SHIPWRECKS AROUND THE WORLD

Revelations of the Past

Editor
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Maritime Archaeology in Sri Lanka: Twenty-five years old and a new beginning

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Introductory note

This paper is presented in two parts, each being written by different authors. Part 1 is an account by one who introduced maritime archaeology to Sri Lanka, who retired from active work in 2004. Part 2, by one of the new generation of maritime archaeologists takes the narrative forward from 2004 to the present. The views expressed in each part are those of the writer concerned and the views of one do not reflect those of the other.

PART: 1 From the beginnings to 2004

Maritime archaeology in Sri Lanka: first exposure

The Archaeological Department came face to face with maritime archaeology quite suddenly and unexpectedly in the early 1960s, when a team of divers, including Jonklaas, Wilson and Clarke, discovered a hitherto unknown wreck in the Great Basses, containing among other more archaeologically important material - sacks of silver coins minted in Surat, India. Wilson and Clarke had completed a successful book on Australia’s Great Barrier Reef and come to Ceylon as the ‘Clarke-Wilson Expedition’ to write a similar book on the reefs here in the early 1950s. The book, ‘The Reefs of Taprobane’ was completed and published in 1957, but the country and the seas around it persuaded both to settle down here. They teamed up with local sports divers who were mostly interested in corals and fish, but it was a matter of time for them to discover archaeological material. Clarke (1964) states that they were diving off Swami Rock since 1956, before their attention was diverted to Wilson’s more exciting discovery of a shipwreck with a cargo of silver coins in the Great Basses (Fig. 1). From Throckmorton (1964) we know that the discovery was made by Wilson when he was filming (the Sinhalese film ‘Rammuthu Duwa’ in which the wreck features) in 1961. Throckmorton was surveying a Roman wreck in Greece, when he heard of the find and wrote to Clarke and Wilson asking if they knew of any Roman ships in Ceylon. He says: ‘In reply I got a cable asking if I could come to Ceylon to help them and the Ceylon Department of Antiquities survey an interesting wreck’ (emphasis mine).

The Department had no idea at all about maritime archaeology and was no doubt relieved that a recognized maritime archaeologist happened to be available. Throckmorton conducted a survey and study very much in keeping with the prevailing standards, and published his work both in book form and in academic journals. Clarke, a writer of fiction, wrote several popular books, drawing upon Throckmorton’s research. The difference between
the archaeologist’s and the non-archaeologist’s perception of archaeological concerns reveals interesting insights. Throckmorton who, elsewhere (1971), provides a complete list of objects retrieved, says ‘I am grateful to the Director of the Department of Antiquities, Dr. C. E. Godakumbura and his assistant, Dr. Roland Silva, for their assistance and for the department’s permission to export small samples, of no intrinsic value, for analysis’ (Throckmorton, 1964, footnote, p.70)

Clarke’s attitude was different. In its first reference to maritime archaeology namely, in the Department’s Annual Report for 1962-63 (Godakumbura, 1964) the relevant parts were written by Clarke. There, the latter mentions the retrieval of one British cannon, two wooden pistol-stocks, a brass tray, cannon balls, a brass pestle and mortar and 350 pounds of silver and another estimated ton of silver not retrieved (a shorter list than Throckmorton’s). The present location of these artefacts is not known. Unfortunate, and hitherto unreported, is the fact that, while Clarke was permitted by the Archaeological Department to take several lumps of concreted silver coins out of the country, for study, exhibition and return, the undertaking to return does not appear to have been complied with, yet (Pers comm by an officer of that era). Certain aspects of this matter will be touched on later for reasons that will be relevant. Questions that occurred to the various persons involved in this discovery are both revealing and valid. Wilson, the sports diver,
reading a paper titled ‘Sri Lankan Underwater Archaeology: the early years’ at a Seminar, described his reactions: ‘On one of these expeditions when I was alone... I found two wrecks on the same day, one of which had been carrying silver coins, how many I had no idea, that I must tell you frankly, that on the first discovery my thoughts turned at once to its protection as an archaeological site: a site of future archaeological importance’ (Wilson, 1988).

