
Forum

Environment, Archaeology, and Oil: The Messak Settafet Rescue Operation (Libyan Sahara)

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THE MESSAK SETTAFET PLATEAU, AN ENDLESS MINE FOR HUMAN ACTIVITIES

Looking at the satellite images of Central Sahara, anyone would be amazed by a large, heavily black region: it is the Messak (or *Amsach*, in Tamasheq) Settafet Plateau, part of the Hamada of Murzuq (Fig. 1). Unfortunately, insufficient knowledge of this area exists in the archaeological literature. The region was already well known in the mid-nineteenth century, when Heinrich Barth crossed wadi Mathendousc, in the southern fringes of the plateau, and discovered the first rock engravings of the area (Barth, 1857). Decades after that pioneering and isolated journey, this rugged landscape was closely studied by rock art scholars (e.g., Graziosi, 1942; Le Quellec, 1998; Lutz and Lutz, 1995; Van Albada and Van Albada, 2000), but little attention has been paid to the palaeoenvironmental and archaeological features of the region (e.g., Cremaschi and di Lernia, 1998).

The dominant and distinguishing landscape of the Messak is nothing but its astonishing black color, formed by a thin, some microns-thick, film—the desert varnish, or patina—whose nature and age have been recently assessed (Cremaschi, 1996).

Apart from its magnificent rock art gallery, probably among the richest in the world, which led UNESCO to include this territory and the adjacent Acacus mountains on the World Heritage List in 1985, this area features an impressive concentration of stone monuments: megalithic structures, tumuli, and rings (Cremaschi

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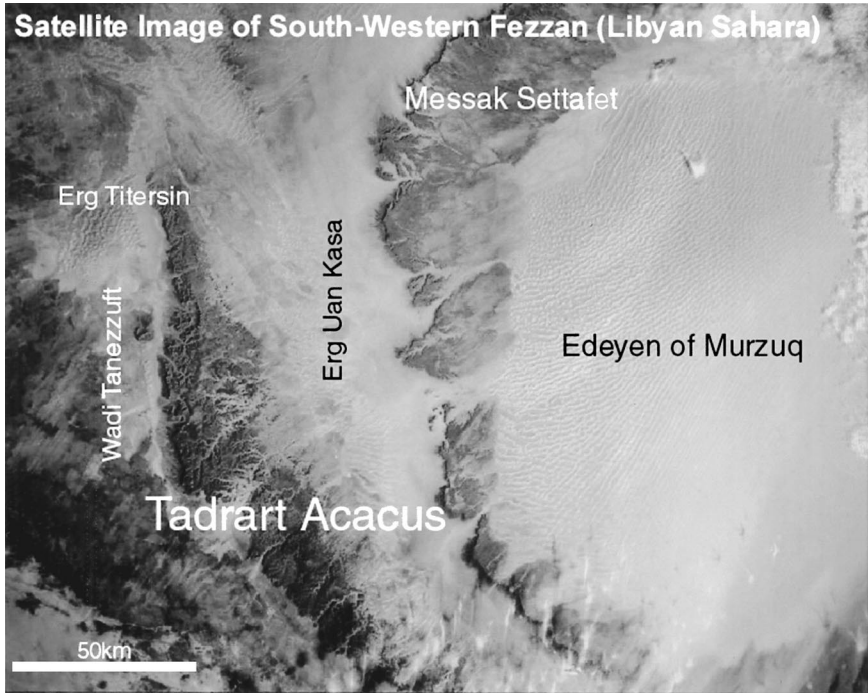


Fig. 1. The Acacus and Messak Settafet region, satellite view.

and di Lernia, 1998). In addition, pastoral campsites and caravan crossings have been observed in recent years.

The Messak has been for millennia an inexhaustible source of raw material required for human activities. Large outcrops of quartzite are found here, which were extensively exploited from the Late Acheulian to the Pastoral Neolithic (e.g., di Lernia and Cremaschi, 1997; di Lernia *et al.*, 1997). Quarries, vast knapping areas, and workshops comprise the major evidence of the special importance that the Messak had in the past. Tools made from this precious quartzite, of its different varieties, had a large circulation radius (di Lernia *et al.*, 1997). It was specially used to produce finely made tools.

Nowadays, the Messak Settafet holds once more great importance for the development of the region. An immense oil field (Elephant Field) has recently been discovered by the LASMO Grand Maghreb Limited. In fact, after years of seismic surveys, which inflicted dramatic damage on the landscape, the environment, and the archaeological heritage, drilling and exploitation are really upon us. Furthermore, Libyan authorities are going to license new areas in the Messak Mellet and in

the Edeyen of Murzuq, which are currently environmentally and archaeologically intact.

Thus, from being an unlimited prehistoric mine up to becoming a modern oil field, the Messak Settafet appears to be destined to suffer from industrial exploitation, environmental disturbance, and damage. Nonetheless, these may be mitigated, and the need for economic development could be combined with an adequate safeguard and tutelage of the local environmental and cultural heritage.

