

Archaeological Survey of the Phoenician Harbour at Tyre, Lebanon

by Ibrahim Nouredine and Aaron Mior

The following represents a summary of the 2013 field season final report for the archaeological survey of the Phoenician harbour at Tyre, Lebanon. The final report will be featured in a forthcoming edition of Bulletin d'archéologie et d'architecture libanaises (BAAL).

Beginning in the 1960's, Honor Frost initiated several investigations aimed at identifying the existence of harbour installations around the coast of Tyre. While her initial exploration focused on the southern side of the former island, she also identified the significant archaeological potential for harbour facilities within the northern coast of Tyre (Frost, 1971). Later, she encouraged local Lebanese archaeologists to continue this research and provided mentorship to the first underwater investigations led by Nouredine and el H lou in 2001 who had been appointed by the DGA. The underwater investigations conducted by the Lebanese team confirmed the existence of a man-made structure within the northern harbour area of Tyre, in addition to confirming the high potential for the existence of significant submerged archaeological resources in the surrounding area (Nouredine and H lou, 2005).

Frost continued to advise Nouredine and el H lou on scientific and historic principals during subsequent investigations within the northern harbour at Tyre. The team continued to investigate the archaeological significance of the area, with the main focus revolving around the identification of an ancient jetty structure. Based on subsequent research and underwater investigations in 2004 (Castellvi *et al*, 2007) and 2005 (Nouredine, 2008) this underwater structure has been interpreted as representing a harbour jetty installation suggested to date to the Phoenician Iron Age. This interpretation is based on a number of attributes, including comparative construction methods and materials used for Phoenician harbours identified at Tabbat al-Hammam and Atlit (Nouredine, 2010).

The main objective of the 2013 field season was to complete a topographic survey to investigate the extent and spatial context of the archaeological resources associated with the Phoenician harbour on the northern side of Tyre. Additional objectives for the 2013 field season included the assessment of the current site conditions and existing state of preservation of the underwater archaeological resources affiliated with the identified jetty structure.

A number of features within the existing landscape of the north harbour of Tyre, both historic and modern, were surveyed in an effort to examine the relationship between the historic features to each other and to place them within the existing modern landscape context. The collected topographic observations were integrated into a map documenting the extent of features surveyed during the 2013 field season (Map 1).

The ancient jetty is oriented in an east-west direction, similar to the modern jetty, and is located approximated 57 meters north of the modern jetty structure. Three walls related to the ancient jetty structure were observed, with two walls oriented east-west, and a connecting north-south wall at the eastern end of the existing structure. Each wall consisted of one horizontal row of roughly hewn limestone blocks rectangular in shape, with each block slightly varying in size. On average, these blocks measured 1.86 meters in length, with the maximum length recorded being 2.25m. The average width measured 0.30m, with the maximum width measuring 0.45m and the average depth measured 0.45m, with the maximum depth recorded equaling 0.55m.

All three walls exhibited the same construction techniques with the limestone blocks laid in a "header shape", or "stones laid across" (Image 1). Across the majority of the structure only two courses of stones

were visible, although in some areas a third course could be discerned protruding above the existing sediment.

Another initiative of the 2013 field season was to further investigate the spatial relationship between the submerged jetty structure and the al-Moubarkeh tower (Image 2). The potential historical relationship between these two structures was first identified by Frost who suggested, based on the exposed construction techniques, the tower may date to the Hellenistic period and that it may have “served as a lighthouse during the periods demonstrated by its fabric”. Frost believed that the relationship between the tower’s position and the submerged jetty to the east, which “seems to align”, was “a point worth further investigation” (Frost, 2005). Based on her observations, Frost is recognized as the first scholar to identify the possible relationship between the two historic structures.

Subsequent investigations at the northern harbour of Tyre identified the importance of Frost’s observations and suggested that the tower may align with the “void between the two submerged walls of the jetty” and that the al-Moubarkeh tower and the jetty may have been part of the same structure. In regards to the construction date of the tower, it was suggested that the foundations may actually date it much earlier than the Hellenistic period, when it may have been refurbished (Noureddine, 2008).

An attempt was made to investigate the spatial relationship between the al-Moubarkeh tower and the submerged jetty using topographic survey data collected during the 2013 field season. When the inner walls of the ancient jetty are produced all the way to the tower, they are very close to matching the exterior tower walls, although the alignment does not match exactly. This may be the result of the observation that the western extent of both east-west oriented walls were difficult to discern during the survey and also there appeared to have some disturbance or displacement of the structure in this location (Image 3).

In addition to the topographic survey, another objective of the 2013 field season included the assessment of the current site conditions and existing state of preservation of the underwater archaeological resources affiliated with the identified jetty structure.

Previous site visits identified evidence of human interference, including the displacement of stone blocks and the removal of features directly connected to the jetty structure. The intention of the initial scuba dives of the 2013 field season was to investigate and document any evidence of disturbance to the underwater cultural remains since the previous site visit in 2010.

