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## Assessing a Decade of Kaş Underwater Archaeopark

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Archaeological parks provide hypothetical reconstructions that allow the general public a better historical understanding. This paper presents the case of an underwater museum, Kaş Archaeopark, which incorporates interpretative reconstructions of the Uluburun shipwreck site and its cargo. The project emphasized three outcomes of the creation of an underwater museum: education through nautical archaeology training, recreational diving as a means to raise public awareness, and research through experimental archaeology projects. Overall, the Kaş Archaeopark has improved knowledge and awareness of heritage preservation in both the local and diving communities.

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*Key words:* Uluburun wreck, underwater cultural heritage, open-air museum, reconstruction, public archaeology.

*In situ* preservation and public access are often construed as contradictory concepts in relation to underwater cultural heritage in Turkish territorial waters. Governmental regulations that prevent physical and sometimes visual access to sites are designated to protect cultural heritage. In underwater protection zones registered by the Council of Ministers of Turkey all diving activity is forbidden, with the exception of scientific underwater research (MoCT, 1983). In some shallow-water heritage sites, such as Kekova sunken city, any form of intrusion, including swimming, is forbidden (Karataş, 2011; Aysen *et al.*, 2016), and educational activities such as underwater-archaeology training are regulated by the Ministry of Culture and Tourism (MoCT). These measures enable *in situ* preservation and protection that is based on restrictions rather than free public access. This has had the unfortunate effect of creating distance between the cultural heritage and the public. In contrast, in a UNESCO report it is proposed that fostering public access to cultural heritage contributes to its appreciation and recreational value, as well as public understanding of its significance (UNESCO, 2013).

To counter this situation, an archaeological underwater museum in Turkey was established in 2006, to allow recreational divers to interact with a reconstructed archaeological site, namely the Archaeopark in Kaş. The park incorporates a purposefully sunk, full-scale hypothetical model of the Bronze Age ship originally excavated by a team led by George Bass and Cemal Pulak of Texas A&M University in 1984–1994 (Pulak, 1998), known as *Uluburun III*, and a reconstruction of the ship's cargo as it was discovered. The site is open to the public for recreational visits and

educational training programmes, and offers an experimental site used to record the decay of a shipwreck. In the decade since it opened Kaş Archaeopark has become a positive force for preservation, public engagement, and community collaboration.

### Legal framework

As home to numerous civilizations throughout history, modern-day Turkey attracts scholars from diverse disciplines, such as archaeology, museology, archaeological conservation, and architectural history. The MoCT is responsible for all cultural heritage management through its Department of Cultural Assets and Museums, which issues and regulates permits for field research in archaeology or historic preservation. Following the Antiquities Law of 1973, in 1983 the MoCT passed a Law Protecting Cultural and Natural Heritage, a comprehensive piece of legislation designed to protect and conserve cultural heritage, and promote interest in it (Blake, 1994: 276). According to this legislation, archaeological sites are classified as 'first', 'second', or 'third' degree with respect to their significance and archaeological value. This grading defines the level of intervention for research, conservation, and restoration. As on land, Turkish waters contain substantial numbers of archaeological sites, including ancient shipwrecks and sunken architectural ruins of ancient settlements. The shipwrecks often include cargo materials produced both nearby and in distant locations, and offer evidence of past maritime trade routes. The 1983 law extended the scope of the legislation in force to cover underwater archaeological sites and remains, while generally

retaining the perspectives of the 1973 law (Blake, 1999: 173).

Under the 1983 law, designated areas are declared as 'Cultural and Natural Properties to be Protected Underwater', that is underwater protection zones. In these zones, all recreational diving is banned to protect and preserve the underwater cultural heritage. Although the designation of 'no diving zones' in law was intended to prevent further looting and destruction of the archaeological heritage, their creation had the effect of increasing public interest in underwater remains (Varinlioglu, 2011b: 26). In reaction to this and to prevent unauthorized exploration a limited number of wrecks and sunken cities in shallow-water depths have been made accessible through fixed-itinerary glass-bottomed boat tours, for example at Kekova's sunken city (Blake, 1999: 280). Preliminary surveys at these sites having concluded that other forms of public access (such as fishing activities) would pose a threat to the *in situ* preservation of architectural remains and stratigraphic deposits (Brennan *et al.*, 2012: 55). The 'no diving' protected zones include sunken urban settlements and shipwrecks with cargoes of easily removable materials.

*In situ* preservation is preferable because it maintains the integrity of an archaeological site. This approach, however, poses several challenges compared to traditional preservation strategies, such as musealisation of the heritage. Submerged sites are generally removed from sight and, as a result, are more difficult to manage (Price, 2013: 223). As an alternative, the archaeological site can be protected and the public allowed access to a reconstruction in a separate location from the original, as long as such reconstruction follows the key concepts of museology; that is to communicate research through exhibition and education. Museums and open-air museums, besides hosting original archaeological artefacts, often use reconstructions to provide a view of the past.

