

Papers from the Seminar
Galle—A Port City in History

15 November 1997, Galle
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CONTENTS

INTRODUCTION	2
SEMINAR PROGRAMME	3
MARITIME ARCHAEOLOGY IN SRI LANKA 1960–1997	
Gihan Jayatilaka	4
SRI LANKA MARITIME ARCHAEOLOGICAL PROGRAMME: GALLE HARBOUR 1992–1997	
Jeremy Green	6
WRECKS AND ARCHIVES: HISTORICAL ARCHAEOLOGICAL RESEARCH	
Robert Parthesius	11
MARITIME ARCHAEOLOGICAL CONSERVATION IN GALLE	
Jon Carpenter	17
MARITIME ARCHAEOLOGICAL TRAINING PROGRAMME—A VIEW FROM THE STUDENTS	
Rukshan Amal Jayewardene	18
1997 MARITIME ARCHAEOLOGY TRAINING PROGRAMME	
Karen Millar	20
GALLE HERITAGE PROJECT—A PLAN TO GIVE A FUTURE TO THE PAST	
SUGGESTIONS FOR A PRELIMINARY PILOT PROJECT: BLACK FORT	
Lodewijk J. Wagenaar	22
GALLE FORT: CENTRE FOR CRAFTSMANSHIP, KNOWLEDGE AND PUBLIC AWARENESS	
Ypie Attema	26
HERITAGE FIELD SCHOOL AND PUBLIC ACCESS EXCAVATION IN GALLE	
Robert Parthesius	28
GALLE HARBOUR: THE FUTURE	
Jeremy Green	31
LIST OF SPEAKERS	33
LIST OF ATTENDEES	34

INTRODUCTION



Figure 1. The coat of arms of the VOC over the inside entrance of Galle Fort.

The following papers were presented at a seminar held at Nooit Gedacht, Galle on 15 November 1997. The seminar was the initiative of Robert Parthesius, who suggested that a seminar would present an ideal opportunity to discuss the objectives and progress of the Galle Harbour Project. Various members of the team worked together to develop the programme and to arrange for representatives from various institutions to attend the seminar. The Galle Harbour project has a complex history and the programme was intended to familiarise the participants with these developments. The opportunity was taken to show the latest discoveries of the project and to demonstrate some of the techniques and methods used during the project.

The organisers would like to thank Dr Siran Deraniyagala and the Archaeology Department for hosting the lunch and to the owner and staff of Nooit Gedacht for providing the venue.

**SEMINAR PROGRAMME
GALLE, 15 NOVEMBER 1997**

GALLE—A PORT CITY IN HISTORY

- 10:00** Welcome
S.U. DERANIYAGALA
- 10:15** Underwater archaeology in Sri Lanka 1960–1997
GIHAN JAYATILAKA
- 10:30** Galle Harbour Project 1992–1997
JEREMY GREEN
- 10:45** Wrecks and Archives: historical-archaeological research
ROBERT PARTHESIUS
- 11:00** **Coffee**
- 11:30** Training programme
RUKSHAN AMAL JAYEWARDENE
- 11:45** Conservation
JON CARPENTER
- 12:00** **Excursion to Galle**
Maritime conservation laboratory
NERINA DE SILVA
Stone anchors
SOMASIRI DEVENDRA
- 14:00** **Lunch**
- 15:00** Suggestions for a preliminary pilot project: Black Fort: a plan to give
a future to the past
LODEWIJK WAGENAAR
- 15:15** Galle Fort: centre of craftsmanship, knowledge and public awareness
YPIE ATTEMA
- 15:30** A heritage field school and public accessible excavation in Galle
ROBERT PARTHESIUS
- 15:45** The future of maritime archaeology in the Bay of Galle
JEREMY GREEN
- 16:00** Discussion
- 16:30** **Refreshments**

MARITIME ARCHAEOLOGY IN SRI LANKA 1960–1997

Gihan Jayatilaka



Figure 2. Maritime archaeology in the 1960s, the wreck on the Great Basses.

By virtue of its strategic geographical position at the centre of the Indian Ocean, Sri Lanka has long attracted seafarers from East and West for trade, plunder, and conquest. The extensive reef system which protects the island's shores caused grief to a considerable number of ships from ancient times up to this century.

A conservative estimate of the number of wrecks around the island is two hundred, which makes it an undisputed paradise for the pursuit of maritime archaeology. The earliest recorded attempt of a scientific maritime archaeological survey was by Peter Throckmorton (*Expedition: Bulletin of the University Museum of Pennsylvania*, 1964), who together with Professor George Bass laid the foundations for maritime archaeology as a science. Throckmorton's visit to Sri Lanka preceded the discovery of a historic shipwreck at the Great Basses Reef near Kirinda in the southeast extremity of the island by Mike Wilson (Clarke, 1963). Accurate site plans and a general description of the site were made and verified by the Sri Lanka–Australia Maritime Archaeology Project.

A long period of inactivity came to an end in 1986, when a Sri Lankan archaeologist, Prasanna Weerasinghe, brought together local archaeologists and divers in an attempt to create a formal maritime archaeology programme. The Sri Lankan Sub-Aqua Club (SLSAC), formed about this time, contributed expertise for initial surveys and random sampling in Galle Harbour (Jayatilaka, 1993). A very rare Chinese Southern Sung Dynasty celadon bowl was discovered by the SLSAC off site A in Galle Harbour.

A resolution calling for the formation of a maritime archaeological unit, made at the Centenary Celebrations of the Archaeology Department in 1990, resulted in a dialogue between Dr. Roland

Silva, Prof. Senake Bandaranayake and Prof. Ken McPherson, which brought about the first formal Sri Lankan–Australian maritime archaeological research and training project in 1992 and included the Department of Archaeology, Central Cultural Fund, Post-Graduate Institute of Archaeology, Department of National Museums, SLSAC and MHT.

The 1997 Project was initiated by the Honourable Lakshman Jayakody, Minister of Cultural Affairs, as a concerted effort to rescue the multitude of historically significant underwater finds made by the Project in Galle Harbour since 1992. The Cabinet approved the budget for this year's project, as the proposed Galle Harbour Development and Expansion Plan would destroy part of the underwater cultural heritage of Galle Harbour, consisting of over 21 historical shipwreck sites and associated artefacts.

A strong emphasis is placed on the Maritime Conservation Laboratory which is coming up in Galle for the treatment and preservation of artefacts and it is envisaged that the National Maritime Museum in Galle will be developed into a fully fledged Maritime Archaeology Centre—probably the first in the region. A significant development this year is the official involvement of the Government of the Netherlands in the project.

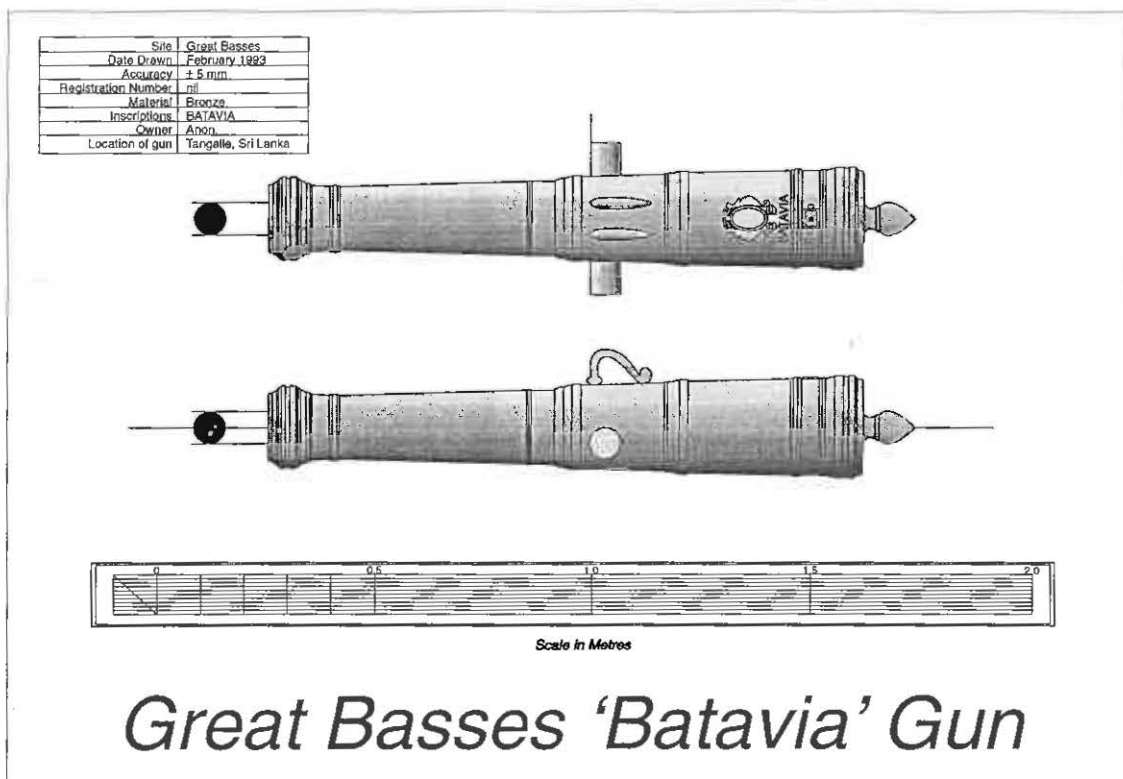


Figure 3. A bronze gun from the Great Basses site.

SRI LANKA MARITIME ARCHAEOLOGICAL PROGRAMME: GALLE HARBOUR 1992–1997

Jeremy Green

THE 1992 SEASON

The main objective of the programme was to establish a database or Geographical Information System (GIS) of shipwreck sites in Galle and to investigate these sites where appropriate. Maritime archaeological fieldwork proceeded along these lines and nine sites were recorded by the Galle Harbour Project in 1992.



Figure 4. Archaeologist recording cannon on *Hercules* site.

Initially, the most valuable sources of information on the location of sites were local fishermen. For many sites, only the general proximity was known, so underwater searches were required to locate them precisely. Once a site was located, its position was accurately recorded. A pre-disturbance survey was then conducted to determine the historical significance of each site and the potential for further archaeological investigation. As part of the Galle Harbour Project, a study of a *yatra dhoni* model housed in the Maritime Museum in Galle was carried out by Tom Vosmer (1993).

The sites discovered during the 1992 season included four 19th century or later iron shipwrecks, two wooden shipwrecks of c. 19th century, the VOC shipwreck *Hercules* (1661), a pair of abandoned cannon, and a jettison site.

All material collected during the survey was registered on a computer-based artefact registration system. During the first season, Sri Lankan archaeologists Dr Moira Tampoe of the University of Peradeniya and Dr

Martha Prickett-Fernando of the Institute of Fundamental Studies assisted the project with the classification of the artefacts recovered. Conservation work was undertaken by staff from the Western Australian Maritime Museum and the Central Cultural Fund.

A group of Sri Lankan trainees underwent training in maritime archaeology and conservation, together with diving instruction.

Following the 1992 season, archival research was initiated by Robert Parthesius in the Netherlands to help to identify the wreck which was thought to be the VOC ship *Hercules*, wrecked in 1661.

THE 1993 SEASON

The second season, in 1993, continued the work of the first season, with additional survey of existing sites and investigation of new sites. Three new wreck sites were located. Also, at the invitation of the Archaeology Department of Sri Lanka, a brief investigation was undertaken of the wreck site at the Great Basses—a site discovered and investigated by Arthur Clarke and Mike Wilson in 1963. The two new sites were iron shipwrecks, and the third was the wreck of a very well preserved VOC shipwreck, thought to be the *Avondster* (1659).