LANDSCAPE AND ARCHAEOLOGY: A BACKGROUND

The Messak Settafet is a plateau cut into the Lower Cretaceous Nubian sandstone, gently tilted towards the east and delimited to the northwest by an abrupt scarp, located in the southwestern Fezzan (Libyan Sahara). The plateau is interpreted as a relict of a Tertiary peneplain with inselberg-type relief (Cremaschi, 1994). Present investigations have disclosed remnants of lateritic palaeosols on top of the hammada. At its eastern fringe, a continuous belt of similar soils vanishes below the dunes of the Edeyen of Murzuq. A dense net of wadis dissects the plateau, showing a dendroid pattern and highly sinuous channels, indicating that the drainage net originated mainly under a water supply higher than the present one, possibly in a wet Tertiary equatorial climate. However, the wadis also experienced a period of hydrographic activity during the Pleistocene (Cremaschi and di Lernia, 1998).

The desert pavement of the Messak Settafet is nowadays a palimpsest of lithic scatters ranging from Middle and Late Acheulian up to historical times. In some areas the concentration of hand-axes, Levallois cores, and other Pleistocene lithics is truly impressive. Unfortunately these stone assemblages are usually deprived of their stratigraphic context, but they still preserve some spatial configurations. Holocene occupations are testified by hundreds of stone structures, ranging from conical tumuli to megalithic structures and enigmatic stone features. This archaeological evidence is barely known, although some recent surveys have helped to correct this problem (Gauthier and Gauthier, 1999). Rare deposits in rock-shelters (Cremaschi, 1994; Mercuri *et al.*, 1998), pastoral campsites, rich concentrations of trapping/tethering stones (the so-called *Ben Barur* stones), and fireplaces roughly complete the picture of the human population of the last millennia.

Needless to say, the rock engravings deserve special attention. Without first-hand experience, it is hard to comprehend the astonishing quantity and superb quality of this immense open-air museum, although the excellent reviews made by several scholars may help. In fact, no other area in North Africa has enjoyed a similar level of scientific and amateur study in recent years (e.g., Le Quellec, 1998; Lutz and Lutz, 1995; Van Albada and Van Albada, 2000).

THE OIL FIELD DISCOVERY: HISTORY OF THE ISSUE

Although already protected by the Antiquities Law of Libya, this unique complex of cultural heritage is in need of a more appropriate institutional status, in order to face the sudden growth of tourism and oil exploration. Tourism is certainly a welcome sign for the cultural enhancement and economic profit it entails. However, it poses serious risks including the potential of damaging the rock-art sites and the pillaging of surface archaeological remains. Development by oil companies, though an unavoidable activity for the economic welfare of Libya, may pose major threats for the preservation of the entire historical and prehistorical landscapes.

It is noteworthy that the number of tourists visiting the area is increasing. During the 1990s, owing to logistical difficulties, most of the (few) tourists consisted of small private groups, using four-wheel drive vehicles. After the recent lifting of the embargo, a large number of tour operators stormed the Acacus–Messak mountains as one of the main tourist attractions of North Africa. According to recent estimates, more than 45,000 persons visited the region between December 1999 and April 2000. This impressive number of visitors calls for an immediate regulation of access to the area, because of the fragile equilibrium of the natural environment (overexploitation of water and trees, and risks of pollution).

Oil prospecting activities on the Messak Settafet started in the 1980s with some seismic surveying and the drilling of one exploratory well. Activity intensified after 1990 when a British independent oil company, LASMO Grand Maghreb Ltd., was awarded an exploration concession covering a large portion of the Messak. LASMO's operations from 1992 to 1997 met with a mixed reaction from experts and visitors. Some welcomed the improved access that bulldozed seismic lines offered. Others were concerned that this would lead to the degradation of the area, indiscriminate tourist access and damage to rock art. LASMO made no secret of its activities and attempted to preserve the archaeological features that its environmental screening had identified and that its nonexpert operatives recognized in the work area. As such, attempts were made to avoid direct damage to carvings and graves, although the archaeological context of some of these features was heavily disturbed by earth moving equipment. The activities did create considerable disturbance to the pervasive lithic scatter over the Messak, this feature of the heritage being unrecognized by the oil-field operatives. In 1997, with the discovery of the F-NC174 oil field, activities intensified in the area of Wadi Inhagalas and the level of damage and disturbance increased. This operation is so dramatic that it can be detected on satellite images, particularly in the central Messak.