Throckmorton, the archaeologist, writing seven years previously (1964) says:

‘Like all sensible treasure hunters, Clarke and Wilson wanted to risk their future investment against a known possible profit. They had the blessings of the government, which only demanded that the project be conducted as an archaeological rather than a salvage operation. The question of who owned the finds was more vague but it seemed certain that Clarke and Wilson owned at least half, although there was a question as to whether the wreck was legal salvage or an archaeological find’.

Later in the same book (1971) he poses the question:

‘Was the project worthwhile? Certainly not in a commercial sense, though Clarke-Wilson will probably break even eventually….the half-rupee pieces were worth a good deal of money before the wreck was found, since they were very rare, but the first few dozen flooded the market and the value dropped’.

Regarding the question of who owns the site, Godakumbura (1962-63) gave an undertaking that the question of ownership would be solved, viz, ‘Action is being taken to declare the area of the wreck an Archaeological Reserve’, and this was done in 1963-64 (Silva, 1993). How wrong Throckmorton proved to be in regard to the commercial viability was shown in the 1990s. This evaluation will be dealt with in its due place: what is of importance is that, this very first exercise in maritime archaeology here, raised all the issues that were to haunt maritime archaeologists and state departments, the world over, since that time.

**Tentative first steps**

This discovery, however, did not lead to any more work in maritime archaeology, remaining an isolated incident. The 1967-68 Report made a more specific statement: ‘There are shipwrecks found (including the P&O Liner *INDUS*) which sank with an invaluable collection of works of art from the stupa of Bharhut (2nd century BC) within the territorial waters of Ceylon. The techniques of Undersea Archaeology are being successfully applied in other parts of the world and it has to be admitted that Ceylon lags far behind. There is always the risk of unauthorized operations on these wrecks but the law as it is now appears inadequate for safeguarding shipwrecks. The department has been addressing its mind to these and similar matters in order to recommend to government the necessity for making further amendments to the present Ordinance’ (De Silva, 1970).
De Silva’s fears were well founded. The next, and archaeologically disastrous, development was the expansion of recreational tourism in Sri Lanka. This country was promoted as a ‘Sea, Sun and Sand’ destination and many of the tourists were SCUBA diving enthusiasts. Unofficial tourist guides found them keen to view wrecks and underwater tourism began - as in the eastern Mediterranean with no controls or Regulations in place. ‘Finders Keepers’ became the prevailing creed and a large number of wrecks were stripped, without the tourists, the touts, or even the Tourist Board and other State institutions being concerned about leaving the sites undisturbed. A government unaware of a problem cannot be expected to counter it. It is now impossible to assess the extent of damage done during this period.

The collections gracing the many antique shops on the way to Galle, and the artefacts displayed in the Diving Stations in the tourist areas provide the only basis for evaluation. No records of what has been taken out of the country are available. The Archaeological Department lacked the necessary powers, and no legislation was in place to empower the Department. Ironically, it took a pair of expatriate looters to make the government face the problem. Action was taken by the then Head of the National Aquatic Resources Agency (NARA), Dr. Hiran Jayawardene, to conduct a raid and rescue the artefacts. It was found that, in a well-planned operation, they had collected details of over 300 likely sites in our waters. Their material was confiscated and they were asked to leave the country. The major site they were working on was later explored and recorded by a team of divers from the Sri Lanka Navy, at the instance of NARA but finds cannot yet be revealed as the waters lie in a security zone. Some information can be gleaned from the Navy’s website which deals with, inter alia, Maritime Archaeology <www://navy.lk/index.php?id=1212>.