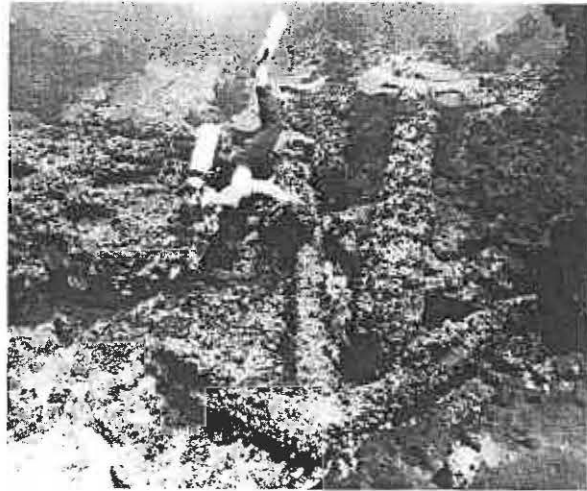


Figure 5. Recording anchors on the Great Basses site.

A group of Sri Lankan archaeology students were again given archaeological and conservation training. Details of these two seasons' work and the training programme have been published by Green *et al.* (1993). During this season Dr Moira Tampoe of the University of Peradeniya assisted with the archaeological identification of artefacts. Conservation work was continued along the same lines as 1992, together with student training.

THE 1996 SEASON

For a number of years, the Sri Lanka Government had been considering a proposal to develop a container terminal in Galle Harbour. As a result of these development proposals, an urgent request was made in mid-1995 to begin planning a complete survey and rescue archaeological operation in the Galle Harbour in the areas that were to be affected by the development, either by infill or dredging.

A three-stage programme of fieldwork was proposed, with the first two stages planned for completion in 1996:

- Stage I Remote sensing (side-scan sonar) survey of the harbour to identify and locate wreck sites on the sea bed.
- Stage II Investigation and survey of sites discovered in Stage I and further archaeological investigation of known sites (E, J and L) to determine their extent and preservation. Archival research to determine more about the sites located.
- Stage III Proposed for 1997. Rescue archaeology programme appropriate to the outcome of Stages I and II and dependent on the development of conservation facilities in Galle.

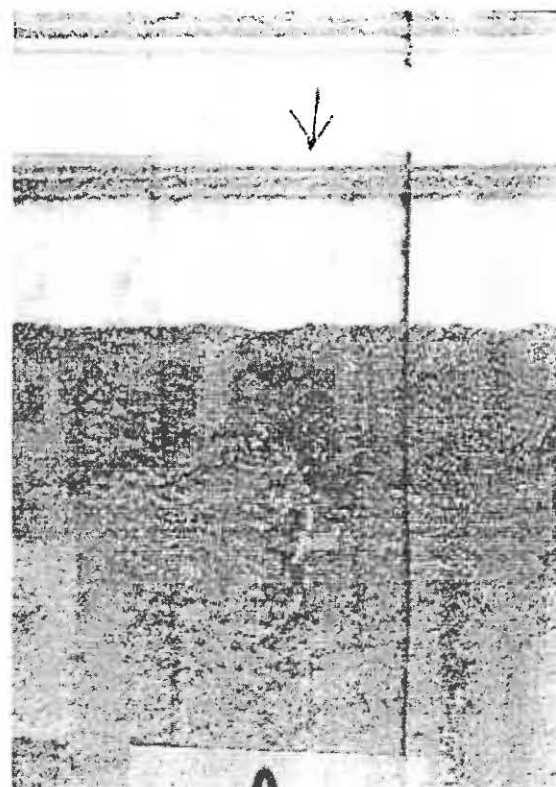


Figure 6. Side-scan sonar trace of an anomaly in Galle Harbour.

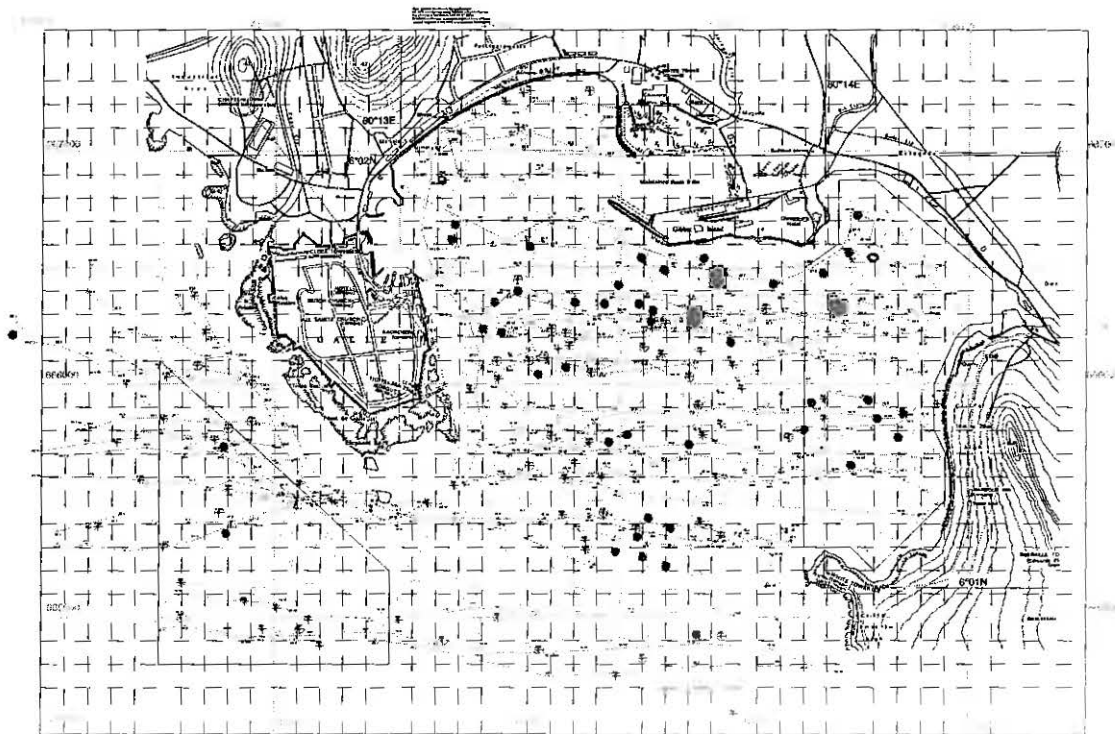


Figure 7. The 1996 track plot and anomaly record for Galle Harbour.

Sonar survey

The first part of the 1996 field operations was conducted over a two-week period from the Sri Lankan Naval Base. An EG&G side-scan sonar was deployed on a Sri Lankan Navy small workboat. The course of the vessel was determined using a differential GPS (Global Positioning System) which gave the position of the vessel to an accuracy of about ± 4 m.

The sonar record covered an area of the sea bed 100 m on either side of the track of the vessel so that the total area of sea bed covered was 62 400 000 square metres. The analysis of the sonar trace then identified targets that were sites of potential archaeological interest and these were numbered as target numbers. Using a CAD (Computer Aided Drawing) package, a large-scale map of the area was printed up at a scale of 1: 5000 and the tracks of the vessel were generated using the data from the data logger and then pasted onto the CAD plan. The calculated positions of the targets were then plotted on the map. A total of about 160 targets were noted for investigation.

Investigation of targets

The second phase of the 1996 fieldwork (Stage II of the programme) followed almost immediately upon the first, with work being carried out over a four-week period. An additional team, comprising Sri Lankan, Australian and Netherlands volunteers and staff, was brought in to assist with the diving operations.

Targets were prioritized by probable significance, generally based on size and structure. On each day, a survey team was sent to locate the identified targets using the GPS, and to mark each target site with a buoy. A diving team then investigated each target site in turn and produced a report on it. If the site was considered to be of archaeological interest, it was designated by a site identification code. The results of the diving showed that many of the targets were rock outcrops, but a significant number were sites which warranted further investigation. At the end of Stage II, twenty-one such

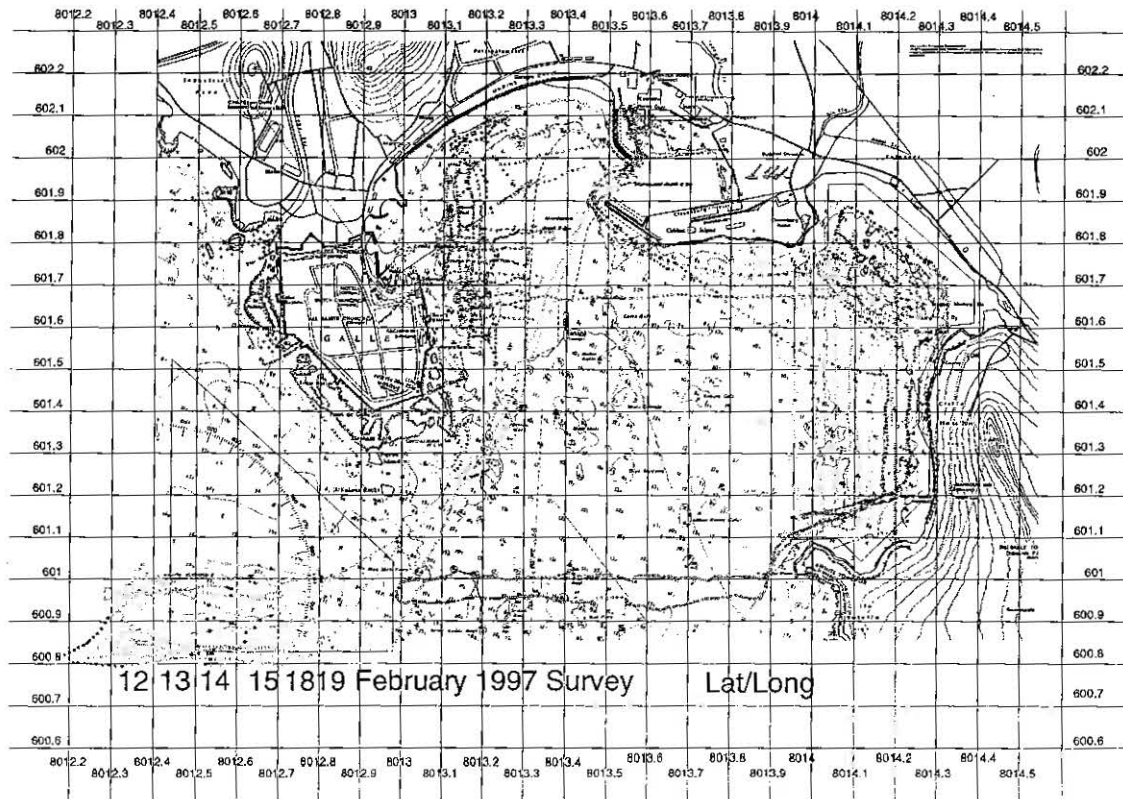


Figure 8. The 1997 track plot of the magnetometer and side-scan survey.

sites were identified: three wooden wreck sites, thought to be European (17th or 18th century); a cannon site known to be the VOC ship *Hercules* (1661); a group of two cannon (possibly a mooring); two stone anchors; a site where ceramics are found in large numbers but it is uncertain if this is a wreck site or a jettison site; and a number of iron anchors and iron wrecks, which formed the remainder of the recorded sites.

