period has given us great insights into the quarrying process of such objects.



Map of the area



Pre-historic tool floor

Gebel Gulab: New Kingdom to Roman Period ornamental stone quarrying

Moving forwards in time, Gebel Gulab (located 1 km west of the Nile) became a key place for quarrying of silicified sandstone for ornamental objects, mainly during the New Kingdom (2nd millennium BC late 18th – 19th Dynasty) and to a lesser extent in the Roman Period. We will visit a range of quarries on Gebel Gulab where obelisks, large statues and other objects were extracted in the New Kingdom and examine from the archaeological evidence what insights can be made into the processes of large-scale stone extraction. We will also look at the networks of ancient quarry roads that lead into some of these quarries and other aspects of the material culture such as inscriptions, petroglyphs (rock art) ritual features and shelters. We will also visit some of the largest grinding stone quarries of the Dynastic period and look at the differences between production processes of these Dynastic quarries with those of the Predynastic. On the southern tip of Gebel Gulab we will visit some of the later Roman Period ornamental stone quarries and look at how extraction processes changed with the introduction of new technologies.



Map of the Gebel Gulab area



The Seti 1 obelisk tip at Gebel Gulab (removed from site 2008)



Quarry roads (New Kingdom), Gebel Gulab



Grinding stone blank

15 OCTOBER 2008

The unfinished obelisk quarry

The most famous quarry in the world? The unfished obelisk was supposed to be 42 metres tall, but was never released from the bedrock. Today, we can see how channels were carved with stone tools around this huge block of granite, an example of how far the ambitions of granite quarrying went in the New Kingdom Period. In the quarry, we will also see other examples of obelisk and statue quarrying from the New Kingdom as well as quarrying from the Roman Period applying wedging.



The unfinished obelisk quarry at Google Earth



The unfinished obelisk

16 OCTOBER 2008

Gebel el Silsila sandstone quarry landscape

Gebel el-Silsila is the largest quarry landscape in the Nubian sandstone for monumental building stone. One believes that stone blocks for many of the temples along the Nile were quarried here. The quarries date from several periods, from the Old Kindom to the Roman Period. Various types of tool marks seen on the quarry faces display the use of different technology in quarrying. In addition to open pit quarries, there are several quarries underground (gallery quarries).



Gebel el-Silsila quarries seen on satellite image (Google Earth)



View of sandstone quarry face, Gebel el-Silsila