## Review of museums and open-air museums

As defined by the International Council of Museums (ICOM), the cultural heritage of humanity and its environment is to be displayed in a museum defined as 'a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates, and exhibits for education, study and enjoyment' (ICOM, 2007: 3). As the definition implies, one of the museum's concerns is the preservation of the heritage objects that form their collections. Such collections are displayed to the public through the process of being placed in a museum (musealisation). This is sometimes accompanied by 'heritagisation', that is, preservation of an object or a place without engaging in the full museum process (Desvallees and Mairesse, 2010: 50). This process begins with a phase of separation (Malraux, 1947: 14): objects are separated from their

original context for further study. The museum object is no longer something to be used or exchanged but, rather, it delivers authentic evidence of reality, sometimes termed as the 'aura' (Benjamin, 1969: 4). This detachment of an object from its context can occur as a result of illegal looting, salvage excavations, or systematic archaeological research. Musealisation, as a scientific process, includes two essential activities: first, preservation, which includes the selection, acquisition, conservation, and management of collections; and second, research and dissemination, which includes analysis and study of the objects and communication via exhibition. For example, the Kyrenia ship, a 4th-century-BC wreck found off Cyprus (Steffy, 1985: 72), excavated from its archaeological context, was reassembled and displayed with its cargo in the museum area of Kyrenia Castle Museum (Katzev, 1981). Based on this archaeological evidence, *Kyrenia II* was a full-size sailing reconstruction was built in 1984. After experimental voyages in Mediterranean waters, the ship is now on permanent exhibition open to the public in the Thalassa Municipal Museum in Aghia Napa, Cyprus. (Tzalas, 2007). Similar to conventional museums, open-air museums are non-profit permanent institutions, often with life-size, outdoor architectural reconstructions, based on archaeological data (Paardekooper, 2012). According to the ICOM-affiliated organization EXARC, archaeological open-air museums provide interpretative replicas based on scientific methods that display how people lived and worked in the past (EXARC, 2001). They often promote education, study, and visitor enjoyment (Paardekooper, 2012: 289). The Viking Ship Museum in Roskilde for example, includes five vessels from the 11th century AD in the Viking Ship Hall (Ravn, 2014: 234). The boatyard has become an outdoor museum where the boatbuilding tradition is communicated through working boatbuilders, exhibitions, and the opportunity to experience sailing in reconstructed Viking ships and other traditional boat types of the North (Ravn, 2014: 240–241).

Dissemination of archaeological information through museum displays, publications, and online resources rely heavily on textual and visual means of communication. Besides housing original pieces, some museums include full-scale reconstructed scenes. In open-air museums, reconstructions of the past, in either physical or digital formats, enable users to visualize the data and become immersed in these environments. Rather than simply providing a synthetic image, text, or an outdoor panel, open-air museums can provide a unique opportunity to learn, interpret, and experience history (Colomer, 2002: 86). Such reconstructions of the past are gaining increasing interest among archaeologists, museum authorities, and the public for reasons including 'discovering the past, encountering the ancestors, attracting tourism, creating employment, preserving heritage, or for educational purposes' (Colomer, 2002: 85).

Referring to these objectives, Colomer categorizes three basic approaches to open-air museums based on Zapatero's analysis of European archaeological reconstruction projects (1998: 19): 1) archaeological parks; 2) parks of archaeology; 3) archaeology theme parks (Colomer, 2002: 86–87). Each type of park focuses on different principles and practices for the presentation of archaeological heritage.

- (1) Archaeological parks can contain full or partial reconstructions that are built over or near the archaeological remains themselves, providing interpretative material for the general public at the original site (Colomer, 2002: 86). For example, the life-size model of the Oakbank Crannog, a prehistoric dwelling on Loch Tay in the Scottish Highlands, has been built near the archaeological remains (Henderson and Sands, 2013: 262).
- (2) Parks of archaeology are places where reconstruction is actively used to introduce history to the public, but they are not situated on archaeological sites (Colomer, 2002: 86). Examples include the open-air display at Urla Iskele, Izmir, Turkey, of nine reconstructions of ships and anchors (Votruba and Erkurt, 2017) built using techniques from various eras and regions by O. Erkurt and his team (360 TAD, 2018) including an Izmir caique (Erginer, 2005), *Kybele* (Erkurt, 2015), *Uluburun II* (Erkurt, 2006), a reed boat (Erkurt, 2013), Cycladic-type boats (Erkurt, 2012), and two ongoing reconstructions of Phoenician and Roman boats. These are attempts at experimental archaeology, through learning by doing.
- (3) When the emphasis has shifted from archaeological research to public communication, such places can be labelled as archaeological theme parks. In contrast to the approach of archaeological parks and parks of archaeology, archaeological theme parks focus on communication, rather than training or research. Their informal style superficially resembles an amusement park.

Although not officially recognized as a theme park, within the Kaş area, underwater attractions have recently been augmented by the addition of a series of purposefully sunk vehicles (Dragoman, 2018). Seven 'wrecks' have been added to this popular diving spot; a Crop Duster Airplane Wreck, C47 Dakota Airplane Wreck, SG119 Coast Guard Shipwreck, Likya Wreck, La Villa/Golden Horne Wreck, Altuğ Wreck, and Battle Tank Wreck (Draman, 2012). Although some of these vehicles might be considered historic artefacts in themselves, these sites are perceived as diver attractions rather than having an educational role.

Today, the creation of all three types of park is used to support the wider dissemination of archaeological information. In fact, reconstructions of the past are increasingly considered an effective tool for providing the public with clear and easily digested

images (Colomer, 2002: 85). Moreover, they serve as tourist attractions for the communities in which they are located, and in many cases, this has been a driving force behind the local population supporting the presentation and development of archaeological sites and projects (Draman, 2012). Reconstruction techniques attract the public's attention, providing them with a single, easily digested interpretation.