NARA (established in 1982) is essentially a scientific institution primarily concerned with the biological and mineral resources of the sea. However, the Act was flexible enough to include marine archaeological sites since it defined ‘national aquatic resources’ as ‘all living and non-living resources contained in or found beneath the medium of water and which are subject to the sovereignty, jurisdiction and control of Sri Lanka’ (1981). In these circumstances, the Director of Merchant Shipping who, as Principal Receiver of wrecks, exercised the State’s claim to ‘all unclaimed wrecks in any part of Sri Lanka’ under the Merchant Shipping Act (1971) often consulted NARA whenever he received an application for a license to salvage a wreck that might have a historic significance. NARA was thus brought into the field of maritime archaeology. Taking this role seriously, it first convened a modest international seminar, the ‘First National Workshop on Maritime History and Marine Archaeology’, in 1984 in collaboration with the Ministry of Trade and Shipping and the Department of Archaeology. Historians, archaeologists (terrestrial and maritime), archivists, lawyers and divers participated. But this promising start, too, generated little momentum. Another start was made, this time by the Post Graduate Institute of Archaeology (PGIAR). At the ‘First National Archaeological Congress’, in
1986, P. U. Weerawardena, of the Archaeological Department, presented a paper on ‘A Theoretical Framework for Maritime Archaeology and the Maritime History of Sri Lanka’. The interest generated by this paper led Senake Bandaranayake, Director, PGIAR, to convene an informal meeting of divers, archaeologists and enthusiasts from other disciplines to formulate an action plan. Among the participants were two associations: the Maritime Heritage Trust of Sri Lanka (MHT) and the Sri Lanka Sub Aqua Club (SLSAC). Enthusiasm and commitment were expressed, but the lack of funds continued to inhibit more positive action. In 1988, MHT convened a one day seminar exclusively on this subject, with the blessings of the Archaeological Department. Clarke and Wilson were among the participants where Wilson, (in a paper quoted previously) (Daily News, 1988) on the subject of the Great Basses wreck, said: ‘….I must tell you frankly that, on the first discovery, my thoughts turned at once to its protection as an archaeological site: a site of future archaeological importance. Like Arthur (C. Clarke) and Rodney (Jonklaas) I really believed that a future generation of Sri Lankan archaeologists would include underwater archaeology in the widening spectrum of their discipline. This very seminar, which we are all attending, is confirmation of that vision. That generation is seated here, now, among us; at this symposium as well as the NARA symposium of several years ago. They are, in truth, laying the groundwork for the future of submarine archaeology in Sri Lanka. It hasn’t started yet’.

NGO initiatives

The last sentence was to remain true for some years more. During those few years, it was only the enthusiasm of MHT and SLSAC members that led to any form of exploration or study. The first actual work done by them was in inland waters. Following a report in a newspaper (1988), an exercise was conducted at Kuru Ganga in Kuruwita, where gem miners had brought up an ancient logboat discovered about 15 feet below the riverbed. Assuming it was a log, they had sawn it in two to raise it. After seeing what it really was, they had wisely kept it in the river and sent word to the Colombo Museum. It was examined in situ by MHT and SLSAC, measured, sketched, photographed and a report submitted to the Director of Museums. Though the first aid conservation measures recommended were indicated, the Museums Department opted to use an indigenous method of ‘air drying’ which has proved successful, so far. It is on display at the Ratnapura Museum. Unfortunately, the artefact has not yet been dated scientifically.

Another activity carried out by the SLSAC, but not concerned with archaeology, was that of training SCUBA divers on a site in Galle harbour, which appeared to be an accretion site for assorted, small artefacts brought there by wave action and current flow. A 13th century Chinese Lung-ch’uan Celadon bowl, almost complete, was the most exciting find (Prickett-Fernando, 1990a) but, in terms of scholarship, more interesting was a large number of clay smoking pipes, which led to considerable research by Fernando (1995).
Yet another project was the discovery and preservation of 18 ton Rifled Muzzle Loading (RML) cannon, complete with mounting, which had guarded the entrance to the Trincomalee Inner harbour in the late 19th century. Here, too, help was sought and received from the Royal Armouries in the Tower of London and the late Adm. Clancy Fernando, then Commander, Eastern Area of the Sri Lanka Navy (Devendra et al., 1990a). These were, however, only isolated and almost serendipitous ventures. The first ambitious project undertaken, involving a maritime site was the ‘Colombo Reefs Archaeological Survey’ of 1989, the initiative of Dr. Mark Redknap (of the British Nautical Archaeological Society and the National Museum of Wales) and P. U. Weerawardena. This project, briefly described as ‘a survey of underwater archaeological sites within a context of reef environment and geomorphology’, found acceptance with, and funding from the Royal Geographical Society, the British Academy and the British Museum. The site chosen was the ‘Drunken Sailor’ rock off Galle Face, Colombo, chosen not so much for its intrinsic archaeological importance as for the reason that, in view of the prevailing security concerns, the operations could be easily monitored by all security organizations. MHT undertook the responsibility of obtaining all necessary clearances. There were no precedents for a project such as this and the multitude of ministries, departments and authorities that had to be accessed and negotiated with was legion. Even with the backing of the Archaeological Department, two factors worked against the project: first, the lack of any Regulation covering archaeology in national waters, and second, the security concerns inevitable during a politically volatile period. Although the team and equipment arrived in the country, only the use of a magnetometer was permitted, and diving on the site was not. Thus when, part way through the exercise, the magnetometer malfunctioned, the project had to be left incomplete. The experience, though, had a positive side, which was the publicity given to, and the approvals given to a maritime archaeological study. At the Archaeological Department’s Centenary Seminar papers read by Redknap and Devendra (Redknap, 1990; and Devendra et al., 1990a) were received with wide acceptance. At the end of the Conference, a Resolution was adopted which recommended: ‘that the Archaeological Department, at the start of its second century, establishes a marine archaeology unit with all the necessary statutory powers to assume control of and to initiate all marine archaeological activity in the country’ and proposed: ‘that the unit should interact with all statutory bodies, academic institutions, NGO organizations and remain the dominant institution administering such a discipline’.