THE 1997 SEASON
February 1997

In February a small two-week survey was undertaken using a magnetometer in conjunction with a side-scan sonar to investigate the sandy areas of the harbour. While the side-scan sonar can locate objects on or protruding above the sea bed, it cannot determine what is buried. The magnetometer was used to search two main areas, the eastern part of the harbour where the harbour development was to take place and the area south of the Point of Galle where the *Dolfijn* was known to be lost. In addition the side-scan sonar was used to cover search areas which had been missed in 1996.

October 1997

In October a large team was again assembled to continue the investigation of Galle sites. The work concentrated on a site in the east of the harbour and the stone anchor site, together with investigation of the two 1997 magnetometer targets. Students took part in the project and received advance practical and theoretical training. An ArcView GIS (Geographical Information System) was developed to incorporate all archaeological and survey information which had been recorded over the years.



Figure 9. Cleaning the large stone anchor from the anchor site.

Limited excavation of the eastern site was undertaken to determine whether the site has archaeological potential, and to attempt to identify and date the vessel. Searches were made around the site to attempt to locate hull structure noted by a Sri Lankan Sub Aqua Club team in 1996. A small trench was made across the ballast area on the site in an attempt to determine whether there was any underlying hull structure; no structure was noted.

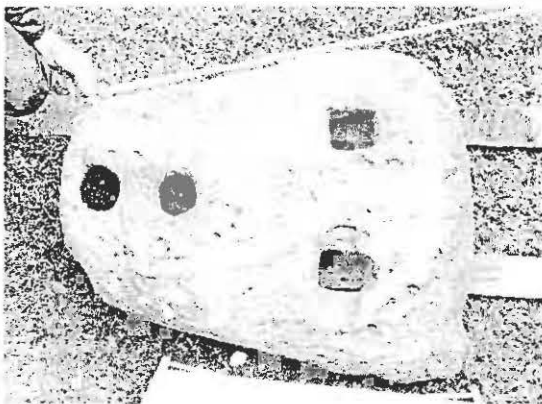


Figure 10. The four-hole stone anchor.

The stone anchors (one large and one broken), found in 1996 were relocated and in the process two new anchors were found: one was particularly interesting as it was a four-hole anchor, similar to anchors found in the Mediterranean. The anchors were re-surveyed, then raised and placed outside the Maritime Museum in Galle. Detailed recordings and stone samples were taken for an attempt to identify the source of the stone and the place of manufacture.

WRECKS AND ARCHIVES: HISTORICAL ARCHAEOLOGICAL RESEARCH

Robert Parthesius

Galle was the second most important harbour of the Dutch East India Company (VOC) in Asia. After the capture of Galle from the Portuguese in 1640, the Dutch established a firm base for their cinnamon trade in Ceylon. Up to 1796, when the English took over the city, the fortified town and its harbour was an important junction of Dutch trade and shipping. Galle was strategically located for traffic between the Arabian peninsula and East Asia, but it also played an important role in the local and regional trade.

The VOC wrecks are an important example of the interaction between history and archaeology. The presence of four (possibly five) identified and well-documented wrecks within the context of one harbour offers the potential for a broad interdisciplinary study of the ships, the harbour, the city, and the organization of the VOC. In an even broader perspective, this case study can be related to questions about the Asian shipping network and its organization.

This interdisciplinary approach would continue a tradition of integrated historical archaeological research on VOC ships. Since the 1970s the Western Australian Maritime Museum has been conducting research on four East Indiamen wrecked on the Western Australian coast. Central to this work was the linkage between the historical records about the ship, crew and cargo and the archaeological information. Sri Lanka has a unique collection of VOC wrecks representing several types of ships in use by the VOC during its presence in Sri Lanka. These sites can be linked directly with the administration of the company the records of which have survived in the archives in Colombo and in the Netherlands. The combination of the shipwreck archaeology and archival research—linking the harbour and the shipping—provides an important opportunity for a general study about trade and shipping, and a detailed study of the specific ships wrecked in the harbour.

Roughly, such a study would be structured in four parts: the use of the harbour; local shipping and trade in the Gulf of Bengal; inter-Asia shipping and trade; and direct trade and shipping between Ceylon and Europe. Detailed questions may be asked about the following aspects:

- Ship types in the inter-Asian trade and the trade between Asia and Europe (both European and local vessels);
- Technical developments during the 17th and 18th centuries;
- Organisation of the shipping in the harbour: repairs, equipment, crew, etc.

The Galle situation, in which archaeological material can be linked directly to the Dutch records in the National Archives of Sri Lanka, the VOC archives in the Netherlands and other Dutch archives in India, will enable us to conduct a multi-disciplinary research programme.

The Bay of Galle forms a natural harbour, protected from the NE monsoon but exposed to the SW monsoon. The entrance to the bay was dangerous because of the many submerged reefs and rocks. Of the six VOC ships known to be sunk in or near the harbour: three were wrecked during the vessel's arrival at or departure from the bay; two were sunk inside the bay (one by an explosion at anchor and the second after coming adrift from her anchor); and one was wrecked outside the bay while waiting for the pilot to bring her in. The wrecking of these ships is well documented in an extensive archive on the organization of the VOC in Europe and Asia in general and, in particular, the activities of the VOC in Ceylon. These archives survived in the Netherlands and in some Asian countries like Sri Lanka. The National Archives of Colombo contain the so-called Dutch Records. The VOC archive covering the period from 1640 to 1795 includes the administration in Galle.

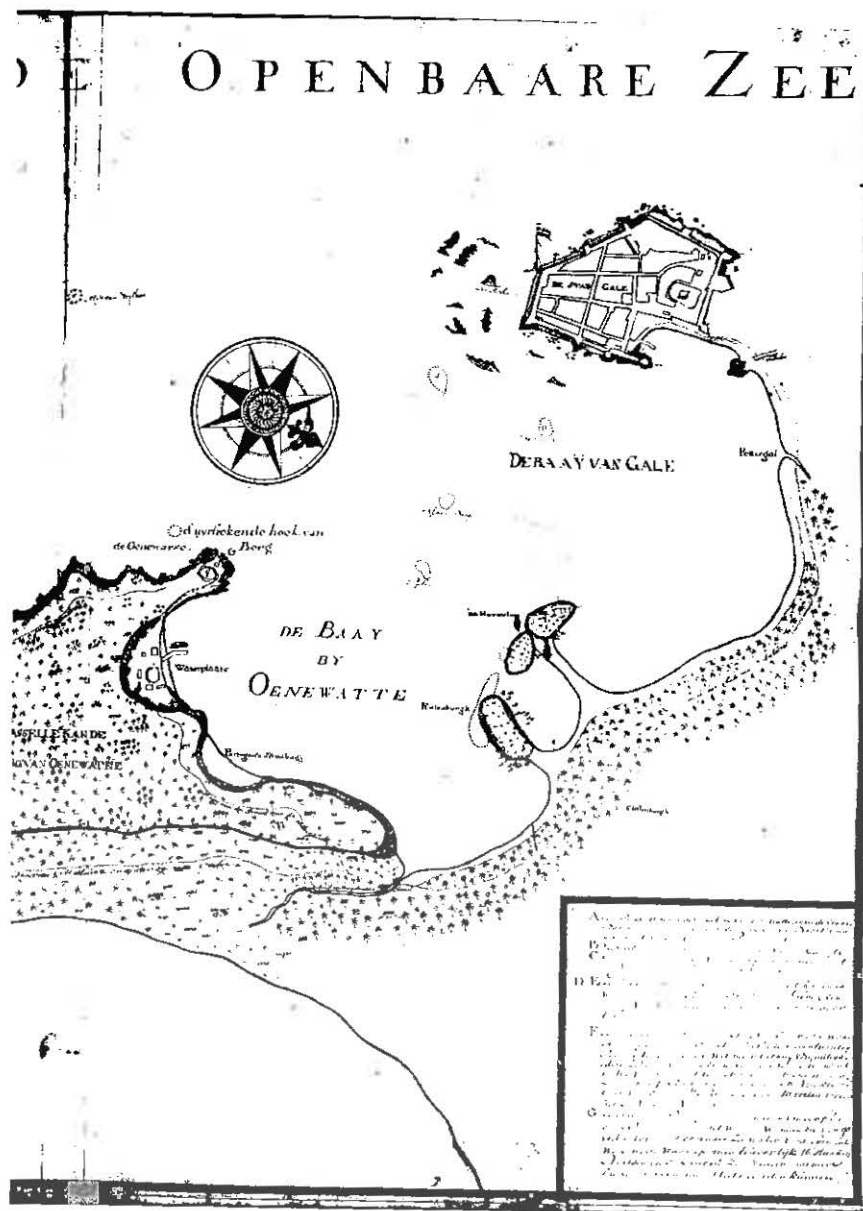


Figure 11. Map of Galle Harbour showing the wreck of the *Hercules*

From these documents, an important part of the maritime history of Sri Lanka can be reconstructed, making it possible to answer detailed questions about the organization of the VOC's shipping.

SITE L, THE AVONDSTER (1659): AN EXAMPLE OF LOCAL TRADE AND SHIPPING

In the 17th century, because of the lack of a suitable natural harbour at Colombo, Galle acted as an important port for transshipment. The Bay of Galle during the NE monsoon offered a safe and protected anchorage for large ships. An intensive network of local trade and shipping existed from earlier times between the coasts of Malabar, Coromandel, Bengal and Ceylon. The supply of local products by inter-regional or inter-coastal trade took place in smaller vessels like the Ceylon-built *dhoni*, European sloops or old worn-out European yachts, like the *Avondster*.



Figure 12. The *Hercules* bell found near Gibbet Island in 1992.

The *Avondster* was wrecked in 1659. On 23 June, the ship was anchored near the Black Fort. During the night, in fine weather, the vessel slipped her anchor and hit the coast NE of the anchorage. Soon after grounding, the old ship broke in two and was submerged in the soft sand. The circumstances of the wrecking were unclear. An eye-witness account, found in the Dutch records of Colombo, tells how a sailor on the deck of the ship discovered the vessel drifting and tried to wake the skipper. However, the skipper was slow in making his appearance, and by the time he ordered the warp anchor to be thrown out, it was already too late. After the disaster, the skipper and the first mate were arrested, convicted and ordered to pay the damage.

The *Avondster* had been loading cargo for a trip to the coast of India. After the ship was lost, there were no other VOC vessels available to transport the rest of the cargo, which was still on shore, to India. The VOC officials decided that the *burghers* (free citizens) should be allowed to buy the cargo, but only on condition that it was sold for a fixed price.

THE *HERCULES* (1661) AND *DOLFJIN* (1663): EXAMPLES OF INTER-ASIA TRADE AND SHIPPING

Two other ships wrecked in Galle Harbour, the *Hercules* (1661) and the *Dolfijn* (1663), are representative of the inter-Asia trade. The *Hercules* was wrecked as she departed from Galle with a cargo for Batavia. The *Dolfijn* was lost within sight of the harbour, coming from Surat. Both vessels belonged to the class of yachts that were specially designed for the Asian trade. In its first fifty years of operation, the VOC developed several types of ship suitable for the different trade areas in Asia. In the Resolutions of the Directors of the VOC in the Netherlands, one can trace the development of the organization of shipping during the 17th century. Originally the Dutch sent large ships to the Indies to collect cargo from all around Asia before returning to Europe. This had many disadvantages, and was soon replaced by a system whereby the VOC operated from a permanent headquarters and central hub in Asia.