### Access

Moving under water, archaeological parks may also provide controlled access to *in situ* submerged heritage. There are three categories of interaction with original heritage contexts: no direct access, controlled access/monitored diving, and unrestricted access (Davidde, 2002; Alves, 2008; Price, 2013). Within the first category, USS *Arizona* at Pearl Harbor in Hawaii (Price, 2013: 224), is a national memorial, a war grave, and an archaeological site. Access allows the public to experience the site, but is limited to a viewing platform (Conlin and Russell, 2009: 85; Kan *et al.*, 2018: 276–277).

In the second category, Florida's Underwater Archaeological Preserves, USA, for example, allow only monitored diving on some shipwrecks that are considered too sensitive for unmonitored diving, such as the Emanuel Point Wrecks of Luna's 1559 Spanish fleet (Price, 2013: 224). Within this category, similar measures to regulate visits to fragile UCH are provided by the Protected Wreck Scheme in the UK, in which a licensee controls access (Historic England, 2015; Beattie-Edwards, 2018: 178); and mandatory diver registration, such as used by the New York Submerged Heritage Preserves Program (DEC).

In the third category, two examples of unrestricted access are the *Thistlegorm* wreck in the Red Sea, Egypt and the *Liberty* wreck in Bali, Indonesia (UNESCO, 2013: 22). Alternatively, for sites that have already undergone thorough excavation and recording, public access may be considered to pose little threat (Davidde, 2002: 84). For example, after 15 years of underwater and land surveys of the port at Caesarea Maritima, Israel, has been transformed into an archaeological park to enable visiting divers to explore much of the submerged site, following clearly marked guiding lines (Raban, 1992: 27). The park includes four diving facilities, one for snorkellers, and three for certified divers. The maintenance of the park is carried out by volunteer divers and private diving clubs (Davidde, 2004: 149). It is important to note that unrestricted access does not always bring about looting. In fact, many heritage managers prefer granting direct access for divers, thus integrating them into a system that emphasizes interconnectivity and intrinsic value (Price, 2013: 225).

Public access to the archaeological artefacts from underwater sites is made easier if they are raised; such artefacts can then be exhibited in museums. The Vasa Museum in Sweden, the Mary Rose Museum in

England, the Bodrum Museum in Turkey, the Roskilde Museum in Denmark, and the ARQUA Museum, Cartagena, Spain (UNESCO, 2013: 6–7) are among the most visited examples exhibiting raised wrecks. Among reasons for moving shipwrecks and artefacts to museums is the possibility that, by providing a new museum context, the object might be used to portray a variety of ideas. Such museums may include interpretative reconstructions of the ships, together with the conserved original artefacts.

As outlined, various management methods fit different purposes and local or international legislation. In Turkey, the MoCT regulates all scientific research requiring access to archaeological sites in Turkish waters. The use of an original wreck-site as an underwater museum was found to be extremely complex. After reviewing approaches, therefore, we decided to build a reconstructed site, an underwater archaeopark in Kaş, Turkey, originally housing an interpretative reconstruction of the Uluburun shipwreck site and its cargo. The project emphasized three outcomes: 1) education through nautical archaeology training; 2) an open-access recreational diving site to raise public awareness of UCH; and 3) research through experimental archaeology. Since public involvement is the cornerstone of the entire experiment, the site needed to be as accessible as possible.

### The Kaş Archaeopark project

In addition to the INA excavation of the shipwreck at Uluburun, Kaş is one of the most comprehensively researched underwater locations of Turkey, having been the subject of much interest from the academic community. The Underwater Research Society (Sualtı Araştırmaları Derneği-SAD) has researched the freshwater discharges and sea-cave formations during the DEMA-Project, ‘Inventory of Sea Caves’ (Bayarı *et al.*, 2011), and UCH of the region (Varinlioğlu, 2011a). The Bosphorus University Scuba Diving Club (BÜSAS) and WWF Turkey have extensively researched the ecological potential of the region (Yokeş, 2007, 2009). The location has a strong archaeological heritage as a harbour of ancient Lycia, remains of which can be found both above and below water.

The Lycian Region is located on the south-western coast of Anatolia (Bean, 1989). This is a long and perilously rocky coast, with a number of ancient sheltered ports, such as Telmessos, Patara, Antiphellos, Andriake, and Phaselis (Akurgal, 1973). Lycia lay on strategic eastern Mediterranean maritime trade routes between the Levant, Egypt, Cyprus, the Greek islands, the Greek mainland, and the Anatolian coast (Keen, 1998). The region of Kaş, named Antiphellos in Ancient Greek, and Habesos in Lycian, has a long history dating back beyond the Bronze Age (Hohlfelder and Leadbetter, 2001: 119). Antiphellos became one of the chief cities of Roman Lycia, outstripping in

importance its mother city, Phellos (Bryce, 1986: 205). Evidence for ancient trade routes include the Late Bronze Age Uluburun and Gelidonya shipwrecks and the Byzantine Serçe Limanı shipwrecks (Bass, 1996: 25, 37, 60), located respectively off the coasts to the east and west of Kaş.