Institutional initiatives

Towards the end of the 1980s, initiatives to develop maritime archaeology were taken by two groups of official institutions. The first was led by NARA, which set up an ‘Inter-Ministerial Committee on Shipwrecks’ (IMCW) to prevent the rape of the underwater cultural heritage (in the short term) and to propose new legislation to regulate underwater
archaeology (in the long term). This was a very difficult task, as there were about fifteen government institutions involved, in one way or another. A Legal subcommittee was appointed, chaired by the Senior Asst. Secretary to the Ministry of Justice, Lalani Perera, which successfully brought all the apparently conflicting interests together and prepared a comprehensive report. Two Ministers then presented this Report to Cabinet jointly: the Ministers in charge of Cultural and Religious Affairs, and of Fisheries and Aquatic Resources. The draft stages were processed and the final draft approved by both ministries and cleared by the Legal Draftsman. It yet needs positive follow-up action by the Ministries before it reaches Parliament. When (hopefully) finally approved, this legislation will provide for the setting up of a Maritime Cultural Heritage Authority. The other group of institutions comprised the Archaeological Department, the Central Cultural Fund (CCF), the Post Graduate Institute of Archaeology (PGIAR) and the Maritime Archaeology Department of the Western Australian Maritime Museum (MADWAM). The initiative, which commenced in 1992, proposed to pool their resources and set up a multipurpose, multinational project, with primary and secondary aims. The primary aim was to acquaint undergraduates studying archaeology and practising conservators with the skills specific to maritime archaeology. The secondary aim involved the choice of site. The historic port of Galle, which was expected to soon be expanded into a modern container port, was selected as the training site so that a database of shipwrecks in the bay could be compiled during this exercise. The Sri Lankan institutions were in no position to find persons experienced in managing a multidisciplinary, maritime archaeology project. Neither could they provide counterpart divers. MHT and SLSAC therefore provided the operational management and counterpart divers. The 1992 pilot project proved both viable and successful. The participating institutions decided to upgrade it to a fully fledged continuing programme, within the limits of the funding available. Work was continued in 1992 and 1993, but not in 1994-5 due to funding problems. The major work took place in 1996-98 and plans were drawn up to carry the work on in a more ambitious scale. As the most significant project yet undertaken, this is dealt with in depth below. The focus of the project changed twice within the last eight years, and it is convenient to deal with it under several chronological periods, namely, 1992-93, 1993-94, 1996-97, and 1998 onwards.

