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The Roman quarries at Antinoopolis (Egypt): development and techniques

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ABSTRACT

The aim of this research was the survey and the study of the many quarries located in the first spurs of the Gebel el-'Adila, close to Antinoopolis (Middle Egypt). These quarries are an excellent opportunity for observation and research concerning the "landscape archives" and preserve traces of man's activity, representing a real cultural heritage. The paper gives a short geological setting of the area and reports our recent study (2006 onward) on traces, typologies, methods and development of the quarrying activity in the area, focussing on the Roman period. The working traces allowed us to define the working tools used for quarrying, the organisation of the works and of the quarry exploitation, as in the area many remains of the quarry organisation network are extant or recognisable, such as: service posts, sledge-ways, docks.

1. Introduction

Before the Roman foundation of Antinoopolis, during the Pharaonic period the site was used for cemeteries at least in the proto-dynastic period (AA.VV, 1974, pp. 23–31) and in the Middle Kingdom, when pit-tombs were excavated in the eastern hill-slope (Rosati and Zaccaria, 2008). The main pharaonic monument, enclosed in the Roman town, is a temple by Ramesses II (XIX dynasty, 1279–1213 B.C.), who made use for his building of a lot of stones, limestone and sandstone, taken from their original structures in Tell el-Amarna, the residence of the famous Pharaoh Akhenaten from the XVIII dynasty (Rosati, 2006).

However, the presence of a settlement there is quite sure only during the Ptolemaic-early Roman period: it is still unidentified, as any suggested place-name has been proved unsuitable (Rosati, 1995; in press).

Antinoopolis (Fig. 1) was founded in the year 130 A.D. by the Roman Emperor Hadrian, who named the new town after his favourite Antinoos dead by drowning into the Nile, during his official visit to the country.

The new settlement was colonized by Greeks brought from other cities, especially from the Faiyum.

The town grew quickly and was an imperial prefecture, capital of the whole The baid, under the Emperor Diocletian. Antinoopolis was connected by the Via Nova Hadriana to the Red Sea and the important harbour of Berenice, the head point of the trade with the Indies. Therefore Antinoopolis had to be an important trading centre at the beginning of the Via Hadriana on the Nile.

In the reign of Valens (A.D. 364–78), it became a bishopric with one Orthodox bishop and one Monophysite bishop. Devastated by the Sassanid troops in 619 A.D., the town began to decline after the Arab conquest of Egypt, 639–641, and it can be considered abandoned and ended during the 10th century. Nonetheless, its fame did not end, but its renowned and rich buildings began to be destroyed systematically in the second half of the 12th century by order of the famous Salah ed-Din, to be reused for his constructions in Cairo (Calament, 2005, I, 81), and its destruction went on till the 19th century.

At Antinoopolis the Istituto Papirologico "Girolamo Vitelli", University of Florence, has been carrying out archaeological excavations and researches since 1938–40 and afterwards quite regularly since 1966, sharing the area with the University of Rome "La Sapienza" until 1985 (AA.VV, 1974; Del Francia Barocas, 1998; Pintaudi, 2008).

In this long time span the archaeological missions were devoted to the study of the ruins of the town and its necropolises; in the surrounding hills, north and east of the town in the first spurs of the Gebel el-'Adila, so many quarries for miles round had been recorded but only scantily described, and mainly when they showed Coptic vestiges: inscriptions, ruins of buildings and walls, reuse of quarries or caves as houses or churches, or pit-tombs.

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In the last decade a new interest in the study of Antinoopolis, also as the core of a territory with which the town was in a strict relationship, led to begin researches on the activities in the surrounding country related to the presence of the town. In this context, the presence of so many quarries represents the remains of an outstanding activity. Consequently, the purpose of this research is to recover to our knowledge the quarries near Antinoopolis as a cultural heritage, important both from the historical and the scientific point of view, and to take into account and stress their cultural importance as well as their historical-artistic and economic value, which does not appear to have been sufficiently explored yet or, therefore, protected, with a possible risk of losing or wasting it (Coli et al., 2006, 2008).

Quarries offer valuable opportunities of research and study, such as the analysis of problems related to restoration and exploitation. The remains of quarrying sites provide an excellent chance for observation and research about the so-called “landscape archives”. These sites preserve traces and the original documents of man’s activity. In many cases, a quarry represents the ‘embryo’ of a constructed monument and therefore is historically and culturally valuable for the correct conservation and restoration of the original materials that were used.