Uluburun, is the oldest-known shipwreck in the area, and provides evidence of trade connections in the 14th-century-BC Mediterranean world with its cargo of a variety of amphoras, ingots, pithoi, and stone anchors (Bass, 1986, 1989; Pulak, 1998, 2002). Although only about 3% of the original ship was recovered, the remains have provided information providing substantial insight into ship construction techniques. A large stone anchor covered and preserved portions of the hull, including the keel plank, the garboards, and the strakes. Additional original timber fragments emerged from under rows of copper ingots, revealing the use of pegged mortise-and-tenons to join planks of varying width. These remains demonstrate that the hull was fastened shell-first using a mortise-and-tenon system (Pulak, 2002: 626). Excavations of this wreck have fundamentally influenced the development of underwater archaeology and the understanding of Late Bronze Age interconnections in the Mediterranean world (Yalçın, 2006).

Coastal surveys have included the region of Kaş (Frey, 1984; Yıldız, 1984; Özdaş, 2007), but these efforts have served only to illustrate how much more is waiting to be recorded, how much more painstaking work is still needed, and how much the underwater cultural heritage of Turkey is in need of divers trained in archaeological research.

Within this archaeologically rich coastline, the holistic and integrated approach of an open-air museum has provided great opportunities for explaining the need for preservation and presentation of heritage (Varinlioğlu, 2009). The Kaş Archaeopark serves as a hub for people including divers, those interested in the natural world, and trained and educated members of the diving industry. This underwater museum presents three important elements: an underwater wreck-site, which can be used by scholars and researchers to improve methods of archaeological data collection and to train team members for specific research projects; a recreational diving spot for tourists, thus raising public awareness of the archaeological value of the area; and an experimental archaeology project to record the long-term decomposition process of a wooden ship.

### Construction of an archaeological park

The Kaş Archaeopark is located in Hidayet Bay, about 2.5km east of the modern town of Kaş (Fig. 1). The site consists of two main elements: the sunken hypothetical replica of the 14th-century-BC Uluburun ship, *Uluburun III*, and the reconstructed cargo site, recreated by closely following the plan of the remains as initially discovered (Erkurt and Paker, 2015).



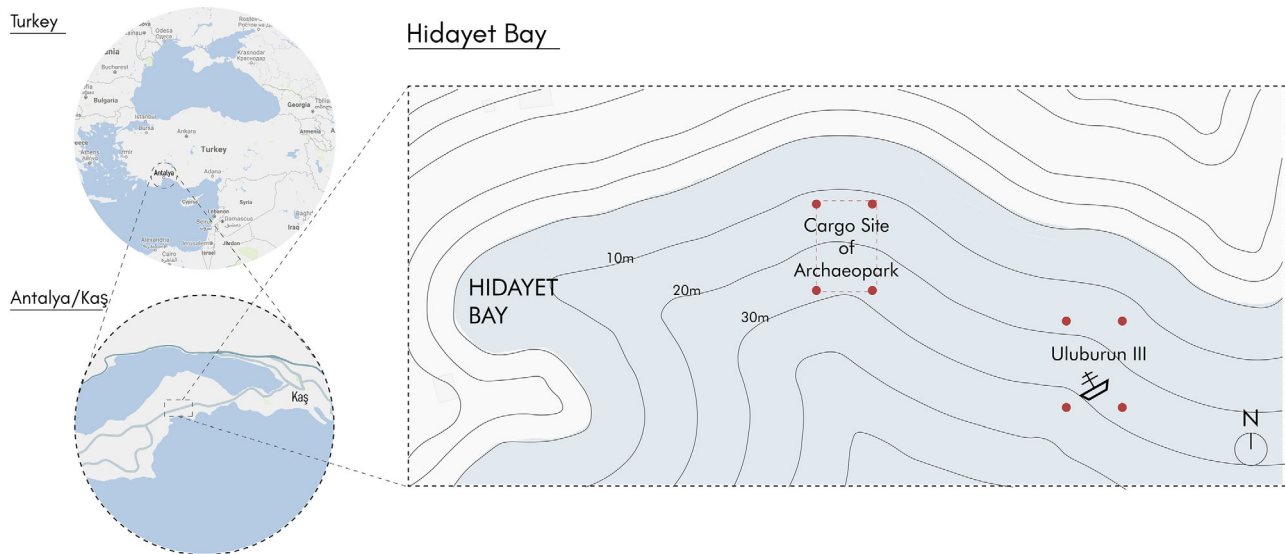


Figure 1. Location map of Kaş Archaeopark (©2019 SAD archive, drawing by Ebrar Eke).



Figure 2. The *Uluburun III* ship on the day it was sunk (©2006 SAD archive, photograph by Saner Gülsöken).

The park came into being through the joint-effort of several non-profit organizations, which collaborated on the construction of a  $15 \times 5$  m ship, *Uluburun III*, in 40 days (Fig. 2). An experimental project, *Uluburun II* was the first sailing replica created under the guidance of the 360 Degree Historical Research Society (360TAD) in 2004, and sailed the waters of the Aegean and the Mediterranean. This provided the inspiration for *Uluburun III* and the Archaeopark project (Erkurt, 2006). On 27 October, 2006, *Uluburun III* and its replicated cargo were sunk at their current location at a depth of 20–30m, about 20m from the shoreline (Fig. 3).