The Galle Harbour Project

I. Training and Data collection

The prime object, during the first seasons (1992-93) was to train a core of maritime archaeologists. The work of the Australian team of maritime archaeologists of various sub disciplines led by Jeremy Green, a Sri Lankan counterpart team of amateur divers from the SLSAC led by Gihan Jayatilaka and a team of naval divers was coordinated by Green (MADWAM) and Devendra (MHT). During this year, the training component
largely involved conservation of waterlogged objects. This was due to the availability of experienced archaeological conservators, who only needed specialist training. Classroom instructions were conducted on a daily basis, and a special area was set apart for a conservation laboratory. The students were introduced to scientific underwater photography for recording finds. In the database activity, the Australians conducted the underwater investigations with members of the SLSAC working with them as local counterparts. It was on the last day of diving that the most significant artefact was found: a ship’s bell that was later identified as that of the Dutch East Indiaman ‘Hercules’. Subsequent archival research helped flesh out this find. The bell, with the inscription AMOR VINCIT OMNIA (Love Conquers All) was cast in 1625 and mounted on the ‘Hercules’ when she was built in 1655. She had an overall length of 140 ft., with a beam of 33 ft. and a draught of 14.5 ft, and carried a crew of 122. She had left Batavia on 4th November, 1660 for Galle via Malacca. On what was to prove her last, fatal return voyage, carrying a cargo of cinnamon and rice for ‘Batavia’, she weighed anchor only to face a combination of freak winds and bad seamanship, breaking up and sinking off Gibbet Island on 21 May 1661. The location of the wreck was later shown on maps as ‘Hercules Kirkkopf’ (or ‘graveyard’): testimony to the large number of deaths that occurred. A great deal about this ship is now known but what was found of her are the bell, (probably) her sounding leads and about 30 cannons (Green and Devendra, 1993 a-b). The building of a breakwater in the port in the 1960s had destroyed all other traces.

The second season (1993-4) saw the entry of a handful of undergraduate archaeology students for training in diving. The classroom and diving instructions and the compilation of the data base continued. The trainee maritime archaeologists, many of whom were strangers to the sea, were first introduced to the marine environment. Their swimming skills were developed; they were trained in snorkelling and introduced to SCUBA equipment (Clarke, 1964). The data-base compilation was rewarded, again towards the end of the season, with the discovery of a significant wreck, with a fairly well preserved hull, tentatively (now positively) identified as the Dutch East Indiaman ‘Avondster’. By the end of the second season 11 archaeologically significant sites had been identified (Green, Devendra and Millar, 1993). Midway through this season, an urgent request from the Director General, Archaeology, was received for a quick survey and report of the Great Basses site, as he had received a request from a company of salvors to retrieve treasure from the wreck there. This was a timely opportunity for archaeologists to visit the site 30 years after Throckmorton. Underwater visibility was exceptionally good and a very useful survey and report resulted, although only a day’s diving was available. The team also collected about 600 coins that had evaded the treasure hunters over the years, several beads, glass and earthenware shards, and had a chance to examine two cannon that had been taken from the wreck by private collectors. The project expanded into a Sri Lanka-Australia-Netherlands joint project and it was included in the UNESCO Integrated Study
of the Silk Routes (Green and Devendra, 1993 a-b). Work, unfortunately, could not be carried on for two years after that as funding dried up both in Sri Lanka and Australia. Preliminary and Final reports on the work were published in Sri Lanka and also in India, Australia and England. Late in 1995, Devendra and Green made the decision to keep the project alive, even on a modest scale, rather than let the momentum generated die out (Fig. 2).

II. Rescue Archaeology

In a parallel development, the government actively resuscitated the plans to build a major Container Yard and Transhipment Port in Galle Bay. It was clearly stated that it would construct a port that could accommodate the overflow from Colombo. Steps were taken to select a developer for the plan that, though ambitious and costly, had far reaching consequences in terms of economic development. The Archaeological Department was, naturally, concerned with the impact of the plan on the maritime archaeological project. Since this project was not one formally approved, and funded, as a departmental project, the assistance of the Ministry of Cultural Affairs was sought to undertake what amounted to a rescue project. Against this background, a visit to Galle by the Minister of Cultural Affairs, Hon. Lakshman Jayakody, assumed catalytic significance. Realizing that the harbour development project would have an adverse effect on a site that had, arguably,
been a port for over two thousand years, he concluded that a rescue operation had to be mounted with Cabinet approval and funds and with foreign expertise. The Director General, Archaeology, assured Cabinet and Parliament (1995) that the exploration and rescue work would be carried on only till the actual construction work commenced. He conferred with the Western Australian Maritime Museum and estimated the likely cost of the Project. Cabinet approval was granted. The Project, now a formal one, became a major commitment of the Archaeological Dept. The overall responsibility was given to the Dept. and the standing of, and linkages with the earlier co participants were satisfactorily redefined. The CCF undertook to provide conservation personnel and facilities. The PGIAR undertook to make available the original trainee maritime archaeologists, who were to be more intensively trained by the Department. The volunteers from MHT and the SLSAC (Jayatilaka and Devendra) agreed to continue to co-ordinate the project as before, in the role of Consultants. The University of Peradeniya (Dr. Moira Tampoe) undertook the registration of artefacts. A consultant conservator (Ms. Nerina de Silva) and a sedimentary geologist (Dr. Ananda Gunatilaka) were co-opted. The Dept. of National Museums became more closely linked to the project by releasing a part of its premises to build a conservation laboratory, as the post-conservation exhibits would be placed on display in the Maritime Museum. The Sri Lanka Navy extended logistical support and permitted the use of its facilities in the harbour as an operational base for the maritime archaeology project. The Maritime Archaeology Department of the Western Australian Maritime Museum, now designated a ‘Centre of Excellence’ there, agreed to provide the expertise and equipment necessary.