In 1619 the Dutch captured the city Jacatra on Java, renaming it Batavia, and it was from here that the VOC's Asian shipping was organised. Large ships were sent from Europe to Batavia, to collect cargo brought in by smaller ships from all parts of Asia. For many years, the yachts which coursed these routes proved to be also suitable for the trade to India and Ceylon.

The *Hercules* was such a yacht built for the inter-Asia trade. She departed for Asia in 1655 and stayed there until 1661 when she was wrecked on the rocks near Closenburg on the north side of Galle Bay. In the early morning of 22 May 1661, a small fleet of four ships was ready to sail to Batavia. The fine weather influenced two officials who decided to take the ships out of harbour before any adverse change. There are several reefs in the area which lie hidden just below the surface, making it impossible for ships to enter or leave harbour without a pilot at the helm. After the flute *Elburg* and the yacht *Tholen* were guided out of the Bay, the pilot returned and made preparations to take the yachts *Hercules* and *Angelier* out of the bay together. An eyewitness aboard the *Angelier* gave an account of what went wrong after the ships weighed anchor:

When the crew of the *Angelier* had weighed anchor and were busy pulling up the sails, quite suddenly a strong cross-wind struck the ship. We managed to fasten the sails again and to throw the anchor. On the *Hercules* however, who was half a pistol shot from us, things went wrong. I saw that the anchor rope was broken. This seemed strange to me, since this rope wasn't bad and no other ship in the bay at that moment had the same problem. Still they tried to throw the second anchor, but in this case the end of the rope wasn't secured to the mast so they lost the second anchor too. Without anchors the ship was now a playing ball of the elements. The bow of the ship turned in the direction of the land and was breaking to pieces on the cliffs a few moments later (ARA VOC: 1238-9 folio 1137-40).

After the disaster, the pilot was interrogated. He explained that the cross-wind struck them when they were in the process of weighing the anchor; in the ensuing panic, the rope of the anchor stuck between the ship and the rudder, with a catastrophic result. The complete cargo was lost: 1700 packets of fine cinnamon and a cargo of Canarase rice destined for Batavia.

Apart from the type of ships used for the inter-Asia trade, there are also questions about the equipment of the ships. The VOC had strict regulations concerning the equipment of ships sailing between Europe and Asia. From the regulations within Asia, less information is available so far. An interesting issue is the arming of the ships. On the wreck site of the *Hercules*, thirty-one iron guns were found. This was many more than normal for a ship of that size. However, a list of ships present in Ceylon in 1657, found in the Dutch records in Colombo, also shows a picture of heavily armed ships (SLNA 1/9 Council Minutes 1657-63, 29 Nov 1657). It is clear that the VOC followed a flexible policy on ship armaments, and the ships were more heavily armed if they sailed to areas where enemies were active (Stapel, 1927: 507).

The maintenance of the fleet and the crew was one of the biggest concerns of the directors in the Netherlands and Asia. In the first years of the 17th century, most of the ships made a round trip to Asia without proper maintenance in Asia. With the establishment of the VOC headquarters in Batavia, a permanent repair facility also came into being. With every ship sailing to Batavia the VOC sent large quantities of spare parts and maintenance products, such as masts, sails, nails, and tar. To use the ships as efficiently as possible the directors in Batavia introduced a 'quality registration system'. Every year the ships were inspected. Ships in a good condition were allowed to make the trip to Europe, moderate ships were not fit any more for such a long voyage but could serve in the China-Japan and India-Arabia routes. Inferior ships were only used for short journeys to the Spice Islands.

Despite the better maintenance and monitoring system, ships were often wrecked or abandoned because of the bad condition of the ship or crew. The history of the yacht *Dolfijn* is an example of this.

This vessel sailed from Sualijs (Surat) for Batavia on 29 April 1663, after loading packets of yam and letters. Shortly afterwards, the crew found that the ship was leaking badly; even with two pumps they were not able to keep her dry. So they returned to port and examined the ship. After sending the skipper, the high boatswain and the constable's mate below they found the leak in the powder magazine on the port side. The powder was unloaded and the carpenter was able to repair the leak. On 30 April the *Dolfijn* sailed for the second time. When they were passing *het Hoogelant van St. Jan* the ship was strained by heavy sea conditions. Again the crew had to pump day and night to keep her dry. On 3 May the skipper discussed the difficult situation in the *scheepsraad* (the council of officers). They arrived at a VOC post along the coast of India and asked the merchant Zandtvliet onshore for assistance. They asked for 20 to 25 locals to pump the vessel in case of emergency. This request was unsuccessful because the locals asked too high a price: one *pagood* (local currency) per month, free water, firewood, and rice. They even asked for a galley and for six months' pay in advance. So the vessel left without assistance but with 32 packets of *amphiaen* for *Coetegin* [Cochin]. The *Dolfijn* arrived there on 10 May *lek maar behouden* (leaking but safe). Once again a request for assistance was turned down. The ship was told to sail on to Galle. It was on this part of the voyage that things went really wrong. On 14 May the ship was at 6° 10' North in bad weather when the leak became worse. The skipper decided to anchor in 13 fathoms of water in order not to miss the Bay of Galle. To keep the ship dry, the crew had to install a fourth and an fifth pump. They were so exhausted after constant pumping that they were not able to lift the anchor. After cutting the anchor rope, the *Dolfijn* sailed along the coast to the Bay of Galle. In the entrance of the bay they anchored and fired several guns as distress signals. The situation became untenable, since even five pumps were not enough to keep the ship afloat and buckets were also needed. The only sensible thing to do was to sail the ship into the bay as quickly as possible in order to save the crew, money and cargo. Again the problem was to lift the anchor because the crew were either fully occupied with pumping or were completely exhausted. Another problem arose when the pilot came on board. He explained that it was impossible to enter the bay because the ship was lying directly in front of a shallow reef and the wind was not favourable. Aware of the seriousness of the situation, the VOC sent assistance from the shore, but by the evening the only thing they could do was abandon ship since the galleries at the side of the cabin were already striking the water.

An eye-witness account of the disaster was found in the dairy of Adriaan van der Meijden, who was a high VOC official in Galle at that time.

Shortly after the afternoon a ship came sailing in the direction of the bay. Because it was firing its guns constantly we assumed it was in distress. Originally we thought that it was the *Archilles* sailing from Persia. We gave the pilot Bastiaen the order to go to the ship so far possible because the wind was strong and showery. After several attempts the skipper and former pilot of this Bay, Daniel Harthouwer, succeeded on getting aboard. Eventually the costly ship the *Dolfijn* was pitiful wrecked in the dark evening [...] The *Thonij* (pilot vessel) brought the under merchant Meijndert Janssen ashore. He went back on board after handing over the letters from Suratte [...] (SLNA, Dutch Records: 1/ 2712)

According to the letters the *Dolfijn* carried a rich cargo. To protect the cargo in expectation of salvage the guards on the *klip bij d' vlaggespil en aen't nieuwe puntje* [...] received the order to stop ships nearing the place of the wreck.

THE VOC RETOUR SHIPS *BARBESTEIJN* AND *GEINWENS*

Galle was not only an important emporium, but a key staging post for European arrivals and departures. Ships normally arrived from the Netherlands in October or November, before going on eventually to Batavia, and left Ceylon for the Netherlands either in November or in February. For this regular shipping between Europe and Asia, the so-called *retourschepen* (returning ships) were used. These ships were larger than the ships in service in Asia. They could carry large numbers of people and large quantities of equipment on their outward journey to Asia, and large cargoes of Asian products on their way back. *Retourschepen* arriving in Galle unloaded their products for Ceylon, underwent repairs, and loaded commodities for their onward journey.

In the Bay of Galle two larger *Retourschepen* have been wrecked: the *Barbesteijn* (1735) while sailing into the harbour, and the *Geinwens* (1776) while sailing out of the harbour.

The *Barbesteijn* sailed on 18 October 1735 from Colombo to Galle. The normal procedure was for ships to anchor outside the Bay and wait for a pilot. Because the weather was too bad to enter the harbour, the *Barbesteijn* waited for a number of days. In the morning of 22 October the ship broke one of her anchors and drifted in the direction of the shore:

When the rope of the small bower broke we were driven to land. We fired distress signals, in order to get assistance from the wall. [...] There was a strong force S with a high running sea from the SW, at the second glass both anchors broke and we fell with the bow to the NE in the direction of the shore, against all [instructions], we went into the bay with God's blessing. We were able to keep her above the *blaasbalg* (the SE corner of the bay), we sailed through a rough sea, the current dragged us into the bay. We used the foresail and spritsail and prepared the two kedges. We dropped the anchors inside the *klip of negen* (submerged rocks in the middle of the bay), [...] we still couldn't hold the ship we dropped another kedge, in the end we tried to stop the ship by throwing guns on ropes overboard, we also saw a boat with anchors but it couldn't reach us, after a little while we hit the bottom. This was about eight hours, till nine hours we were not leaking, due to the constant bumping we first made water and later also sand. At the evening there was water up to the first deck; that night we made water up to two feet between the decks. In the meantime they tried everything from the shore to help us, it was useless the vessels and the *thonij* capsized in the breakers.

The *Barbesteijn* may have been found during the magnetometer survey in February 1997 on the beach of Oenewatte.

The *Geinwens* was preparing for the homeward journey; she loaded cinnamon and cloth in Ceylon. On 23 October the ship struck a submerged reef during her departure to Cochin to load pepper. Within some hours the ship was floating again but heavily leaking. The master attendant of the Harbour decided to beach the ship to investigate the damage. It turned out that the keel was broken and hence the ship irreparable. After stripping the ship as much as possible she was ballasted with stones and sunk in a shallow part of the Harbour. The idea was to use the ship as an emergency stop for ships drifting towards the shore [SLNA 1/949].

The Galle Harbour Project offers the chance to study VOC shipping in its Asian context. The ships discovered represent different aspects of the Dutch trade with Asia; being well-documented and from an important period they shed light on the function and activities of the Harbour.

MARITIME ARCHAEOLOGICAL CONSERVATION IN GALLE
Jon Carpenter

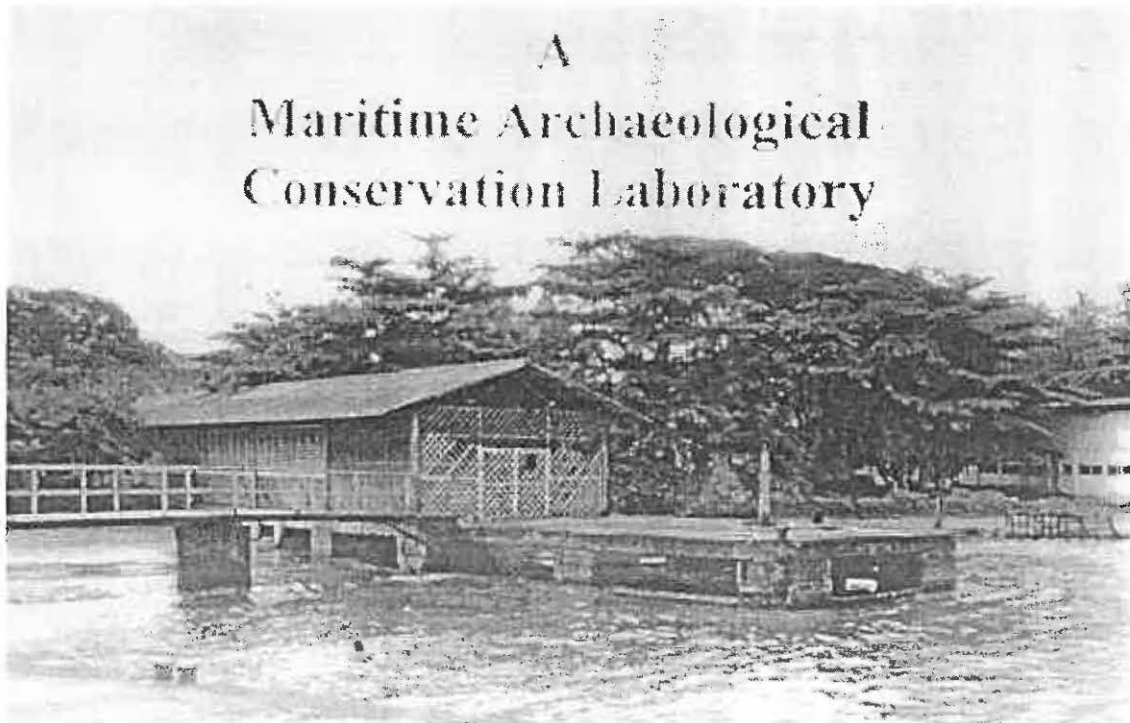


Figure 13. The conservation laboratory on the Import Jetty.