In mid-1998, in response to the findings of LASMO's Environmental Impact Assessment, the Department of Antiquities and the Society for Promoting Educational, Cultural and Scientific Programmes in the Islamic World (an active local

charity organization) took prompt action to deal with the situation. As a consequence, a committee of experts from the National Oil Corporation (NOC), the Department of Antiquities of Libya (DoA), and LASMO was formed in November 1998. Following a visit to the site, the committee decided to resort to UNESCO for neutral advice and consultation. International concerns about the issue of oil exploration on the Messak were highlighted by the publication, in I.N.O.R.A. (*Lettre Internationale d'Informations sur l'Art Rupestre*) in 1999, of an anonymous article denouncing damage to the environment and archaeology as a result of LASMO's activities. It was timely then that UNESCO formed a committee of local and international experts to visit the area, to assess the damages, and to propose solutions. The committee included, among others, Stefan Kröpelin, a geomorphologist, Jean Le Quelleq, a rock art expert, Mustapha Giuma Salem, a geologist, and Giuma Anag, a senior archaeologist. The committee visited the area in late 1999 and produced an interim report, which testified to the major negative impact of LASMO oil exploration activities on the cultural and natural heritage. The report also emphasized the necessity of conducting a systematic survey prior to any future oil development activity in the area.

Upon signing a joint venture with the NOC to develop its rich Elephant Field, on August 14th 2000, LASMO sought Dr Giuma Anag's assistance to organize a systematic archaeological survey by September 15th 2000. He contacted the head of the Italo-Libyan Archaeological Mission, Prof. Mario Liverani, and the Chairman of the Society for Libyan Studies, who both hold an active and valid license from the DoA to conduct archaeological research in the area.

THE NEED TO DEVELOP AND THE DUTY TO SAFEGUARD. A FUTURE FOR THE MESSAK?

Most of the damage already done to the Messak is irreversible. In particular, the roads and the seismic lines (started in the 1980s) have definitively altered the landscape. The Department of Antiquities is trying to map the damage, and has asked LASMO to examine how it can rectify some of the injuries already inflicted. Furthermore, a rescue operation has been undertaken in the area, thanks to the efforts of the Departments and the personal work of Dr Anag. The two foreign missions operating in the region were requested to monitor the area, to map and locate all the archaeological features, and to excavate some particularly endangered sites. This has been carried out by the British mission directed by David Mattingly, University of Leicester (which operates in the ancient Garama, wadi el Ajal), and by the Italian Mission of the CIRSA, directed by Mario Liverani (administrative seat, the University of Rome "La Sapienza," and the project also includes the universities of Milan and Modena). The rescue operation was supervised by Dr Anag. The entire operation involved five Libyan archaeologists,

30 persons from Great Britain and Italy (archaeologists, geologists, topographers, etc.), plus some 40 members of logistic staff, workers, and drivers. The operations lasted for a total of 75 days (30 days for the British team; 45 days for the Italian group), and were fully funded by NOC/LASMO, with all logistical support provided. The operation was conducted in full compliance with the Libyan laws. Within 18 months, the CIRSA will publish the final report of the rescue operation, and this will represent the first application of the Libyan Antiquity Laws in the history of this country. We are inclined to think that this operation is an example of combining the need to develop local resources and to protect and safeguard the cultural heritage, and that it should serve as an example to future projects in Libya and elsewhere in northern Africa. Operatively, a series of changes have been requested to the general development project in the area, in order to protect certain special locations. Suggestions to insert several sites in the exploited areas were made, and other modifications were proposed. Moreover, the restoration of the natural course of the wadis, moving the disturbed ground, has been also asked. Deeper investigations, especially on rock art engravings, some Acheulian sites, and funerary monuments are of particular importance.

Among the final resolutions adopted, and recommendations issued, we recall here (1) no future prospecting and/or exploitation can be carried out without a preventive evaluation of environmental impact and archaeological risk; (2) no activities can be performed in the proximity of the wadis (within a respect belt of at least 200 m); (3) the impact of oil exploration and subsequent activities must be kept at a minimum; and (4) the companies involved have to support the scientific studies in the licensed areas, through specific missions, and through the training of Libyan personnel.

In conclusion, the cultural heritage of desert areas has long been protected by its hyperarid environment, remote location, and difficult access. Now the situation has changed. Unless the right measures are adopted, many risks are faced by this unique heritage. A preliminary program of systematic documentation and collection has become urgent and indispensable. The final target should be the establishment of a true and proper "Archaeological Park" of the Tadrart Acacus and surrounding areas, protected by a special law to be issued by the Libyan government, as recently proposed by the Italian mission (Liverani *et al.*, 2000). Actually, some of these mountain ranges are already protected, thanks to the creation of parks or reserves, and the need to protect the Acacus and Messak should be a top priority for the Libyan authorities. Unfortunately, the inclusion of the Acacus in the UNESCO list of world cultural heritage is not sufficient to effectively protect the region, its environment and archaeological richness. We should also realize that the area is of extraordinary importance for its geological landscape, fauna, and flora.

Finally, the traditional patrimony of nomadic Tuareg should also be adequately taken into consideration. Important examples of this vanishing culture, ethnographic evidence of a nomadic style of life, can be found in Libya: tent

architecture, material culture, herding facilities, type of economy. A great effort by the international community is therefore urgently called for, and all the intellectual, political, and scientific energies should aim to save this unique archaeological and environmental treasure, make it accessible to people—both Libyans and foreigners—and allow an adequate development of the local industrial activity.

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