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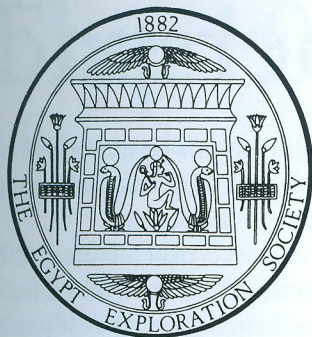
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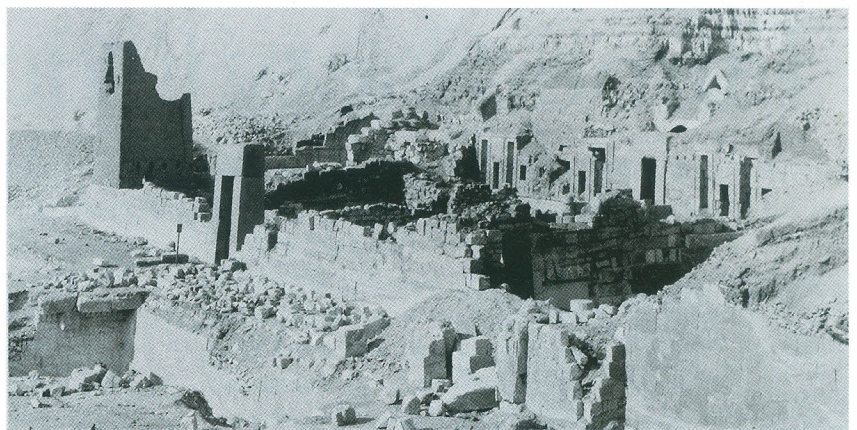
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Deir el-Bahri. The temple of Hatshepsut, with remains of the overlying Coptic monastery, during excavation by the Egypt Exploration Fund in 1894. This was one of the sites visited by the Society's 125th Anniversary tour. See pp.37-38. Photograph by Howard Carter: EES Lucy Gura Archive.

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Cover illustration. *The British Museum conservator Karen Birkhölzer preparing a wall-painting of the banquet scene from the tomb-chapel of Nebamun for re-mounting (see pp.21-24). Photograph: © the British Museum.*

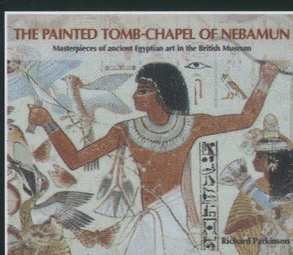
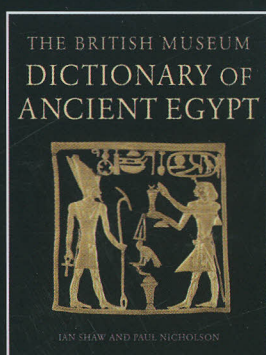
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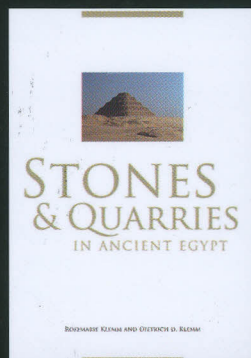
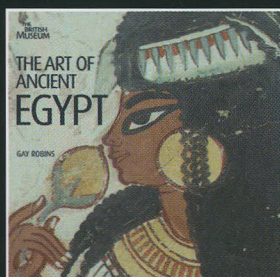
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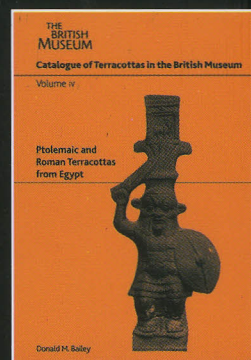
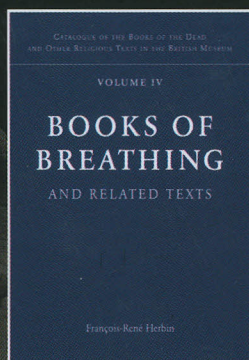
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The Lake Mareotis Research Project

In the Hellenistic and Roman Periods Lake Mareotis (the modern Lake Mariut) played an important part in the economic and trading activities of the inhabitants of Alexandria, then Egypt's capital city.

Emad Khalil reports on an area survey, now nearing completion.

Since its foundation in 331 BC, and for almost a millennium afterwards, Alexandria was the political, economic and cultural capital of Egypt and one of the most significant emporia and ports in the Hellenistic and Roman world. Much of the city's wealth and prosperity was generated by trade through its important and complex harbour system, which included harbours not only on the sea but also on Lake Mareotis (modern Lake Mariut) to the south and west of the city. To date, however, the ancient Lake Mareotis has been a much under-studied resource particularly with respect to its economic relation to Graeco-Roman Alexandria. Therefore, since 2004 the Centre for Maritime Archaeology of the University of Southampton, in collaboration with the Department of Underwater Antiquities of the Egyptian Supreme Council for Antiquities, has been conducting a comprehensive archaeological survey along the shores of the lake west of Alexandria. The continuing project aims to quantify the archaeological resource and address the nature of maritime activities conducted around the western arm of the lake, particularly during the Graeco-Roman Period.

