In the Footsteps of Honor Frost
Francis Martine Allouche, Elena Flavia Castagnino Berlinghieri

1. Honoring the Lady of Byblos

Nicolas Grimal (Collège de France, Paris, France)

Martine Francis-Allouche (Collège de France, Paris, France)

Honor Frost, a pioneering figure in maritime archaeology for over 40 years, has left behind an outstanding legacy in the eastern Mediterranean for many generations to come. One of her most important projects was the research she conducted at Byblos, from the 1960s to shortly before her passing. Honor traveled regularly from London in her Volkswagen Beetle to explore the history of the Levantine coast. She resumed research first initiated by Antoine Poidebard, Jean Lauffray and René Mouterde in southern Lebanon at the harbour sites of Tyre and Sidon, until the civil war prevented fieldwork.

In Byblos, prior to Honor’s research, archaeological investigations were exclusively land based; the sea front was terra incognita. In 1997 Honor started a long-term maritime archaeological survey of the site, primarily focused on identifying the ancient harbour of the city. Thereafter, Honor became the mentor and an inspiration to maritime archaeologist Martine Francis, who was given the opportunity to assist her research at Byblos.

In 2011, a multi-disciplinary investigation program ‘Byblos & the Sea’ took up the reins of Frost’s research under the direction of Martine Francis and Egyptologist Nicolas Grimal. Funded by the Honor Frost Foundation, ‘Byblos & the Sea’ has to date conducted eight field investigations, with the objective of linking the city to its seafront, to understand the maritime approaches to Byblos, and to locate the ancient harbour. Building on previous research, the field study covers the entire coastal rocky strip of Byblos and its maritime approaches. Recently, the southern vicinity of the ancient city was reinvestigated, confirming the location of a harbour basin at the foot of the promontory, exactly where Honor had believed it to be at the launch of her investigation. Today, research on the harbour continues within the framework of ‘Byblos & the Sea’, in the legacy of Honor.

2. Harbour Installations at Tyre North

Ibrahim Noureddine (Department of Greek and Roman Studies, Carleton University, Ottowa ON, Canada)

The cultural landscape encompassing the island of Tyre suggests the area has had a long historical dependence on maritime activities. It was during the Early Iron Age, correlating to the early rise of Phoenician culture, that Tyre reached its height of prominence. The Phoenicians are recognized as skilled seafarers who established dominance in maritime commerce throughout the Mediterranean, and the port of Tyre is suggested to have been a major commercial centre during this period.

As early as the late nineteenth century, investigations began seeking the identification of the two
harbours of Tyre mentioned in historical texts – specifically the so-called ‘Egyptian’ harbour south, and the northern harbour complex. During the early 1960s Honor Frost initiated several investigations to identify and document the significant archaeological potential for harbour facilities on Tyre’s coasts. Later in 2001, Ms. Frost encouraged me to continue this research and provided mentorship to the first underwater investigations on Tyre’s harbour since her early works. During this work, my crew and I were able to identify the existence of a man-made structure within the northern harbour area at Tyre. Ms. Frost continued to advise on scientific and historic principles during subsequent investigations within the northern harbour at Tyre; based on subsequent research and underwater investigations in 2004 and 2005, this underwater structure was interpreted as representing a former harbour jetty installation dating to the Phoenician Iron Age.

In this paper, I shed light on the 2001 project mentored by Honor Frost, the advice that she provided, along with subsequent work and suggestions to carry on the work and future planning.

3. The Impact of Honor Frost on Phoenician Port Studies in the Levant

Nicolas Carayon (Rome’s Mediterranean Ports Project, University of Southampton, Southampton, UK)

From the 1960s onwards, Honor Frost wrote a series of papers focused on the underwater archaeology of the Levant. She focused of course on famous Phoenician city-ports such as Tyre, Sidon, Byblos and Arwad. She explored the sea bottom and analysed submerged harbour infrastructures. In addition, Frost correlated underwater remains of ancient ports with emerged structures in order to understand the relationship between land and sea. This double approach allowed her to raise the fundamental issues of relative sea-level changes and maritime palaeolandscape 30 years before the development of harbour geoarchaeology. The tools used almost systematically today were not yet available to Frost at the time. Nevertheless as a pioneer she employed a truly interdisciplinary approach that remains the methodological process applied at recent and current projects on ancient ports in the Levant and beyond. This paper aims to place the impact she had on Phoenician port studies within the historiographical context of harbour geoarchaeology, and to focus on the relevance of the questions she raised.