Unlike in previous years, where the focus was on training and data collection, the focus during this period (1996-7) was on survey and rescue. The work called for investigators experienced in maritime archaeology and the use of advanced forms of electronic sensing. The trainees, thus, had no part to play during this phase, where a survey of the seabed was carried out very quickly. Side-scan sonar, an instrument to map the seabed on either side of the survey vessel as it proceeded on a pre-determined track, was deployed on a Navy workboat which towed the ‘fish’ (the sensory apparatus) lowered over the bow and trailed it astern. The vessel traversed the Galle Bay repeatedly in an East-West direction, and vice versa, along parallel tracks 100 m apart, giving a certain amount of overlap in the paper-trace, or printed out record. The track was determined by using a differential global positioning system, or DGPS, which gave readings of fixes, or positions, at an accuracy of ± 4 m. The precise track actually traversed was recorded by a GPS (Magellan Pro 2000) and a satellite based differential system (Omni Star): the signals from the Omni Star were fed into the Magellan to give a real time differential accuracy, and the data was then fed into an onboard computer. The survey covered Galle Bay and outlying areas from Watering Point to Kadda Rock and on to Kakoni Rocks; from there, East 1000 m and then North to Kepu Ela (excluding the commercial harbour). The result was a complete
picture of the seabed in the bay: 48 East-West runs had been made covering a total linear
distance of 312 Km and an area of 62,400,000 sq m was recorded. The paper tracing
produced showed a plan of the seabed, which was annotated with the GPS co-ordinates in
UTM (Universal Transverse Mercator) noted on it at one minute intervals. UTM, used in
GPS-based surveying, uses a datum different from that used for Survey Department maps
of the country and a common means of translating one to another had to be found for
recording the maritime sites in relation to positions on land around the bay. It was decided
to give the locations in decimal degrees, using the WGS84 datum (international standard).
The Admiralty chart of Galle Harbour has a Ceylon 1933 datum (Kandawela datum §
Everest), not common to GPS systems, and thus it is impossible to plot GPS co-ordinates
directly onto the chart of Galle Bay. To locate a WGS84 datum GPS position on the
Ceylon 1933 datum chart, the position has be translated 238 m ENE 83.5°. In decimal
degrees (the alternative adopted), to convert a Ceylon 1933 co-ordinate to WGS84 the
point has to be moved 0.002128° E and 0.000227° N.