Lake Mariut represents one of the most distinctive geomorphic features on the northern coast of Egypt. It was the only freshwater coastal lake in Egypt, fed by means of a number of canals, which branched off the



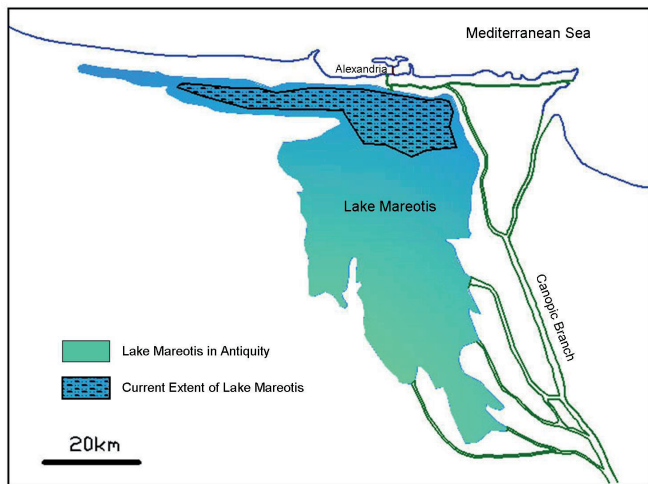
A fisherman punting on Lake Mariut (ancient Lake Mareotis)

Nile's now-defunct Canopic branch and flowed into the south and east sides of the lake. Some of these canals were navigable, enabling merchandise to be transported easily to and from the hinterland. The lake was also connected to the Mediterranean through a navigable canal that entered the sea at Alexandria. Its connection to both the Nile and the sea resulted in the lake being a vital conduit of communication in Egypt's internal transport system. Moreover, as a freshwater lake it supported around its shores various agricultural activities and embraced major production centres for different industries such as glass, pottery and wine, which contributed significantly to the economy of Alexandria and of Egypt as a whole.

Abundant evidence indicates that the ancient Lake Mareotis extended for about 50km south and west of Alexandria. It comprised a roughly rectangular body of water which merged to the east and south with the Nile Delta plain, and a narrow arm that extended westwards parallel to the northern coast. However, during the past two millennia the lake has undergone dramatic changes which have significantly affected its size and nature and today it is only 17 per cent of its original size. Its principal water supply is now derived from irrigation canals and drains which carry agricultural runoff from the surrounding



The eastern quay of the kibotos of Mareotis, a box-shaped harbour on the southern shore of the lake. It appears to have gone through several phases of use but its original date has not yet been established



The ancient and current extent of Lake Mareotis/Mariut. In antiquity, the lake was fed by a network of canals from the Canopic branch of the Nile

cultivated lands. However, the western end of the lake has not been subject to such dramatic changes since antiquity and reflects the extant remains of the original lake, forming an arm that extends some 40km west of Alexandria. It is 2–3km wide, separated from the Lake's main body by causeways and shallows. The lake also contains an island which is 4km long and about 500m wide.

The shores of the Mareotic arm are known to contain several archaeological sites, some of which have been studied by archaeological missions during the past decades (see further pp.12–14). However, the nature and extent of the archaeological resources of the area have never been thoroughly explored and this is one of the aims of the current project.

The Lake Mareotis Research Project aims to investigate the following questions: how much did the maritime and economic activities in the Mareotic region contribute to the economy of ancient Alexandria? What was the functional and spatial relationship between the different