4. Preserving the Landscape of Anfeh: From Nature to Culture

Nadine Panayot Haroun (Department of Archaeology and Museology, University of Balamand, Al-Koura, Lebanon)

Lucy Semaan (Department of Archaeology and Museology, University of Balamand, Al-Koura, Lebanon)

Honor Frost’s pioneering archaeological work in the Mediterranean is known to be almost exclusively focused on anchors, shipwrecks, and harbours. However, a closer examination of her work reveals an avid interest in maritime cultural landscapes, long before the term was coined by Christer Westerdahl in the 1980s. By putting coastal and underwater archaeology in context, at
Lebanese sites such as Byblos, Sidon, and Tyre; by considering sea-level changes and their archaeological signatures, environmental dynamics, and site formation processes; and finally by appreciating the tangible and intangible maritime material culture, Frost paved the way for local archaeologists to hermeneutically perceive the seamlessness of sea and land. This paper considers the maritime cultural landscape of Anfeh, an albeit understudied coastal site in North Lebanon. It seeks an appreciation of Anfeh’s maritime heritage, past and present. It will describe how an important site that played a role in the economy of the northern Levant from the Early Bronze Age to the Ottoman period site is being researched, surveyed and excavated. The multifaceted research project aims at reconstructing the history of Anfeh by combining archaeological data from surveys and excavations with an in-depth study of ancient epigraphic and literary sources, as well as ethnographic data collected from oral histories. Continuous research promises to locate the ancient city of Aampa [Anfeh] and to investigate its maritime activities with a focus on the anthropic experience of its maritime landscape.

5. Honor Frost and the Alexandria Lighthouse

Jean-Yves Empereur (Centre for Alexandrian Studies (CEAlex), Alexandria, Egypt; National Center for Scientific Research (CNRS))

In 1968, Honor undertook an appraisal mission in Alexandria on behalf of UNESCO in order to examine submerged ruins that had been reported by the pioneer of Egyptian underwater archaeology, Kamal Abou el-Sadat. As a result of her dives on the site, she drew up the first-ever topographic survey, which she published in 1975 in a famous IJNA article entitled ‘The Pharos site, Alexandria, Egypt’. In 1992, when the Egyptian authorities requested that I conduct salvage excavations at the foot of Qaitbay Fort in Alexandria, it was natural that I should turn to Honor, whom I had then known for some 15 years. Honor accepted my invitation and, in 1995, she dived along with us. Thanks to her remarkable memory, she was able to give us a precise description of the state of the site before the modern concrete blocks had been dropped in place. She was kind enough to return a couple of times thereafter, bringing with her previously unpublished documents that were crucial to our understanding of the underwater site of Alexandria’s Pharos lighthouse.

6. New Perspectives in Harbour Research

David J. Blackman (Centre for the Study of Ancient Documents, University of Oxford, Oxford, UK)

Harbour studies are no longer the ‘poor relation’ in maritime archaeology. Apart from the obvious point of the stimulus provided by new discoveries, we can see a readiness to review existing evidence. The geoarchaeology of harbours has provided much new evidence, and also underlines the need for caution. So, too, has the application of new analytical and dating methods. Honor Frost’s work and interests encouraged this development. One should recall also the work of her great friend, Gerhard Kapitän: they did, sometimes, talk about other subjects than anchors!
Working with Honor always contained the unexpected element: I will recall one experience. She always asked questions, which made one stop and think. I mention some of mine. For example, caution is needed in the application of network theory – not necessarily bedside reading for the ancient mariner. He may have been more worried about water supply or market conditions at the next port. We should continue to ask questions such as: can one always distinguish civil and military harbours? What were the standard methods of mooring? What was the standard quay height? What was the minimum depth needed at the foot of a slipway? How widespread were the light construction methods now shown at Naukratis and Myos Hormos? They would have been particularly suitable in deltaic contexts. In historical terms, can we fill in slowly the gap in the tradition of harbour engineering between Late Antiquity and the Renaissance?