The complete sonar trace was then analyzed to identify sites of potential archaeological
interest. Using a Computer Aided Drawing (CAD) package, a large scale map of the area
at a scale of 1:5000 was generated, onto which were superimposed the track of the vessel
and the locations of the 160 potential targets. In the next stage, which followed the first
back-to-back, the visual examination of these tentatively identified sites was carried out
by diving teams. Targets were chosen daily according to their likely significance. Survey
teams diving on each site examined and attached buoys to those of archaeological interest.
After approximately 60% of the prioritized sites (including all those lying in the area
earmarked for construction purposes) were examined, twenty one sites were identified as
of archaeological interest. These included three wooden wreck sites (possibly European,
of 17th-18th centuries); the ‘Hercules’ cannon site; a group of two cannon (possibly a
mooring point); two non-European stone anchors; two accretion sites for ceramic shards
of various types and periods (indicating the existence of yet unidentified sites) and a
mixture of small artefacts; and several European style anchors of various types and iron
wrecks. By 1997, when the next phase of the task commenced, the project expanded
beyond survey and examination, becoming more multidisciplinary, in keeping with the
current trends in research and exploration and, in fact, the nature of the finds made. The
disciplines covered were Archaeology, History, Conservation and Training. The historical
input was largely archival in nature with K. D. Paranavithane, (Department of National
Archives), Robert Parthesius and Lodewijk Wagenaar (Amsterdam Historical Museum)
collaborating. Archival material in the Dutch Records of the National Archives (the Galle
Annual Compendia and their Annexes for the period 1740-1794), and the Algemeen
Rijksarchief in The Hague, Netherlands, were accessed for information on the wrecks
located. Subsequently they have been tentatively identified as the ‘Geinwens’ (1776), the
‘Dolfijn’ (1663), the ‘Barbesteijn’ (1735), the ‘Hercules’ (1661) and the ‘Avondster’ (1659).
In the report submitted, this aspect is described in the following words: ‘On a methodological level, the VOC wrecks in the context of the harbour and city of Galle offer interesting possibilities to relate history and archaeology. The presence of four or five identified and well documented wrecks within this harbour offers the potential for a broad interdisciplinary study of the ships, the harbour, the city and the organization of the VOC. In a broader perspective, this case study can answer questions about the Asian shipping network and its organization. Therefore the Galle Harbour Project offers a chance to study VOC shipping in its Asian context. The ships discovered so far represent different aspects of the Dutch trade with Asia; being well documented and from an important period, they can shed light on the function and activities of the harbour. Roughly, such a study will 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 shipping between Sri Lanka and Europe… … The harbour cannot be isolated from the city and the region of which it formed a part. For that reason, co-operation has been established in the research and management of the cultural heritage in and around Galle (Green et al., 1998).

The juxtaposition of archival search and archaeological exploration help flesh out the story of the wrecks, and add a human dimension to the remains under water. Two accounts serve to illustrate this, the first about the ‘Hercules’ and the second about the ‘Avondster’:

**Hercules**

‘When the crew of the Angelier had weighed anchor and had been 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, which 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 a few minutes later’ (ARA VOC: 1238-9 folio 1139-40) (Green et al., 1998).

**Avondster**

‘…to our great distress on the 2 July at night the old yacht the Avondster in Gallons Bay, after slipping her anchor rope, in silence slipped her moorings and because of bad supervision was wrecked. This happened because the mate Bartel Schagh van Dansish, who was called to his watch, didn’t pay enough attention and went below. In the meantime the boatswain’s mate, Evert Albers, and the steward, Dirc Willemsz, wrongly, expecting the evil indeed left the small watch looking out, at the end the schipper Arent Danielse
Lem, who delayed a quarter of an hour before he ordered to drop the anchor; he assumed he could bring the yacht in deeper water with a kedge. But because he was waiting the yacht struck ground and broke immediately in front of the garden of Marcus Lasserres, and the out coming river on the side of the mountain’ (ARA VOC: 1129 folio 162) (Green et al., 1998).

Since the fieldwork had, however not been completed, the remainder was taken up again in two seasons of work in 1997. It was realized that the side scan survey was not complete and that a proton magnetometer survey was also required, for surveying of sites where wrecks were suspected of being under sediment and sand layers. A more sophisticated GPS was used which could use more than four satellites at a time, thus giving a smaller positional error than the earlier one: ± 3 m in the north-south direction and ± 5 m in the east-west direction. The GPS could also read out in UTM co-ordinates, feeding latitude and longitude data directly into the logger. The side-scan and proton magnetometer ‘fish’ were used simultaneously, one deployed over the bow of the workboat and the another trailed 12 m astern, and the third deployed over the side. The day’s data was scaled to fit with a graphics package that was being used as a low level GIS (Geographical Information System) and superimposed layer upon layer. This was a sophisticated system developed for the Galle Harbour. This software package enabled the integration of graphical and database information. All GIS information from earlier seasons was incorporated through this system into one single document.