Moreover, researches concerning quarries foster an interdisciplinary symbiosis by bringing together experts of various qualifications and trained in different fields who contribute their knowledge and work closely together.

The use of natural stone has been a main resource for human operations and construction both for everyday use and for the building of large monuments. Historical quarrying sites provide tangible evidence of mankind’s connection with natural stone resources for construction and related cycles of production, transportation and utilization. In many sites, and Antinoopolis is a remarkable example, it also constitute a “quarryscape” (see: www.quarryscapes.no) to discover, study and conserve. Indeed at Antinoopolis, it is possible to study the entire exploitation and quarrying process: from the first trial and try exploration up to the full development of a large quarry basin and the traces of the working tools and their modes of use, such as quarry facilities and transportation structures.

2. Geological and geotechnical background

The geological history of Egypt (Said, 1962, 1990; Tawadros, 2001; Sampsell, 2003) is characterized by long time of shallow water deposits, from Oligocene vertical uplifts and faults occurred on the eastern side due to the opening of the Red Sea Rift which now separates it from the Arabian plate.

The Egyptian geological succession has a proto-Archean and Precambrian crystalline and metamorphic basement, in the early Palaeozoic there was a clastic continental sedimentation followed by ramp deposits in the Carboniferous. During Triassic, Jurassic and Early Cretaceous the Nubian sandstones deposited, which are

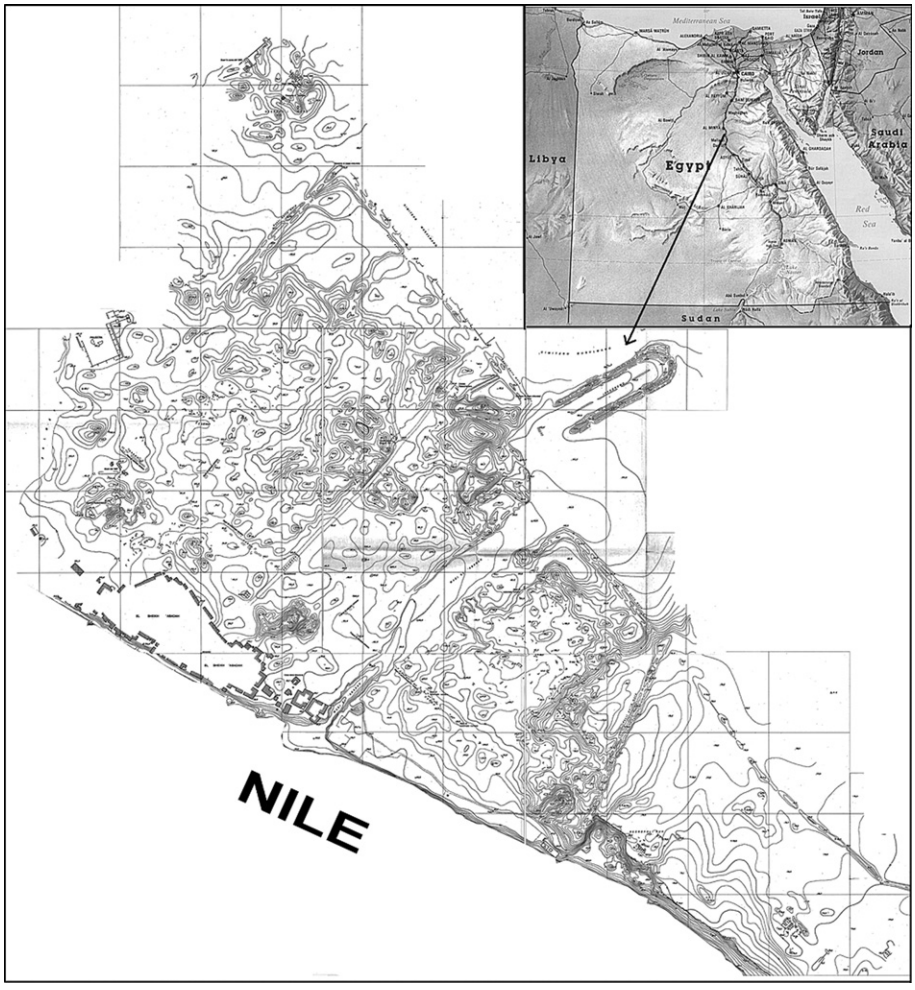

Fig. 1. Map of Antinoopolis and its location in the Nile Valley (topographer: A. Pericoli, 1984–87).