Gregory F. Votruba (Research Center for Anatolian Civilizations (ANAMED), Istanbul, Turkey)
Osman Erkurt (360º Research Group, Urla/Izmir, Turkey)

Among Honor Frost’s pioneering contributions is her work illustrating the potential of the systematic study of anchors to inform about maritime culture and trade routes. Frost demonstrated that these nautical tools provide information on the nature of vessels, and that their find location patterns are commensurate with seafaring and long-distance interactions. Furthermore, concentrations near the shore may reflect the existence of anchorages, and terrestrial finds in proximity to temples likely hint at sacred dedications. After summarizing Frost and her colleagues’ conclusions regarding stone anchors, this paper reviews the current state of the field and discusses the benefits of reconstruction and experimentation. In addition, further prospects for the future of ‘anchorology’ are presented. Results of the stone anchor experimentation by the World Anchors Reconstruction and Experimentation Project (WAREP) are also introduced. As part of WAREP, full-scale anchors of various sizes and designs were tested on the seafloor through observation of casting and holding resistance measurements, both on sand and seagrass seabeeds. Additionally, various hypotheses are put forward based on statistical analyses of a substantial database. These include changing patterns illuminating maritime trends along the Levantine coast, including Cyprus, into Egypt and the Red Sea. The purpose and nature of one- and three-holed anchors (in which two stakes are placed to increase resistance) are discussed. It is demonstrated that, far from declining with Honor Frost’s passing, we can expect maritime cultural insights to flourish through the investigation of anchors with the application of developing technologies.

8. 1985-2008: The TROPIS Symposia on Ship Construction in Antiquity

As with trade fairs, the success of symposia is measured by the volume of goods or information exchanged.

Honor Frost, ‘Pyramidal Stone Anchors: an inquiry’
On the morning of June 22nd 1985 the full-scale replica of the ancient ship of Kyrenia, Kyrenia II, was launched in the presence of Melina Mercuri, the Greek minister of culture. Many European ministers and officials attended the ceremony, as the event was set within the framework of the ‘Athens Cultural Capital of Europe’ programme. I also proposed, and it was agreed, that a large exhibition, ‘Greece and the Sea’, with artifacts extending from the early Prehistoric attempts of navigation in Greek seas up to the modern super tankers, also be organized.

During the four years required for the construction of the Kyrenia II I realized that although theoretically a lot was supposedly known on how ancient hulls were assembled, there were numerous practical problems that still had to be elucidated. Not only were there questions on the shell-first construction method, but much remained to be learned on the use of the ship’s equipment. Dick Steffy, world specialist in the field of ancient ship construction with whom we closely cooperated, had many questions, as did Michael and Susan Katzev, the excavators of the ancient wreck. So I also suggested to the Ministry of Culture that a conference be organized on ‘Ship Construction in Antiquity’, focused on the construction and navigation of ancient Mediterranean sea craft. The date was set for the 30th of August, 1985: that is the date of birth of the TROPIS symposia.

That three-day conference in Piraeus was organized by the Hellenic Institute for the Preservation of Nautical Tradition, which I had established in 1981 for the construction of Kyrenia II, and leading scholars in the field of nautical and underwater archeology were invited. 26 papers were presented, some by world pioneers in nautical and underwater archaeology including George Bass, Peter Throckmorton, Honor Frost, Lucien Basch, John Morrison, Gerhard Kapitän, Thomas Gillmer, Michael Katzev, François Salviat and Charalambos Kritzas. The success of this first encounter and the publication of the proceedings led to the continuation of the symposia for another 23 years. A total of 10 TROPIS symposia were held: at Delphi (1987), Athens (1989 and 1991), Nauplia (1993), Lamia (1996), Pylos (1999), Hydra (2002), Aghia Napa, Cyprus (2005) and again in Hydra (2008). Honor Frost contributed to all the TROPIS symposia and was a member of the Organizing Committee multiple times.