The conservation component of the Maritime Archaeological Programme comprises the following:

- **A CONSERVATION TRAINING PROGRAMME**
A series of illustrated lectures and tutorials have been presented to students of conservation. These covered the effect of the underwater environment on shipwreck sites and materials (artefacts), on-site conservation and artefact treatments.
- **THE ENVIRONMENTAL CONDITIONS OF UNDERWATER SITES**
This aspect has involved the assessment and recording of the conditions affecting shipwreck sites and artefacts in Galle Harbour. This also includes the acquisition of pH and corrosion data from specific artefact materials.
- **CONSERVATION OF ARTEFACT MATERIALS**
A varied selection of artefact materials have been recovered, both organic and inorganic. Conservation procedures and treatments have been demonstrated for each material type.
- **A MARITIME ARCHAEOLOGICAL CONSERVATION LABORATORY**
There is potential to recover a very large and varied collection of artefacts from Galle Harbour. This has necessitated the establishment of a dedicated conservation laboratory to ensure artefact materials are treated and stabilised.

MARITIME ARCHAEOLOGICAL TRAINING PROGRAMME—A VIEW FROM THE STUDENTS

Rukshan Amal Jayewardene

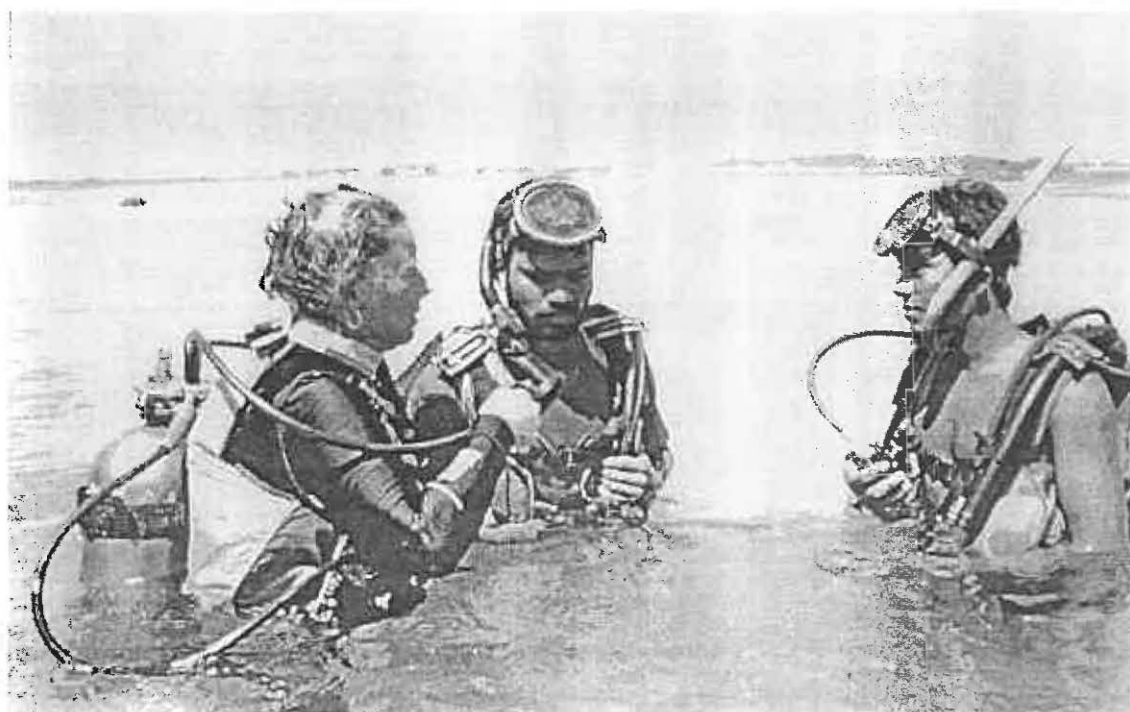


Figure 14. Training of the students in diving skills.

As part of the programme of maritime archaeological fieldwork, a group of Sri Lankan archaeologists was given maritime archaeological and conservation training. Eight trainees are participating in this season's programme; of these, five participated in the 1992/93 programme. This season's work is being carried out over a six week period and builds on the training given in the 1992/93 season. Since 1993 the trainees have undergone PADI open water diving training. The programme provides a basic and general understanding of all aspects of maritime archaeology, with exposure to the wide range of activities involved in a multidisciplinary approach. The objective is to train Sri Lankan archaeologists in maritime archaeological techniques, providing a pool of skilled local people to manage Sri Lanka's extensive underwater resource.

Initially we practised underwater search and survey techniques in Unawatuna Bay; already we have successfully used the survey technique known as a circular jackstay search to locate archaeologically significant objects in Galle Harbour. We have also used a water dredge to excavate at the two sites with ongoing work, namely Site G, the ballast mound site, and Site P, the anchor site. Site G and Site P have very different seabed characteristics: Site G at the foot of Rumassala is rocky in parts and Site P in the harbour is sandy and muddy. Low visibility during dredging and excavation is, however, common to both sites. We also benefited greatly from being able to listen to the discussions on raising the stone anchors. The practical considerations taken into account and the preparation for potential problems were very educational.

We are all dealing with a lot of new information on a day to day basis. There is a fair amount of



Figure 15. The Sri Lankan Navy work-boats used in the Galle Harbour Project.

theory and classroom work involved in the training, however we all feel that the most invaluable part of the training programme is the practical experience which we gain from working with experienced marine archaeologists. This on-the-job training cannot be replaced by any amount of classroom work. However, diving is not without its dangers; proper training and good presence of mind at all times are important to minimise the chance of an underwater accident which could result in the loss of life or limb.

Most of us had some prior familiarity with trilateration and offset planning in archaeology (both are methods of measuring sites and drawing up plans to scale). However, learning to do these tasks underwater opens one's eyes to the difficulties of working in this new environment.

The trainees are being familiarised with seabed survey techniques which involve the use of side-scan sonar and magnetometer. The use of a differential GPS (Global Positioning System) and its application in underwater archaeology is being covered. Underwater photography is another important aspect of the training programme. Computers are used in all aspects of recording, plotting sites and the analysis of artefacts. The training in underwater archaeological techniques has been carried out in a progressive fashion. Initial demonstrations are on dry land, then in the pool, then at Unawatuna Bay and finally at greater depths on actual wreck sites in Galle Harbour. We would like to take this opportunity to thank Professor Jeremy Green and his team, especially our trainers namely Karen, Dena, Jinky and Corioli for their kind and patient instruction. Despite the attendant difficulties of working underwater the classroom under the sea is a lot more fun than that on dry land. Finally we would like to thank the heads of the Archaeological Department, the Central Cultural Funds, the Museums Department and Post Graduate Institute of Archaeological Research, and all the others who have enabled this maritime archaeological training programme to become a reality.

1997 MARITIME ARCHAEOLOGY TRAINING PROGRAMME

Karen Millar

EXPLANATION OF OBJECTIVES

The overall objective is to train a chosen group of eight Sri Lankan archaeologists in maritime archaeological techniques. The ultimate aim is for Sri Lanka to have a group of skilled local people to manage the country's maritime archaeological sites. This season's work is being conducted over a six week period, a continuation of the training given in 1992/3. The programme aims to provide a basic and general understanding of all aspects of maritime archaeology, with exposure to the wide range of skills required.

In-water practical sessions are supplemented by tutorials, work shops and video presentations to explain various aspects of underwater archaeology.

The trainees are asked to develop a workbook covering all the exercises they have completed, and to write up the practical workshops in which they are involved. An individual assessment of each trainee's skills in five categories is made progressively, with a final assessment at the completion of the programme. Participants are awarded a certificate of their participation in the training programme.

Assessment of equipment and in-water abilities

- SCUBA qualifications, in-water experience and medical examinations
- Assessment of equipment
- Assessment of in-water abilities

Advanced diver training

- Dangerous marine hazards
- First aid—rescue
- Compressors and cylinder filling
- Hookah training
- Boat handling
- Underwater navigation: compass—underwater terrain etc
- Carrying equipment underwater, rope entanglement

Historical aspects

- Scope of maritime archaeology
- Legislation
- Shipbuilding
- Historical information to support archaeological research
- Integrated historical archaeological research
- A reconstruction of one year's activities in Galle Harbour (Lodewijk Wagenaar)

Recording

- Underwater photography
- Registration—cataloguing
- Artefact photography
- Artefact drawing
- Computers (data bases, Global Information Systems [GIS], drawing, scanning, adding text, site plans etc)
- Publication
- Proformas—wreck inspection, site condition, conservation

Search and survey above water

- Magnetometer
- GPS, DGPS
- Chart reading, plotting

Underwater search and survey (*theory*)

- Visual search techniques
- Low visibility diving



Figure 16. On-the-job conservation training.

Underwater search and survey (practical)

- Swimline search using jackstay and transits
- Swimline search using compass and transits
- Circular jackstay search

Pre-disturbance survey (theory)

- Objectives of a pre-disturbance survey
- Priorities of a pre-disturbance survey

Pre-disturbance survey (practical)—two dimensional survey

- dry land run, 2 tape trilateration
- ocean, 2 tape trilateration
- right angle offsets

Considerations before excavating

- On-site conservation

Excavation

- Excavation techniques (practical)
- The decision to excavate
- The process of uncovering a site by removing spoil or intrusive material and observing, recording and recovering the archaeological material (every site is different). Must be carried out in systematic manner (horizontal and vertical).
- Excavation techniques, stratigraphy (less important than on land). Large area (trench), small area (grid frame).
- Communication, (artefacts and data lost without good communication). It is the Director's responsibility to see that everyone is kept informed and knows what is going on. Continuity between teams and excavators especially if there is a decompression stop.
- Machinery, (work platforms, airlift, water dredge, water jet, water/air probe, prop wash).
- Tools and equipment, (U/W writing slate, tapes etc)

GALLE HERITAGE PROJECT—A PLAN TO GIVE A FUTURE TO THE PAST SUGGESTIONS FOR A PRELIMINARY PILOT PROJECT: BLACK FORT

Lodewijk J. Wagenaar

INTRODUCTION

Although the Galle peninsula and surroundings were inhabited before the colonial era, and although Punto de Galle was given its first European colonial shape by the Portuguese, this memo will deal mainly with the Dutch Period, and modestly with the British Period and the period after the colonial occupation, since most of the fortress, the buildings and the city grid dates from post-Portuguese years.