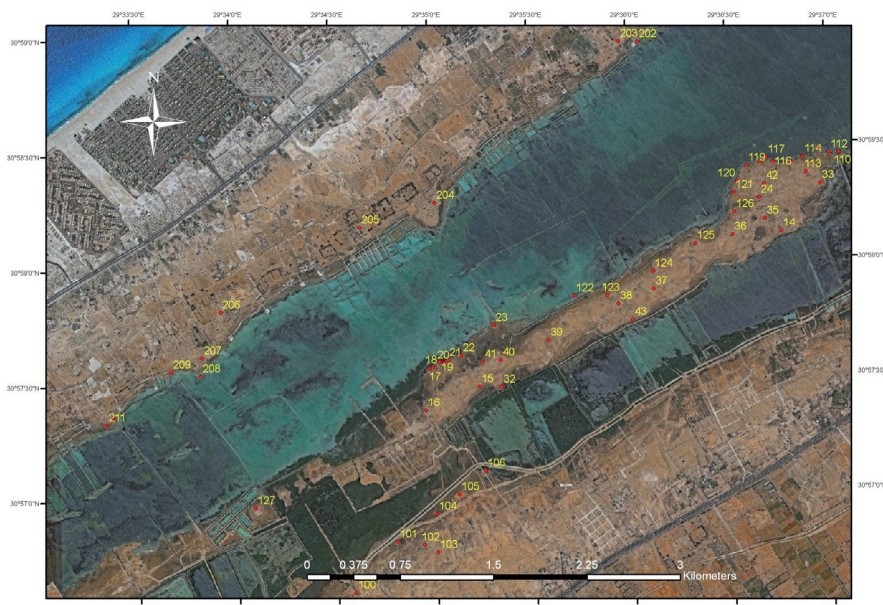


One of the many ancient tells extending along the northern and southern shores of Lake Mariut

activities around Lake Mariut? How did this system of economic activities function and interact in successive periods?

A thorough archaeological survey of both the northern and southern shores of the lake's western arm and around the shores of the Mareotis Island is currently being carried out to record systematically and investigate all archaeological features that had been constructed in close relation to the ancient shoreline. Particular attention is being paid to sites of a maritime or industrial nature. By looking at all visible evidence for industry, trade and transport, and relating the results of previous work undertaken in the Mareotic region, the project aims to assess the archaeological resources of the area in a comprehensive manner, to help to shed light on the role the region played in the economy of Graeco-Roman Egypt.

An initial pilot survey of the area was conducted in 2004, during which a total distance of about 100km of the lake shore was surveyed. This resulted in the identification of over ninety sites, with over two thirds of them being new discoveries. Following the pilot survey, a detailed investigation of the research area was initiated. So far, a comprehensive topographic survey of sites on the north coast and the Mareotis Island has been carried out using GPS-based Real Time Kinematic satellite navigation systems. Also several significant waterfront structures have been planned, and a magnetometer survey has been carried out at some sites on the island in order to determine whether or not there were any structures beneath the sediments. Finally, ceramic assemblages were collected from most sites for identification and dating purposes. The survey was aided by a high resolution satellite image of the



A satellite image of the Mareotis Island and the adjacent northern and southern shores of the Lake. The numbers indicate archaeological sites that have been recorded and surveyed



The remains of a unique building on the southern shore of Lake Mareotis. Its construction technique would suggest it is pharaonic but its exact date and function are yet to be determined. Photograph: Graeme Earl



An artificial tell overlooking the northern shore of the Mareotis Island. Cleaning revealed the foundations of a building which could have housed a water wheel (sakkia)

Mareotic arm which is used as a base for a GIS that incorporates different types of survey data.

So far, the survey has explored several features reflecting economic activities in the Mareotic region. Sites that were investigated included numerous maritime structures, such as harbours, jetties and quays which could have been used for mooring boats and for loading and unloading cargoes. Also what appear to have been waterfront warehouses and storage facilities were recorded. The survey also revealed abundant evidence for industrial activities, mainly amphora production, which included kiln structures, ceramic slag and kiln wasters. Several structures related to water management were recorded, such as cisterns, wells and water wheels (*sakkia*). These remains correlate well with the archaeological and textual evidence of viticulture and wine production in the region.

The dating of sites relied primarily on the ceramic assemblages collected during the survey, revealing that the majority date from the Hellenistic Period to the seventh century AD. Ceramic forms consisted mainly of amphorae, in addition to a variety of fine ware, tableware, and cooking and coarse wares, mostly of local production.

In the final field season, in the summer of 2008, the southern shore of the lake's western arm will be surveyed. This will include topographic and ceramic surveys, sediment analysis and detailed planning of the archaeological remains. The Lake Mareotis Research Project will establish the basis of a significantly enhanced archive and provide scholars with much-needed data upon which future research can be based, and on which traditional interpretations of the economic role of Alexandria may be reassessed. Moreover, it will shed light on what could be one of the key elements in the economy of Graeco-Roman Egypt.

□ Emad Khalil is a Lecturer in the Department of Archaeology, Alexandria University, and a Research Fellow of the Centre for Maritime Archaeology, University of Southampton. The Lake Mareotis Research Project (www.southampton.ac.uk/archaeology/research/projects/mareotis_survey.html) is funded by the Leverhulme Trust and the British Academy. Illustrations (unless otherwise indicated) by Emad Khalil © The Lake Mareotis Research Project.



Details of the early Roman amphora kiln discovered on the Mareotis Island



An early Roman wine vat on the southern shore of Lake Mareotis



A mound of amphora sherds on the Mareotis Island, indicating the existence of a nearby kiln. Photograph: Lucy Blue