About 70m east of the sunken ship, the archaeological remains of the original *Uluburun* wreck-site were recreated at a depth of 14–21m on the sandy seafloor within a  $13 \times 9$  m grid, oriented east-west and north-south. The grid was constructed from a series of 3mm-thick ropes, tied together at 1m intervals, held in place by stainless-steel tubes, and labelled with an alpha-numeric sequence. The grid system was used to position a selection of copies of the cargo from the *Uluburun* wreck, closely following the plan of the archaeological remains, as they were first discovered (Pulak, 1987). The replicated cargo consists of 84 imitation ceramic amphoras, 150 copper ingots,

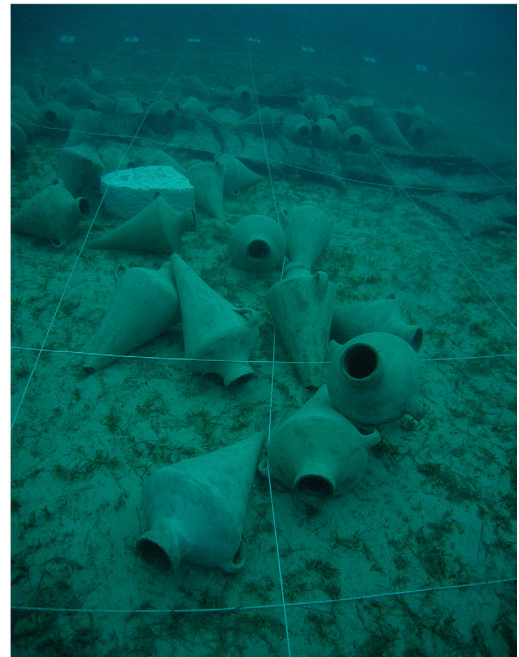
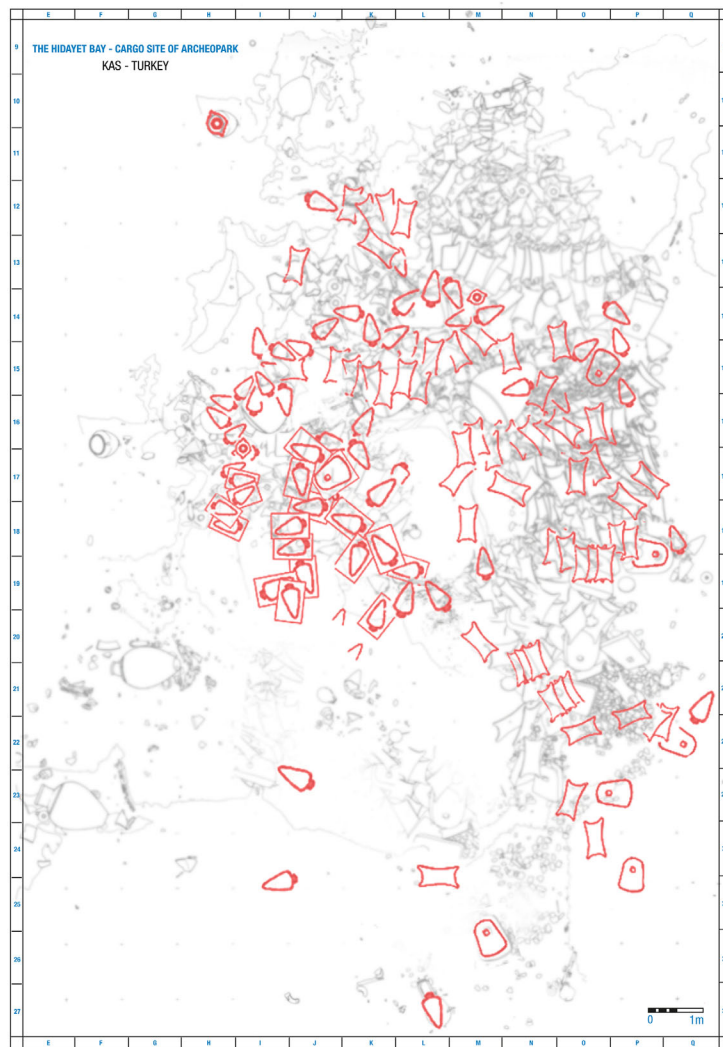


Figure 3. Replicated cargo from the Uluburun wreck-site (©2008 SAD archive, drawing by Çiğdem Toskay; photograph by Atilla Kara).

replicated in concrete cement, and stone anchors made of aerated concrete. The grid was left in place for use in future training projects and is periodically maintained or replaced.

### Experimental archaeology

The Kaş Archaeopark presents an important element of experimental archaeology, through the observation of the long-term process of decomposition of a wooden ship, through sinking a hypothetical replica of the Bronze Age Uluburun ship.

As an experimental project of archaeology and of maritime history, under the leadership of O. Erkurt, members, and associates of the 360TAD completed the reconstruction of a ship at Urla, near Izmir on the western coast of Turkey in 2004. The basis for the project was archaeological and historical knowledge obtained from the original Uluburun ship, and its contemporaries that navigated the Mediterranean

Sea (Erkurt, 2006). *Uluburun II*, the first hypothetical replica of the Uluburun wreck, was intended to investigate shipbuilding techniques and seafaring practices (Balkozak, 2007) (Fig. 4).

Despite the limited ship remains found at Uluburun, it is clear that the ship was primarily constructed of cedar. Because of its current high cost, cedar could not be used in the construction of *Uluburun III*. Instead, like *Uluburun II*, pine was used. Despite this difference in construction material, the decomposition process of the hypothetical replica is still important for gaining insight into its different stages. A photographic record of the decomposition of *Uluburun III* has been made since it was submerged in Hidayet Bay in 2006 (Fig. 5).