It was observed that a number of limestone blocks appeared to have been recently displaced from the upper row of the exposed portion of the jetty structure. This interpretation was deduced from the fact that the *in situ* limestone blocks were covered with a layer of green algae which had accumulated over an extended period of time. In locations of observed disturbance, not only was the limestone block from the upper row found displaced to the sea bed, but the top of the now exposed lower row of limestone blocks were not covered with the same amount of algae as the surrounding blocks, suggesting the top of these lower coursed blocks had not been exposed for an extended period of time (Images 4 & 5). While the possibility exists that environmental factors, such as hydrodynamic forces from wave action, could impact and displace the upper row of limestone blocks used in the construction of the ancient jetty, this would not explain why only some blocks, each weighing approximately 1 ton, have been disturbed while other adjoining blocks remain *in situ*.

Additional evidence of human activity at the site was observed during the 2013 field season. On November 22, 2013, when the authors arrived on the west shore, near the al-Moubarkeh tower, to collect

topographic and photographic evidence for the archaeological investigations, a skin diver was observed diving at the archaeological remains of the ancient jetty structure (Image 6 & 7). The skin diver appeared to have a rope and possibly other implements in their possession and accessed a small fishing vessel on the surface. The actions of the skin diver were observed by the authors for an extended period of time, although for safety reasons the skin diver was not approached. Although the exact activities of the skin diver on the site could not be confidently discerned, it appeared possible they were attempting to attach a rope connected to the boat to something underwater. It may be possible that this method of using a boat for leverage may explain how some of the limestone blocks have become displaced from the submerged jetty structure.

In addition to the topographic survey and site condition assessment, a risk assessment was completed for the site. Based on previous investigations at the site, and the data obtained during the 2013 field season, proposed future excavation and site investigation methods have been developed and strategies proposed for the future management of this important maritime archaeological site. The results of these initiatives, in addition to details regarding an additional submerged structure identified approximately 120 meters from the submerged jetty, are included in the forthcoming publication in BAAL.

Future site management and long-term cultural resource plans, in conjunction with a public education program, have been identified as potential mitigation strategies to aid in the preservation and conservation of the valuable archaeological resources identified in the northern harbour at Tyre.

The Phoenician harbour at Tyre may represent the largest identified man-made Iron-Age harbour installation in the Levantine realm and may also represent the oldest Phoenician harbour structure identified in the Mediterranean. While additional archaeological investigations are required to realize the full importance of this site, it has the potential to provide comparative data that can be utilized to study Iron Age harbour structures around the Mediterranean proper.

Acknowledgements

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Finally, the 2013 field season would not have occurred without the generous financial support provided by the Honor Frost Foundation. Ms. Frost's interest in this project provided the catalyst to the Lebanese archaeologists who first conducted underwater investigations at the northern harbour of Tyre in 2001. She provided the mentorship and scientific and historical knowledge to the project from the very beginning and her contributions to the project will always be appreciated.

Images

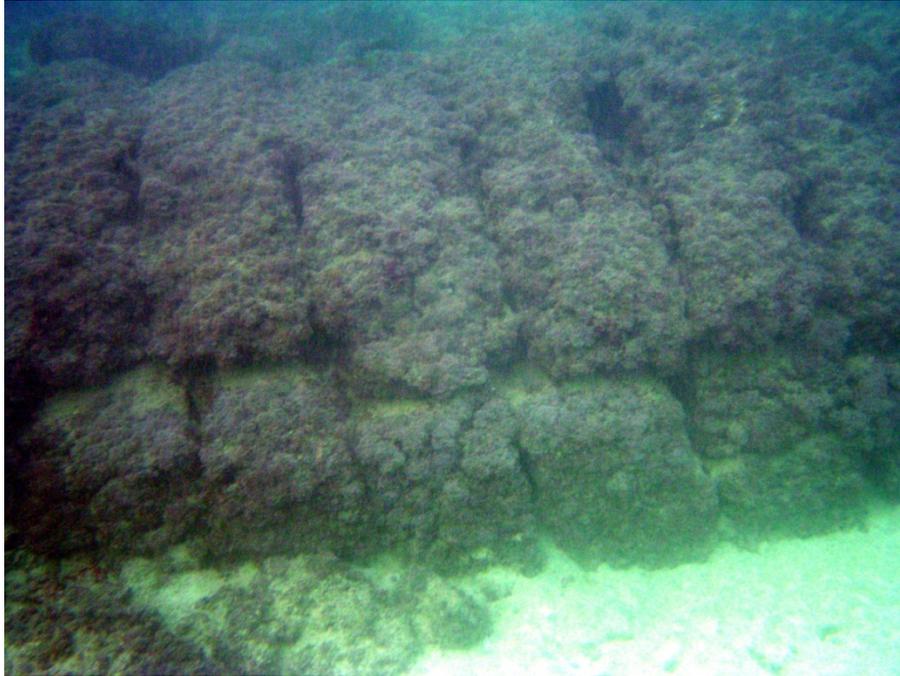


Image 1: Limestone Blocks Laid in a "Header Shape" Used for Construction of the Southern Wall of Jetty, looking north