The TROPIS conferences have always been open to the younger generation, and some of the students attending then are now leading scholars in the field. 66 papers were presented at the last encounter in 2008, after which the symposia had to be discontinued due to lack of State and municipal funds – a consequence of the severe financial crisis that Greece has recently been facing.

9. Three Decades of Adventures with Honor Frost

Elpida Hadjidaki (Former Director of Underwater Antiquities, Athens, Greece)

I met Honor Frost in the 1970s when I was a student in England, searching for what to make of my career. I knew it should combine history and the sea, but I had no models of what I could become until I met Honor Frost. She was a diver, travelled the world, made discoveries, and was
fearless. She became the most important influence on my professional life. We often traveled together, visiting archaeological sites, diving, or attending conferences together, in the UK, France, Bulgaria, and Greece. I not only gained knowledge of diving archaeology from her, but I learned to share her life-long passion for ships and harbors. I made my first visit to Phalasarna with her, and excavating its ancient harbor has been the most long-lasting excavation of my life. She was the first to identify the throne of Phalasarna as Phoenician. She also visited other excavations I directed, such as the Classical shipwreck at Alonnesos that I started soon after becoming director of underwater antiquities in Greece.

We began corresponding soon after we met, and our correspondence lasted until the end of her life. She could be a very close friend, although if anyone thought they could push her around because she was a woman, they soon learned otherwise. She will remain in history – and in my heart – as one of the world’s first diving archaeologists, as the first female diving archaeologist, for her comprehensive knowledge of marine antiquities, particularly anchors, and for inspiring the generation that has followed in her footsteps.

10. The Archaeological Mission of the Punic Ship

Pietro Romano Alagna (Cantine Pellegrino, Marsala, Italy)

This paper intends to portray the ‘Mission of the Punic Ship,’ as recounted by Honor Frost’s friend and legal executor in Sicily, Pietro Alagna, beginning with the first exploratory underwater investigations near Marsala in 1969 and the Punic ship's discovery. It will focus on the contextual history that provided almost 50 years of stimulating personal memories and exciting adventures that have enriched Dr. Alagna and his family, both culturally and personally. This paper highlights the importance of underwater archaeological research conducted by Honor Frost, as well as underlining her sincere and mutual friendship, deep respect and affection for the Alagna family and for all the team workers.

11. The History of Marsala's Shipwreck Exhibition from the Beginning to the Present

Rossella Giglio (Soprintendenza per i beni culturali ed ambientali di Trapani, Regione Siciliana, Trapani, Italy)

This paper seeks to provide some fundamental answers to questions concerning the Punic shipwreck of Marsala, from the first intervention on the wooden artifact (conceived to ensure its long-term survival) to its display, by sketching a history of its preservation and exhibition from the mid-1970s onwards. My aim is to clarify some of the conceptual groundwork and explore the theoretical and methodological challenges undertaken by Honor Frost. In this respect, I will outline the key points for preservation and exhibition of the main material types recovered. Between 1975 and 1978, the hull timbers were stored in freshwater tanks and treated with polyethylene glycol (PEG), a water-soluble wax that prevents wood from collapsing during the drying process. The timbers were subsequently re-assembled within an iron frame and displayed in the main hall of the Baglio Anselmi structure, which was not yet a museum at the
time. The wooden hull was protected by a plastic cover during the period that the building was being restored (since 1987). In my capacity as archaeological director at Trapani’s department of cultural and environmental heritage, I worked on the first exhibit of the wooden hull en plein air (1999), as well as for its protection and enhancement.