Photogrammetry was chosen to monitor the ship's decay. Photomosaic and panoramic imagery were used in the initial stages, and in later years of the project, 3D-photo modelling became popular, and in more recent years Structure from Motion (SfM) modelling



Figure 4. Experimental *Uluburun II* sailing in Turkish waters (©2015 360TAD archive).

has been used (Verhoeven, 2011). The resulting models are highly detailed and appear to be accurate photo-realistic representations of the *Uluburun III*, depicting the ever-changing conditions of the decaying wood.

The decay processes and changes observed in *Uluburun III* gave important insights into ship decomposition (Reinfeld *et al.*, 2013).<sup>1</sup> Twice-yearly surveys have been conducted since the submersion of the ship on 27 of October 2006. In the summer of 2008, the ship was monitored more intensively for four months to reveal a more detailed view of the decomposition process. In 2007, one year after its sinking, the hull showed a slight heel to starboard, but almost no changes in the external wood structure. The sail and rigging were in good condition. However, by the following year, the sail had disappeared and the ship tilted to starboard. On the port side, the cargo splintered the planks causing rapid decay after 2008. The main cause of the increasing instability of the hull was the damage caused by the shipworm, *teredinidae*, this focused mainly on the outer planking, which was an ideal breeding ground (Müller, 2010; Shipway *et al.*, 2014). Following the collapse of the hull in 2009, the ship lost its integrity and, since then, surveys have been conducted only once a year. In 2010, only the ship's cargo remains were still intact, and the ingots, stone anchors, and amphoras had formed a typical mound. Even the wood structure of the more massive parts, such as keel, stern, and mast, were damaged and almost completely decomposed by marine organisms. In 2011, regular monitoring of the ship ceased as the decomposition process was no longer sufficiently visible for photographic record.

#### Archaeological training

The first nautical archaeology training programme at Kaş Archaeopark was completed in the summer

of 2007: some 88 volunteer divers from various academic backgrounds were engaged in the underwater archaeological survey at Kaş as part of the 'Virtual Museum of Underwater Cultural Heritage' project. This project emerged from a need to document, research, preserve, and present underwater sites (Varinlioğlu, 2011a: 182). The aim was to develop a data-collection methodology for trained divers who were not archaeologists by education. This relied on simple, standard tools for underwater recording without disturbing the archaeological remains. The data collected in the field using these methods could then be transferred to an online database, which formed the basis of a 'virtual museum'. For five consecutive years from 2007 volunteers joined in week-long sessions to carry out the survey. At the beginning of each of these sessions preliminary training was provided for the volunteers at the Archaeopark before they ventured out in teams to survey the coast in the region of Kaş.

The Archaeopark was essential for these practice sessions, conducted chiefly under the supervision of the Underwater Research Society. Divers with different levels of experience and knowledge in archaeological survey and recording techniques could share a common grounding in effective information collection in a suitably extensive area (Fig. 6). This prepared and equipped recreational divers for heritage surveys of actual shipwrecks and submerged sites. In addition to archaeological survey, the project aimed to highlight the need for training and public educational programmes focusing on the underwater cultural heritage of Kaş and its surrounding area.

Building on the workshops initiated in 2007, a nationwide training programme was developed through 'Kaş Archaeopark Erkut Arca Science Camp (2008–2010)', both for participants of the underwater survey and for archaeology students from various universities in Turkey. Over the years, 71 archaeology students, volunteer divers, and local divers were trained within the Science Camp programme. This was followed in 2010 by the 'Young Archaeopark Project', which aimed to raise local young people's historical and environmental awareness by introducing cultural heritage concepts both above and below water. Support from the European Commission financed 11 international students, seven students from Turkey and four from Germany, to participate in this project, facilitated by local dive leaders and diving instructors working at local diving centres. Students followed the Nautical Archaeology Society training programme and since 2010 all courses have been run in collaboration with the Society (NAS, 2018). In 2012, the Underwater Research Society became the NAS centre for nautical archaeology training in Turkey. Since 2012, a total of 133 participants have followed the NAS Education Program in Turkish waters under the supervision of the author. Many of these participants continue to be engaged in underwater-archaeology projects in Turkey, and many others have been invited to participate in