Image 2: al-Moubarkeh Tower located west of Submerged Jetty, looking north



Image 3: Western end of Southern Wall of Ancient Jetty, looking north



Image 4: Evidence of Disturbance Along Upper Course of Ancient Jetty, looking north



Image 5: Additional evidence of Disturbance Along Upper Course of Ancient Jetty, looking north

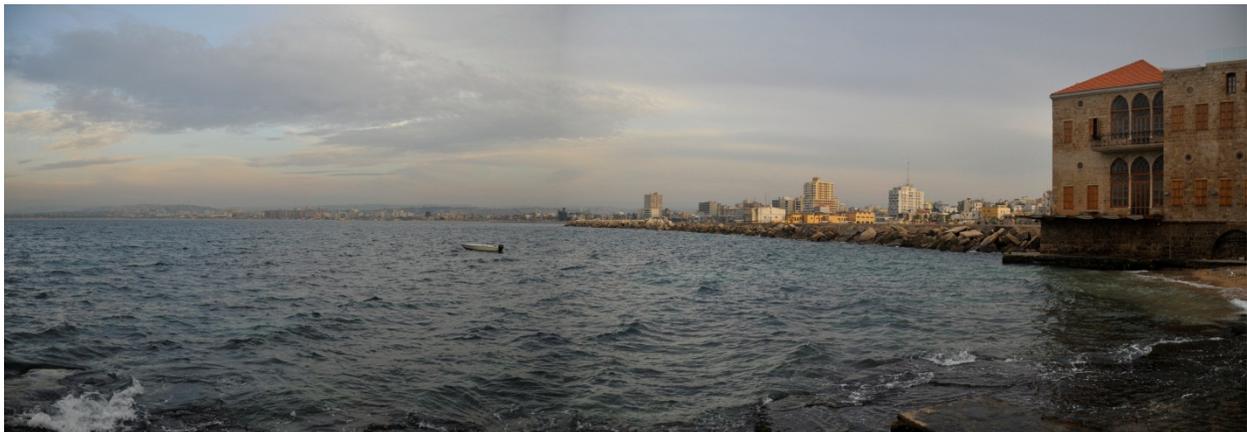


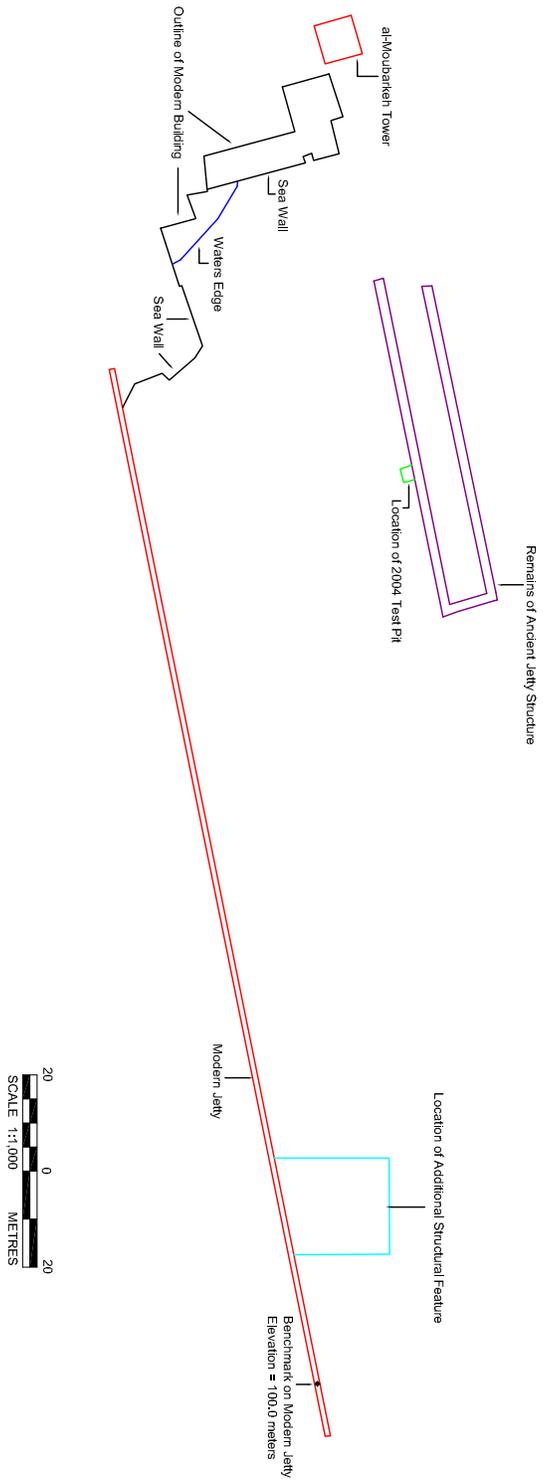
Image 6: Skin Diver and Motorized Fishing Boat at Site of Submerged Jetty, looking east



Image 7: Close up of Skin Diver and Motorized Fishing Boat at Site of Submerged Jetty, looking east

Maps

Topographic Survey of Northern Harbour of Tyre
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Map 1: Topographic Map Depicting the Features in the Northern Harbour of Tyre surveyed during 2013 field season

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