To understand the Fort of Galle as an organism one must understand the small city in its organic and functional aspects. In the Dutch Period (and similarly in the Portuguese Period) one may emphasise four main aspects:

- maritime: the port, the related workshops and the warehouses;
- administrative: the administration of the Fort itself and of the surrounding Galle district, the latter through local headmen;
- economic: the relationship with the immediate hinterland producing rice, coconuts, areca-nuts, cinnamon, timber, etc, as well as the relationship with the sea, ie fishery;
- military: defence against European competitors, and safeguarding against the Singalese, especially the Kingdom of Kandy.

In the British Period most of the maritime activities were transferred to Colombo, after the construction of the new harbour with its breakwaters and quays (before that time only the roadstead was in use). The emphasis on the cinnamon trade in the Dutch Period shifted to other agricultural crops serving new market demands (coconut, oil, rubber, and tea). The Dutch Burghers adapted well to the new British occupants and rose on the social scale; 19th and early 20th century society and daily life were strongly influenced by the Burghers. Since the late 18th century, a new town grew up outside Galle Fort. From 1800 onwards, more and more Singalese and Moslem people entered Galle Fort.

To avoid misunderstanding: Burghers were originally Dutch East India Company servants who obtained permission to leave the service to settle as private small scale entrepreneurs. Their children, many of them born of mixed relationships, automatically received Burgher status, although many of these Eurasians entered the service of the Company (VOC). Only later, in the British Period, all descendants of Europeans and Eurasians were categorized as 'Burghers', among them the so-called Dutch Burghers. Their way of life, of which the *poftertjespan*, the *Broedercake* and the verandah cum *stoep* are evocative, derived from the early Dutch Period. The verandah is an 18th century development, but the general layout of the Dutch Period house has early origins. It is remarkable to



Figure 17. The Black Fort seen from the Passenger Jetty.

read in 18th century sources that many houses still had no tiled roofs, which were again and again ordered in city regulations to prevent fires. In marked contrast to Batavia, in Galle (and also in Colombo and Jaffna) the tiles in use were of Portuguese style, and not the Dutch 'gulf' tiles. Already in the Portuguese era the tiles were locally made.

Life in Galle was of mixed European–Asian character. In Holland one will look in vain for colonial structures such as these, which are similar to those on the Iberian Peninsula, and quite well adapted to the Asian situation. In Amsterdam land was scarce and every merchant wanted his warehouse close to the canals, so warehouses there were deep and high; in contrast the warehouses in Galle are lengthy and low. The fortifications too were different in the East: in Europe they had to cope with more sophisticated gunfire and techniques of warfare; in Asia the fortresses could make do with more basic structures. Only in the 18th century this changed, especially in Galle, Colombo and Jaffna. Documents in the VOC archives in Colombo and The Hague, as well as drawings and plans, make this perfectly clear.

BLACK FORT: SUGGESTIONS FOR A PILOT PROJECT

In the long run it may be possible to have a series of places, buildings and houses showing different aspects of Period Daily Life. In the future one may acquire a Dutch period house to turn into a show house with period rooms, kitchen etc. Other buildings and places may be used to show aspects of daily life in the past, from various periods in the long history of Galle. However, since it is wise to start simply, it is advisable to begin with only one project, which has potential to combine several ambitions:

- preservation, conservation and reconstruction;
- stimulation of public and institutional awareness of the cultural heritage;
- training of local craftsmen, contractors, architects, scholars, civil servants and laymen, with transfer of experience and know-how from the Sri Lankan capital as well as from abroad;
- generation of income by a new management of cultural heritage, linked with modern policies to foster cultural tourism, private/public enterprise, presentations of living history, guiding by 'cultural narrators', information centres and modern museums.

Black Fort is a suitable spot to start a project to materialise these ambitions. It is easy to link this place with the old Dutch Warehouse (to become a Maritime History Museum) and the Bay Area at the jetty-side. This could become a Nautical Quarter, as advocated long ago by Ashley de Vos, the Sri Lankan godfather of a new understanding of Sri Lankan architecture as being of 'dual parentage'.

The Black Fort is the earliest fortress in Galle, with roots in the late Portuguese Period, showing strong Dutch influences but also traces of use in the British Period including the Second World War as well as of use in the post-colonial era. Thus the Fort is ideal to bring to life several aspects and periods. Cannons (replicas), other related equipment, tools and cannonballs may be placed, smaller structures may be erected which sheltered the gunpowder barrels, etc and guardhouses might show soldiers from different periods doing their job (that is: doing nothing but waiting). Volunteers or paid actors might do exercises at scheduled times to bring the history to life; however a permanent and noisy show like that in Williamsburg, USA should be avoided.

Reconstructed or conserved buildings within the Black Fort might be turned into museum-like places, offices, kitchens etc. At the lower level an extremely attractive restaurant could be located, with access to the jetty area. There the tiny shipyard could be brought back into life, to build dhows for harbour trips and fishermen. History can pay!

This Black Fort Project, part of the greater Galle Heritage Project, can easily be linked with the

other Galle-linked project, the Galle Harbour Project, aimed at the identification and research of shipwrecks in the Galle Harbour. The laboratory at the jetty can be a temporary information centre for the two projects. Video films and other vivid information will make this information centre a lively and interesting one, and during underwater excavation the work in progress can be shown on a monitor. Objects undergoing conservation may be shown, and after treatment they will be on display in the Maritime Museum of Galle. A very interesting result of this Galle Harbour Project is that ship parts have been identified from early times. Ancient stone anchors of Arabian pattern and the Sung dynasty Chinese bowl found in the harbour prove the continuity of maritime history in Galle Bay.

As the Batavia Wharf in Lelystad, Netherlands, has already proven, the interest of the general public in research and exhibits of this type is tremendous. Without doubt, history can offer interesting financial returns.

To start with it is suggested to conduct research in the VOC archives in Colombo. Maritime history, economic history, and the history of building and maintenance activities are fully documented as far as the 18th century is concerned. For earlier periods, VOC documents in the General State Archives, The Hague, Netherlands, have to be studied. The National Archives in Colombo however give good possibilities for a start. The documents there from the VOC settlement in Galle give ample information, especially the monthly reports and the yearly compendia of the various VOC departments (the smithy, ship repairing and building departments).

Most movements of ships have been recorded, not only of the great East Indiamen, but also of the smaller ships: not only Sri Lanka based VOC ships, but also ships arriving from other ports of the VOC trade empire. Even movements of ships owned by Moslems and Burghers have been recorded and mention has been made of visits by other European ships.

The building history of the Dutch Forts is well recorded. Weekly and monthly reports on the maintenance, complete with lists of used materials and labour give wonderful information. Special reports give information on the state of the forts, related with the wars in Asia between France and Britain (eg the Seven Years War, 1757–1763) or with the aftermath of the Fourth Anglo-Dutch War (1780–1784), in which the French were also involved. In 1795, another war broke out between the Dutch and the British, who then took over Galle in February 1796. A report from 1795 states that the forts in Ceylon were so badly maintained that even saluting with the cannons proved ruinous to the structures.

Students from Holland may make an overall review of these reports, so that the Galle Project Team can translate this into the conservation, preservation and reconstruction programmes.

To get the programme started it might be considered appropriate to appoint four officers:

- liaison officer within the framework of the Galle Heritage Foundation, based in Galle, as an officer who connects the several institutions and responsibilities shared by the GHF-partners, and who within this framework and appropriate parameters can act with delegated authority. This person should have a facilitating role, mediating between the relevant organisations on the one hand, and between the GHF and the public;
- a cultural project manager, next to the overall project manager, who coordinates the several scholars and other specialists (museologists, archaeologists, restoration and conservation architects, guide-trainers, etc) and their sub-projects;
- an architect with expertise in translating cultural and daily life history;

- a 'living history' museologist who sets up plans for a visitor centre, museum-like exhibitions, outside exhibits, performances, light-and-sound-shows, parades, etc.

These positions are not necessarily full time. There will probably be possibilities to combine some of these functions in one person. The tasks and responsibilities should be clearly defined, as should the relations between the several managers.

The Black Fort Project might function as a pilot study, to be used for other projects of the chain. By training craftsmen, students, staff, contractors, etc, experience will be built up, which may be used for other projects, even for projects in other parts of Sri Lanka. As far as cooperation with universities is concerned, it might be advisable to create pairs of Dutch and Sri Lankan students who work together on the same (sub)project and to link them with a span of Sri Lankan and Dutch specialists as tutors, thus 'sandwiching' them to guarantee the most efficient way of getting the desired results. To start with, a workshop could take place, where the identified projects can be worked out, with time-frame and management planning. Within five years the Fort of Galle could operate as a world-famous example of how to enjoy the past in the present, with attractive effects on job creation and on the welfare of the inhabitants of Galle and the region. The year 2002, four hundred years after the visit of Joris van Spilbergen and the foundation of the VOC, might be an extra incentive for sponsors and investors.

PARTNERSHIP: A LIST OF PARTNERS TO BE CONSIDERED

An enterprise like the Black Fort Project should be split up in smaller projects, to make it easier to realise. For the British Period cooperation with the Imperial War Museum in London and with the St. George Fort Museum in Madras would be interesting. As far as the Dutch Period is concerned, the Army Museum in Delft and the Vesting (Fortress) Museum in Naarden should be considered. The National Archives in Colombo and the General State Archives (ARA) in The Hague will be partners; universities in Sri Lanka as well in the Netherlands, Leiden (RUL) and Amsterdam (UvA) might cooperate in sending experts and trainees; museums like the Amsterdam Historical Museum, the Maritime Museums (Amsterdam and Rotterdam) and the Rijksmuseum (Amsterdam) could be involved. The Netherlands Department for Conservation (RDMZ, Zeist), ICOMOS (Netherlands), the Dutch Department for Education, Culture and Sciences (OCW) and the Culture Section of the Dutch Embassy in Colombo could be important counterparts, because they will be interested in giving structure to training programmes to foster preservation and conservation, the transfer of experience and know-how, directed to stimulate cultural tourism, which might generate funds for implementation of the plans (hardware, staff, training) as well for maintenance of buildings and fortifications. The Institute for Housing and Urban Development Studies (IHS, Rotterdam) will be an attractive partner to train staff in organising and executing new tasks, which like those of the scholars and architects will be interdisciplinary, even 'cross cultural'.

The Dutch counterparts may be asked to consider co-financing the costs of Dutch trainees and specialists/consultants, training programmes, etc. The 'hardware' itself, conservation, preservation and reconstruction will be for the greatest part the responsibility of the Galle Heritage Foundation and other Sri Lankan institutions (Ministries, Departments, UDA, Southern Province, Southern Development Authority, Municipality of Galle, etc). However, financial partnership in the form of private/public investment might create real possibilities for private investors and sponsorship. Legal aspects of this are worth separate study.