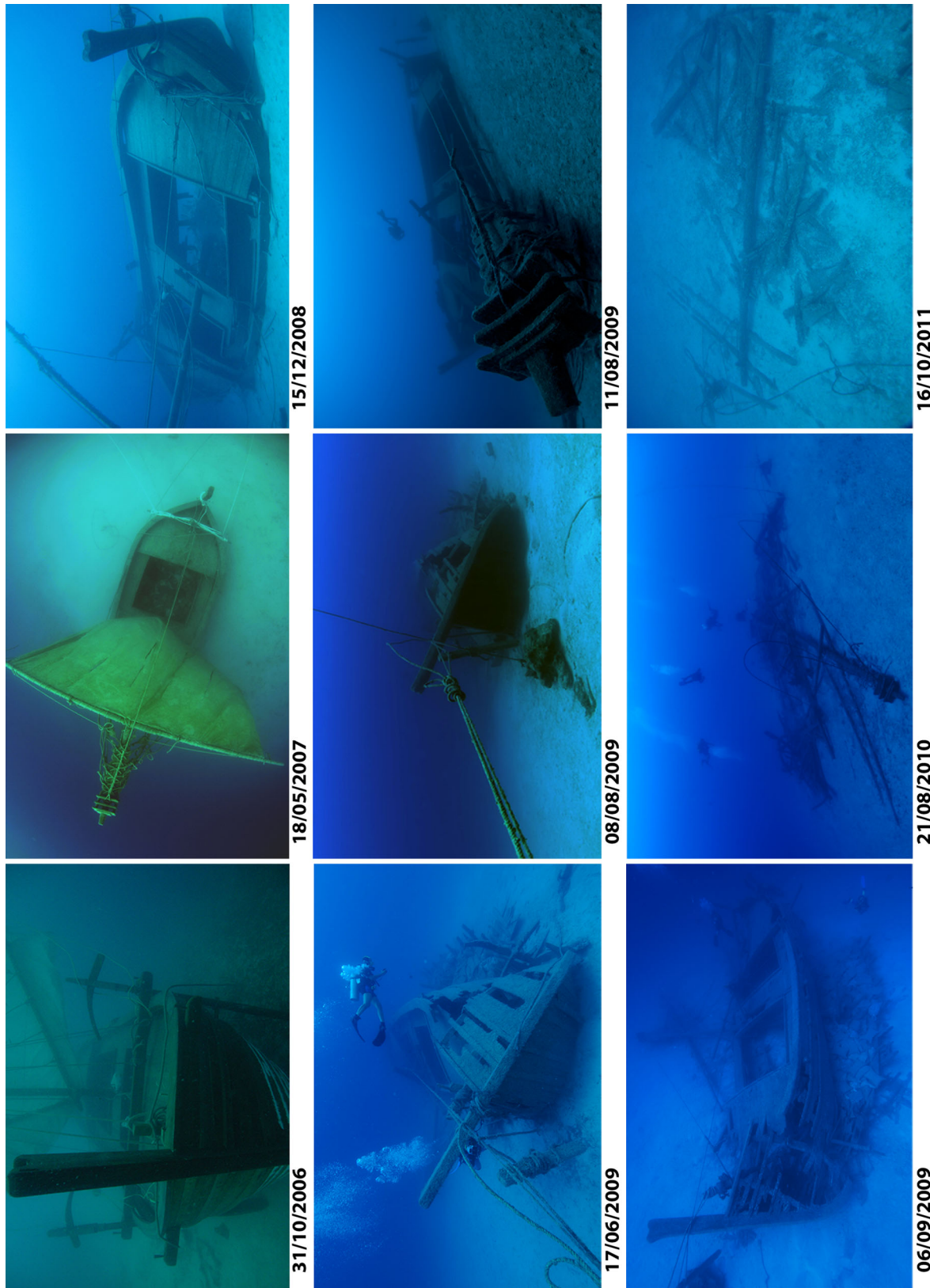


Figure 5. Photographic record of the decomposition of *Uluburun III* (©2006–2011 SAD archive, photographs by Guzden Varinlioğlu, Coşkun Teziç, Ali Ethem Keskin, Atilla Kara).



Figure 6. Diver training at the cargo site (©2010 SAD archive, photograph by Ali Ethem Keskin).

local archaeology and archaeological management projects.

A decade after its establishment, the reconstructed cargo site has gone through several stages. The first challenge was to keep the grid in place. As this immediately became a popular dive site, several dive boats anchored there and it attracted inexperienced divers as it was within the limits of recreational diving at beginner level. The destruction of the grid followed, and it has been replaced several times since 2006. In the years 2007 and 2008, the grid was replaced and fixed with concrete blocks to hold the control points together. However, uncontrolled anchoring activities continued to cause problems. Rather than replacing the grid in 2009, we concentrated on temporary control points and tag lines to be used for training. By this time, the replicas were sinking into the sand and creating fish habitats.

#### **Raising public awareness**

The term ‘public archaeology’ was coined in the early 1970s (McGimsey, 1972), referring to the practice of archaeology with significant public participation. Moshenska (2017: 7) defines this broad category as ‘all the work of state-controlled or -funded bodies on

national, regional and local scales to manage, preserve, study and communicate archaeological heritage’. Over time, the term ‘public archaeology’ has in some arenas come to mean cultural resource management or heritage management, and this may be misleading if it focuses on the archaeologists’ interests in the preservation of cultural heritage, at the expense of the public’s interest (King, 2012). Neglecting the public as a stakeholder damages public interest, in turn harming the field of archaeology by diminishing public support. Rather than entering into these issues, this article focuses on the benefits of public access for raising local awareness of archaeological resources and the education of the interested parties.

While the public often holds a negative attitude towards looters and treasure-hunters at terrestrial sites, the attitude to underwater sites is often more ambiguous. As Scott-Ireton (2005: 2–4) pointed out at underwater sites a ‘finders-keepers’ mentality is common. Since underwater sites are largely removed from sight, direct monitoring is often difficult, and as Scott-Ireton (2005: 1) proposes, the best management plan involves an informed and cooperative public.