Spurred by the recent successful recovery of several bronze rams found on the seabed off Levanzo Island (like the Punic hull, associated with the naval battle in the Aegadi Islands in 241 BC that ended the First Punic War), the museum display of Marsala’s shipwreck was renewed and enhanced in 2016. The newly conceived Baglio Anselmi Museum provides new technology and display facilities that include an elevated walkway around the hull (first conceived by Frost, and studied by Ole Crumlin Pedersen) and several new showcases for stoneware and other materials (such as ropes, nets, baskets, corks, nails and weapons).

The constant presence of Honor Frost, and her detailed technical and professional choices undertaken with strength and determination in this field at Marsala, represents today a major asset for the future.


Claire Calcagno (Independent Scholar, Medford MA, USA)

Elena Flavia Castagnino Berlinghieri (Independent Maritime Archaeologist, Bristol, UK)

In early 2013, while conducting archival research funded by the Honor Frost Foundation, the authors discovered fortuitously an unpublished manuscript written by Honor Frost about her experiences as director of the Punic ship excavation project in Sicily during the 1970s. The 50,000-word text, found among Honor's papers in London, was titled ‘The Second Life of a Phoenix. Portrait of a Punic Ship Resurrected in a Sicilian Town.’ Frost's first-hand account, addressed to a broad audience and intended by Honor for bilingual publication in English and in Italian, offers insights into the real import of this seminal and pioneering excavation and its significance to the history of archaeology.

Frost was responsible for finding, excavating, treating and displaying the timbers of the Punic naval vessel that came to grief in the mid-third century BC off the western Sicilian coast near Marsala. Since the wreck-site's discovery in 1971, Frost worked for a number of years with the essential help of the local community and with underwater archaeologists who shared their (often experimental) expertise in maritime excavation and conservation techniques. In addition to the difficulties of managing a complex archaeological project in a region with relatively modest amenities at the time, Frost also had to contend with an increasingly intractable combination of local and national bureaucratic hurdles, over the course of several decades.

This paper presents work in progress, under the auspices of the Frost Foundation, to restore Honor’s manuscript to publishable form, honouring her original intentions as closely as possible while locating her book within its broader historical context. The resulting publication – partly autobiographical and partly biographical – will provide unique insights into Honor’s life and work, and bring her Sicilian chronicles to a wide audience.
13. From One to Many: How Honor Frost’s Legacy Shapes Scholars

Crystal el Safadi (Centre for Maritime Archaeology, University of Southampton, Southampton, UK)

Naseem Raad (Centre for Maritime Archaeology, University of Southampton, Southampton, UK)

Ziad Morsy (Centre for Maritime Archaeology, University of Southampton, Southampton, UK)

Lucy Semaan (Department of Archaeology and Museology, University of Balamand, Al-Koura, Lebanon)

Dorothy Chakra (Centre for Maritime Archaeology, University of Southampton, Southampton, UK)

Following the legacy of Honor Frost, one objective of the Honor Frost Foundation is to support researchers and scholars in the eastern Mediterranean. Whereas the support of maritime archaeological projects is vital for the region, sustainability can only be guaranteed with the presence of an active community of maritime archaeologists. Such a community requires members who are trained, experienced and motivated to carry maritime archaeological research forward. The HFF-driven initiative begun in 2012 regarding eastern Mediterranean scholars signals a process that will influence the development of the discipline in Honor Frost’s beloved countries for years to come. It represents an opportunity for archaeologists to further their academic studies and specialise in the field of maritime archaeology, while contributing to research in their respective regions.

As HFF-funded scholars, we wish to share the experience of how this initiative has taken shape thus far. By putting forth our stories, we aim to illustrate the impact of this HFF initiative on individual, regional and eastern Mediterranean scales.

The presentation outlines research conducted by HFF scholars in Lebanon and Egypt. Topics include maritime networks in the Early Bronze Age Levant, ethnographic studies of Nile boats, and Roman trade along the Near Eastern seaboard. The presenters outline their respective progress in their studies, and illustrate ways in which the HFF has helped not only with funding, but also in guiding research and connecting scholars to the wider communities.