GALLE FORT: CENTRE FOR CRAFTSMANSHIP, KNOWLEDGE AND PUBLIC AWARENESS

Ypie Attema

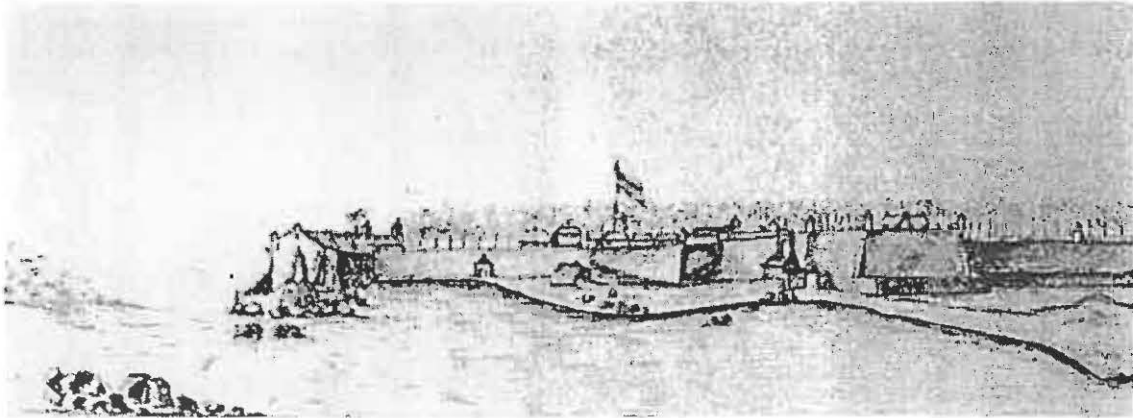


Figure 18. Harbour site of Galle

INTRODUCTION

On behalf of the Netherlands Department for Conservation, I propose that the World Heritage Site at Galle Fort should be developed into a major restoration centre.

In developing Galle into a major heritage site and a small-scale tourist destination, restoration activities can play an important role: for instance in on-the-job training of local craftsmen and in familiarising the public with old buildings and crafts. An approach combining restoration activities, special technical training, and the raising of public awareness, could be a pilot project with a strong multiplier effect, not only for Galle Fort and its surroundings, but also for the revitalization of other historic sites in Sri Lanka.

NOTES ON RESTORATION

If we want to develop Galle Fort as a place of major historic interest, we have to formulate valid arguments for the character the Fort should exhibit. Should we stress one single period, or would it be better to show the history and development of Galle Fort through the ages?

There are many important questions to be answered: for instance, on what information should a restoration be based and which building materials should be used? To answer such questions, the objects themselves are the best guide, in combination of course with written and other sources.

NOTES ON TRAINING

Restoration activities can function very well as technical training programmes for architects and craftsmen and can educate the public at the same time. The Netherlands has valuable experience with these training programmes, which focus on four major objectives: education of craftsmen in the field of restoration; rehabilitation of objects of cultural and historical value; integrated urban heritage management (town renewal approach); strengthening of social-economic infrastructure and housing and infrastructural strengthening for tourism and recreation.

Within this framework, many worthwhile monuments have been restored in the Netherlands during the last ten years, including churches, houses, a station, several water and wind sawmills and a factory which produces bricks for restoration purposes. In Sri Lanka there is also some experience with this type of training-on-the-job: in Galle Fort the restoration of the pulpit in the Dutch Church has been carried out as a training project of craftsmen.

NOTES ON TECHNICAL ASPECTS

Decisions also have to be taken regarding the building materials to be used: bricks, tiles, plaster, mortar or concrete? Each has specific qualities which must be taken into account. Climate must be considered: different building materials are required in a damp and salty climate than in dry conditions.

For future restoration in Galle Fort, there are specific questions on the use of materials:

- Which common materials should be used?
- What special treatment do they need in this climate?
- Which modern, alternative, durable and low-maintenance materials can be utilized? and, very importantly:
- Do these materials harmonize with the original or desirable character of Galle Fort?.

THE IMPORTANCE OF SETTING UP A DATABANK

To answer these questions we have to research the original building materials in relation to the specific climate of Galle. Ideally the outcome of these investigations should be stored in a databank. Data gathered during archaeological fieldwork, or the results of technical documentation and dendro-chronological research, should be stored likewise.

A databank on the research and building activities in Galle Fort could also provide useful information for restoration projects elsewhere in the country.

THE IMPORTANCE OF REGULAR MAINTENANCE

Once a building has been conserved or restored, it has to be kept in good shape. At the first stage of developing plans and budgets for restoration, one must take into account the costs for short, medium and long-term maintenance. Prevention is better than cure.

This is the motto of the Monumentenwacht, a successful Dutch organization which, on the basis of an annual subscription, carries out regular inspection of buildings and repairs small defects. Larger repairs have to be done by regular contractors. At present, around 12,000 out of 50,000 monuments in the Netherlands have joined this valuable organization.

CONCLUSION: GALLE—A CENTRE FOR CRAFTSMANSHIP AND EDUCATION

While developing Galle Fort into a major heritage site and small-scale tourist centre, it can also become an important centre for craftsmanship and education. This would make a valuable contribution to the development and activation of restoration integrated conservation activities throughout the country.

HERITAGE FIELD SCHOOL AND PUBLIC ACCESSIBLE EXCAVATION IN GALLE

Robert Parthesius

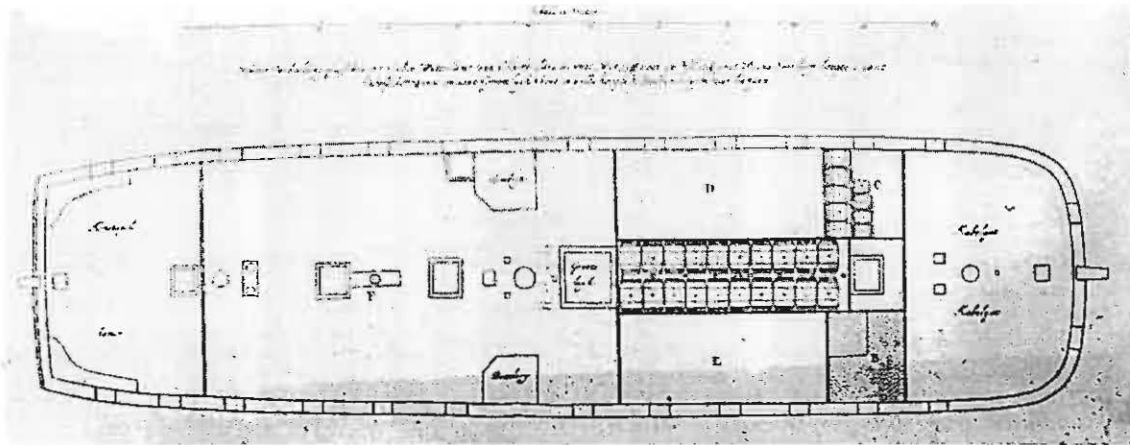


Figure 19. Plan drawing of a VOC ship around 1680. The *Avondster* is preserved to this deck, (Alg. Rijksarchief, The Hague).

As shown during this seminar, the city of Galle and its harbour have an extensive reservoir of heritage sites dating from around the 10th century (stone anchors) to the present day. Due to its strategic position in the Indian Ocean, Galle has served for many years as a junction of cultures. The presence of these cultures is seen by traces left in the city and on the sea bed. The Dutch left a significant impression in Galle: the fort as a complete city formed in the 17th and 18th century, five East Indiamen in or around the harbour and an extensive Dutch archive in the National Archives in Colombo.

The potential to use these 'cultural resources' for training, research and presentation purposes is obvious. Over the years several projects have been initiated based on this gold mine of information. During this seminar you have been introduced to some of these projects, and plans relating to the cultural heritage sites in Galle.

The Galle Harbour Project has located and surveyed over twenty sites of archaeological importance since 1992. In 1996 and 1997 some small-scale excavations have been carried out. In 1992, 1993, and 1997, groups of Sri Lankan archaeologists have been trained in maritime archaeology and conservation. The Conservation Laboratory, located on the import jetty, is nearly completed.

In previous years small projects have been carried out, focusing on the many monuments in the fort; one example is the restoration of the pulpit in the Dutch Church. The primary goal in this particular project was to establish restoration know-how in Sri Lanka through on-the-job training. This expertise can be used in future for preserving other monuments.

The Black Fort proposal echoes this objective and adds another: the presentation of the past to the general public.

Training is important to develop the skills to research and preserve Sri Lankan heritage. Equally important is the ability to explain and exhibit the past to the general public. Public awareness will lead to general support for this important work, especially if the local economy benefits from cultural tourism.



Figure 20. The *Avondster* site 50 metres off Marine Drive, the fort in the background.

FIELD SCHOOL

To achieve these goals for heritage sites in and around Galle, it is important to work as much as possible in co-operation: locally, nationally and internationally. In order to profit from each others' experiences and skills, and to avoid duplication of infrastructure, it has been suggested that a field school be established. The general philosophy would be to have a co-ordinating centre for research, reporting, training and presentation activities. The field school would be involved in a range of disciplines including maritime archaeology, heritage management, material conservation, historical research, etc.

Within the Galle Harbour Project a field school of this kind has evolved. As you have heard today, an extensive programme of research and training has been established. The laboratory in Galle will be a permanent centre for further research and training in the conservation of maritime artefacts. After this expedition we hope to have a team of diving researchers with the basic skills for maritime archaeology. To extend the programme with other areas of research and training, such as heritage management or restoration techniques important for the other projects, we hope to set up a small education centre including a library, workshop room and housing facilities for students and scholars.

PRESENTATION

It is important to develop various forms of presentation. For the Galle Harbour Project we can think about several. First there should be written reports and newsletters.

The laboratory on the import jetty near the old gate is an important step to show the maritime heritage to the general public. Through organised tours, visitors can see conservation work in progress on objects from the shipwrecks in the harbour. The cleaning of the stone anchors next to the Maritime Museum is the first open presentation of finds from the sea bed.

After conservation, the objects and associated information should be moved to the Maritime Museum. A permanent display supplemented with temporary exhibitions should do justice to the important maritime history of Galle and its role in the ancient trade routes.

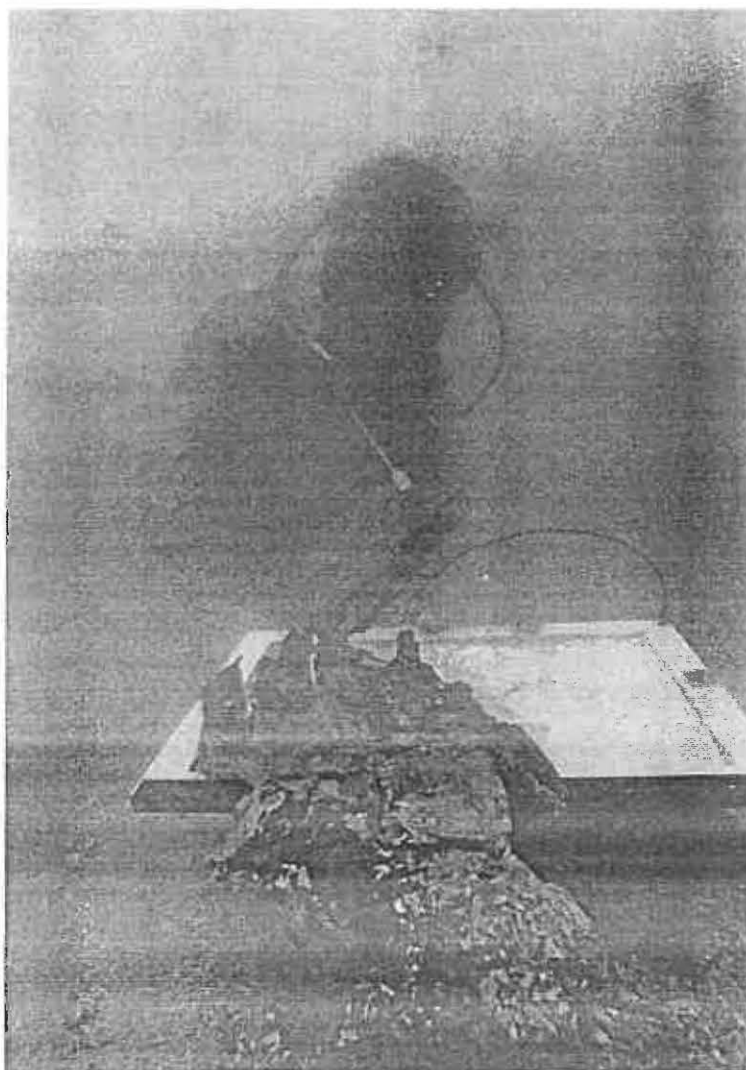


Figure 21. Recording the galley on the *Avondster* site.