Kaş, as part of the Kaş-Kekova Special Environmental Protection Area located in the south-western Turkey, is an important centre of economic and social activity. During the high season the population increases from 7000 to 20,000. According to 2010 figures, as part of the report of the Marine and Coastal Protected Areas, there were 23 travel agencies and 18 dive centres in Kaş (Başak, 2012: 19). The most recent research in 2014 listed 20 dive centres, each employing an average of five instructors and guides (Ornat *et al.*, 2009–2013). This region has made a mark in recent decades as a popular hub for underwater tourism, enabling large numbers of divers with a range of interests and backgrounds to explore the coastal depths of the Mediterranean around this popular town. The number of dives increased from 35,000–40,000 in 2006, and 60,000–65,000 in 2018, representing a dramatic increase in the number of visitors to the dive sites.

Since 2006, in conjunction with the opening of the park, the Underwater Research Society has organized a series of public events to engage the local community including joint excursions and briefings for local dive centres in Kaş to introduce dive guides and diving instructors to underwater archaeology. In 2006 and 2007, when the park first opened, 17% of local experienced divers and divers using Kaş dive centres visited the Archaeopark area. A steady increase in numbers of visitors peaked in 2011, after which there was a dramatic decline. There were two reasons for this, first, other vehicles were sunk in the area as alternative visitor attractions, and secondly, *Uluburun III* finally disintegrated.

#### **Evaluation**

A grant from the World Bank in 2011 enabled the development of a project entitled ‘Kaş: A History’



focusing on the dissemination of underwater cultural heritage to local people. As part of this project, a series of questionnaires for locals and dive-centre employees were conducted to evaluate the success of the public awareness programme. A total of 131 participants from the local community, and 51 dive-centre employees took part in this face-to-face survey. Some 80% of local non-divers showed great interest in learning historical information about the Kaş Region. They showed basic awareness that Kaş was located in the Lycian Region; however, 63% had no knowledge of the Uluburun shipwreck. In contrast, the survey of dive-centre employees showed that all but 12% of them could answer detailed questions about the Uluburun wreck.

The results not only provided evidence of raised awareness within the diving community in Kaş, but also revealed a demand for further seminars and workshops among the local non-diving community (Varinlioğlu, 2011c).

### Conclusion: lessons learned

Constructing Kaş Archaeopark was an entirely new direction for public archaeology in Turkey: a grand experiment in which a non-governmental organization was given the opportunity to create an underwater museum. The project embraced raising public awareness through public access, nautical archaeology training, and experimental archaeological research.

Kaş Archaeopark has enabled the observation of the process of underwater decomposition of a wooden ship. Although the use of pine for the construction of *Uluburun III* does not exactly correspond to the cedar used for the Bronze Age ship, the degeneration process of the reconstruction provides important insights into the different stages of decomposition (Reinfeld *et al.*, 2014).<sup>1</sup> A more precise experimental study in the future under specialist guidance, using more authentic materials, with close monitoring of the decomposition process of cedar as a construction material for ships, could be usefully compared with this first set of results.

The Archaeopark is a key example of public archaeology, and it highlights the need for public awareness programmes to be incorporated into new and existing archaeological programmes to increase public participation. Scuba diving is increasing in popularity worldwide, with the number of certified divers growing by an estimated 12–14% annually (UNESCO-UCH,

2017). As one of the most popular diving-centre hubs in Turkey, Kaş benefited from growing interest and the growing economy between 2006 and 2011. The cargo site was an ideal spot for beginner-level divers, attracting 10–20 visitors per day. Although a deeper dive site, *Uluburun III* also received great interest from the diving centres, with approximately 30–40 divers a week, until its disintegration in 2011. The estimated number for visitors of Kaş Archaeopark is 20,000 divers over the past 10 years. The disintegration of the wreck led the dive-shop operators to relocate to other diving spots in Kaş, and realizing the potential of artificial sites as visitor attractions, the dive centres placed several vehicles on the seabed in the vicinity. Artificial reef sites were no substitutes for historic wrecks, and anecdotal evidence suggests that experienced divers in particular are less interested in diving these sites. However, due to the high demand for controlled wreck-diving tourism, efforts are being made by dive centres to increase the number of visitor sites in the near future.

Since its opening, the SAD has used the site as a test site to train divers as a preparation for survey projects along the coast of Turkey. Not only have local divers and archaeology students gained hands-on experience, but a wealth of local underwater cultural heritage has been documented and exhibited through photography and video within the ‘Virtual Museum’, which is still available online (Varinlioğlu, 2016). With the NAS training programme, the site has become an ideal training site for recreational divers interested in academic underwater research and recording methods.

The project of Kaş Archaeopark was generated as an attempt to reduce the exclusion of the general public from archaeologically sensitive underwater sites and to train non-specialist divers to be able to participate in underwater projects involving recording the cultural heritage of Turkey. This training had a mainly practical, rather than an academic, focus. Despite the substantial number of archaeological surveys and excavations in past decades, the shoreline of Turkey is extensive, and many areas are beyond the reach of nautical archaeologists, who are certainly not very numerous in Turkey. Another issue is that a substantial portion of the shoreline is regularly accessed by recreational divers. Projects to map underwater wrecks, harbours, and anchorages along the Turkish coast are urgently needed. Such projects can greatly benefit from local support and the contribution of well-trained divers, whether or not they have an academic background in archaeology.

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## Note

1. A poster on this subject by G. Varinlioğlu, E. Denel, and O. Erkurt, titled 'Experimental Archaeology: *Uluburun II*' was presented at IKUWA 3 Beyond Boundaries in London, 2008.

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