A very tempting idea is to set up a whole chain of presentations around the maritime archaeological activities in the harbour. The natural starting point would be the excavation. Normally this is difficult in the case of underwater work, but it is not impossible. The wreck of the VOC ship *Avondster* provides us with an unusual opportunity to integrate the excavation work into a public presentation. The ship is in remarkably good condition up to the main deck. The wreck is in shallow water, only 50 metres off Marine Drive. A simple jetty would allow the wreck to be accessed from the shore. Seeing actual work in progress on site has always proved very popular with visitors. In my vision locale guides can organise tours for cultural tourists around the various heritage sites.

The Dutch invested heavily for their own profit in the 17th century and the ships and infrastructure which they financed are now a most valuable asset for the community of Galle and for Sri Lanka. Cultural profit, scientific profit, and commercial profit should go hand-in-hand.

GALLE HARBOUR: THE FUTURE

Jeremy Green

INTRODUCTION

The Galle Harbour project has made a considerable achievement in the development of understanding of Indian Ocean port cities. We have evidence of trade from early times to the modern day. Shipwrecks abound in the harbour. The project is at an important turning point for the development of maritime archaeology as a discipline in Sri Lanka. There are a number of objectives still to be achieved and there are a number of initiatives that need to be developed over the next three years. Firstly there is a need to complete the survey work in the east part of the harbour; the conservation laboratory needs to be finished; further exploration of other parts of the inner harbour is required; the *Avondster* site requires further investigation and the development of a management plan; the known but as yet undiscovered VOC shipwreck sites need to be located and further exploration of the outer harbour is required.

THE EASTERN HARBOUR SURVEY

The survey of the eastern part of the harbour was partially completed in October–November 1997, however, at the end of the season some magnetometer targets were uninvestigated and some magnetometer survey work is still to be completed. The presence of large iron wreck sites in the eastern part of the harbour have made it difficult to identify the VOC shipwrecks thought to have been lost in this area. Further careful magnetometer survey, together with the use of high resolution PC Side-scan Sonar may make the location of the sites possible. For the present, however, the eastern part of the harbour has only been partially examined.

THE CONSERVATION LABORATORY

The Conservation Laboratory should be completed by the end of 1997, until this facility is complete, it is not possible to conduct any major archaeological excavation work in Galle. The facility will be an extremely useful part of any maritime archaeological programme in Sri Lanka and will help to establish Galle a centre for maritime archaeological studies.

FURTHER SURVEY OF INNER HARBOUR

The area close to the Black Fort and known to be a lightering point merits further investigation. To date this site has yielded five stone anchors, raising interesting issues relating to dating and use. We know that a bronze statue was found in the same area by local divers and the whole area is covered with large quantities of artefacts of various periods. The area merits a thorough archaeological survey, firstly to delineate the extent of the site and then to determine the depth of burial of the material. This area is likely to be of particular interest because it was, traditionally, the anchoring site for Galle. Since Galle, until the construction of the Fisheries Harbour, did not have a quay, all loading and unloading was carried out by lighters. It is very likely that there is material dating from before European presence in the Indian Ocean.

THE AVONDS TER SITE

Certainly the most exciting underwater archaeological site in Galle, this site has enormous potential. Being within 50 m of the Marine Drive, excavation of the site can be shore-based. With adequate funding, the site could be excavated dry within a coffer dam. The site is exceptionally well preserved and known to contain material of considerable interest. It could also be the focus of a 'cultural tourism' programme, linking the excavation site with the Maritime Museum and the city of Galle. As indicated above by Parthesius, a detailed survey of this site is required together with the development of a management plan for the site.

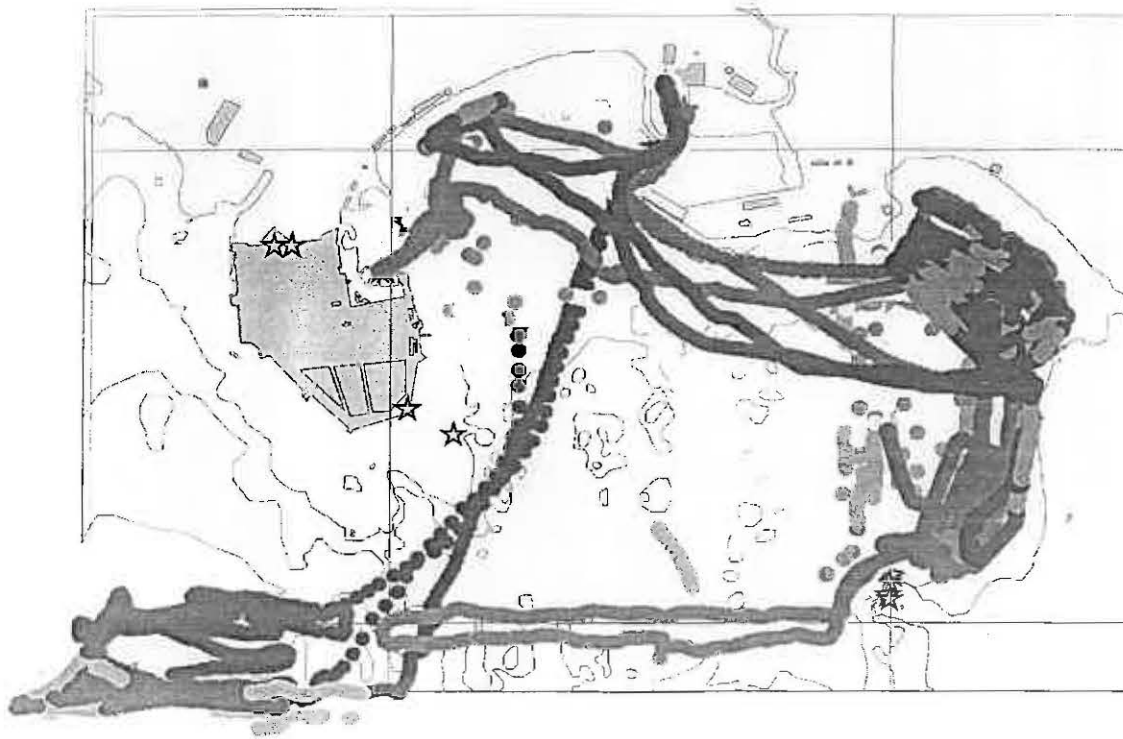


Figure 22. The November 1997 GIS plot of the survey work in Galle Harbour.

THE OTHER VOC SHIPWRECKS

We know from the archival research that there are at least three other unlocated wrecks in the harbour. It may well be that these sites are as well preserved as the *Avondster*. Future survey work will help to locate and identify these sites. The maritime archaeological legislation proceeding through Parliament at present will ensure the protection of these sites in the future. There is no doubt that Galle has a unique place in the history of the VOC, particularly because of the number of shipwrecks.

TRAINING

With the development of the maritime archaeological training programme, it is likely that in the near future there will be a small maritime archaeological unit in Sri Lanka. Within the next few years it may be possible to undertake an advanced training programme to develop and extend the existing skills within Sri Lanka. Furthermore, given the facilities and expertise available, it could be possible for Sri Lanka to become a regional training centre for Indian Ocean and Southeast Asian countries. Such a training centre and programme would be particularly opportune, given that Thailand no longer operates an Asian maritime archaeological training programme. The diversity of sites that Galle has to offer, the extent of cross-disciplinary interests, the international interest and involvement makes this an attractive and exciting proposal.

LIST OF SPEAKERS

S.U. Deraniyagala	Director General of Archaeology
Gihan Jayatilaka	Advisor Maritime Archaeology for the Department of Archaeology, Sub-Aqua Club and Maritime Heritage Trust
Jeremy Green	Western Australian Maritime Museum, Australian National Centre of Excellence in Maritime Archaeology
Robert Parthesius	University of Amsterdam
Rukshan Amal Jayewardene	Archaeologist, Trainee Maritime Archaeology
Jon Carpenter	Department of Conservation, Western Australian Maritime Museum.
Nerina de Silva	Conservator, Consultant Galle Harbour Project
Somaseri Devendra	Senior advisor Galle Harbour Project
Lodewijk Wagenaar	Amsterdam Historical Museum
Ypie Attema	Netherlands Department for Conservation



Figure 23. Seminar delegates near the Conservation Laboratory facilities on the Import Jetty, Galle.

LIST OF ATTENDEES

Ms Drs Ypie Attema	Netherlands Department of Conservation
Mr Patrick Baker	Western Australian Maritime Museum
Ms Claire Barnes	Volunteer, Galle Harbour Project
Mr Jon Carpenter	Dept of Conservation, Western Australian Maritime Museum.
Mr W.M. Chandraratne	Central Cultural Fund
Mr Tom Dawson	Department of Archaeology
Mr A.M.A. Dayananda	Central Cultural Fund
Dr S.U. Deraniyagala	Director-General of Archaeology
Lt-Cdr Somasiri Devendra	Senior advisor Galle Harbour Project
Dr Malimi Dias	Director of Epigraphy and Numismatics, Department of Archaeology
Ms Indrani Fernando	Department of Archaeology
Ms Jinky Gardner	Dept of Underwater Archaeology, East Carolina University
Mr Mike Gardner	
Ms Dena Garratt	Western Australian Maritime Museum
Mr George Green	Volunteer, Galle Harbour Project, WA Maritime Museum
Prof Jeremy Green	Western Australian Maritime Museum
Mr Gihan Jayatilaka	Advisor Maritime Archaeology for the Department of Archaeology, Sub-Aqua Club and Maritime Heritage Trust
Mr Rukshan Jayewardene	Archaeologist; Trainee in Maritime Archaeology
Mr D. Kandamby	National Maritime Museum, Galle
Mr Indrajith Kuruppu	former member of Galle Harbour Project
Mr Sirinimal Lakdusinghe	Director, Department of National Museums
Dr K.D. Paranavitanai	Department of National Archives
Drs Robert Parthesius	University of Amsterdam
Mr Asoka Perera	Post-Graduate Institute of Archaeology
H.E. Mr H.C.R.M. Princen	Ambassador of the Netherlands
Mrs L. Princen	
Mr K.D.S. Silva	Post-Graduate Institute of Archaeology
Ms Nerina de Silva	Conservator, Consultant Galle Harbour Project
Ms Corioli Souter	Western Australian Maritime Museum
Mr Kurarasingha Tennegedara	National Museum
Ms Yola Vollebregt	Netherlands Embassy
Drs Loderwijk Wagenaar	Amsterdam Historical Museum
Mr Chandana Weerasena	Central Cultural Fund
Mr K.D. Palita Weerasingha	Central Cultural Fund
Mr Indu Weerasoori	Southern Development Authority