The most interesting finds of the second 1997 season were the re-discovery and recovery of the stone anchors. Unexpectedly, several were found, of different types. The most conspicuous was a complete ‘Arab-Indian’ anchor, in size 3.170 m x 550 mm x 260 mm and in weight between 900-1000 kg. Analysis of the fabric indicates that it is of a Sedimentary polymict conglomerate, which Gunatilaka (1998) has identified as of likely Omani provenance. This was one of the few complete anchors of this type so far found, and the furthest east discovered, although many are found around the shores of the western Indian Ocean, including in the Palk Strait and Lakshadweep where, too, a complete one has been found. The discovery of shaped wooden parts in association with this anchor is unique and important. These fit the holes in the stone shank and may be the flukes of the anchor. Since stone artefacts are not scientifically dateable (and smaller ones are yet in use) the wood offered chances of dating through established scientific tests. After cleaning and sampling, a biocide was applied to eliminate any living microscopic organisms. They were then stored in a moist environment and sent to Australia for treatment with Polyethylene Glycol (PEG) and freeze drying: a process that would take approximately three years. Using CSIROID software, along with photomicrographs and authentic samples, the sample tested in Australia was identified as a ‘*Calophyllum*’ species (Godfrey, 1998). The first radiocarbon date provided by the University of Waikato did not reach back to 1000 years BP (as had been hoped for) but to 430 ± 80 BP. When Mohan Abeyratne
(CCF) converted this to calendar chronology, using the OxCal programme, he further refined the age as follows: that it could be between 1310 and 1650 AD with a 95.4% probability of being between 1390 and 1650 AD. The earlier of the two dates, if accepted, would indicate that it was laid more than a century before the arrival of the Portuguese, and this would fit in to known history. The later date, however, does not; as, by implication, Arab ships were laying 1000 kg anchors in the shadow of, and under the guns of the Dutch Fort of Galle. Only one of the wooden pieces has so far been dated, and dating of the other could provide other horizons. These anchors have since been returned to Sri Lanka after conservation and there is no agreement on the interpretations offered. Other types of stone anchors were also found around the same general area. One is a Mediterranean three hole type anchor with an additional hole; an unusual feature. Another round one with a single hole was also retrieved. While the characteristics of the fabric of these have been determined, there is no way to date them: particularly as there are no established dates for types of anchor, and stone anchors are used by fishermen in Sri Lanka. By 1998, a total of 26 sites had been identified. Of them the most important, archaeologically, are the following (Fig. 3):

Fig. 3 Archaeological sites in Galle harbour. (MAU Archives)
Site **C**: A large iron wreck, possibly ‘SS *Rangoon*’ which sank at anchor.

Site **D**: A large iron vessel approximately 40m long and badly broken up not yet identified.

Site **O**: An iron wreck, approx. 30 m long and 10m wide, possibly the ‘SS *Agra*’ lies at 13.8 m depth, amid considerable turbulence.

Site **S**: Iron wreck at 12m depth with concretions over an area of 5 sq m.

Site **Y**: Highly degraded iron wreck in shallow water, not yet investigated.

Site **R & T**: Large iron anchors, at old anchorage site. The site itself and its potential is greater than the anchors themselves, as it is part of the late medieval harbour.

Site **W**: Iron wreck, probably that of the ‘Effort’, discovered by magnetometer survey.

Site **G**: Wooden wreck of a Dutch East Indiaman, possibly the ‘Gienwens’ which has much historical value, though the remains are not extensive.

Site **K**: Iron wreck, possibly the ‘Marion’.

Site **F**: The ‘Hercules’ site, historically important but extensively damaged in the process of building the existing breakwater in the 1960s. Ship’s bell, and sounding leads have been recovered, but at least 30 cannon have been located but not yet retrieved. In addition to this, since a large number of sailors died in the sinking, this was named ‘*Hercules Kirkopf*’: this means a Churchyard or Graveyard.

Sites **U & V**: These are accretion sites, where many loose artefacts are found in good condition. They border the western limit of the channel and some very historically valuable material has been found here. Extensively looted in the past.

Site **E**: Remnants of the bottom part of a wooden ship, dateable to mid 19th century.

Site **A**: The site of a large iron wreck, valuable as it is an accretion site for a wide variety of artefacts conveyed here by currents. So far, artefacts ranging from 15th century Chinese bowls to 19th century clay pipes have been discovered in large quantities. The site needs to be extensively and continuously explored as it is an important indicator of the archaeological diversity of Galle Bay.

Site **J**: Another accretion site, with many ceramic shards, situated in the historic anchorage area. Important for the finding of a religious statue; others may be still there. Site full of promise and has to be kept inviolate, as in the case of all other sites in the anchorage area.

Site **L**: The ‘Avondster’ site: most important single site. The remains of a Dutch ship, identified and studied in depth archival, which will have to be preserved underwater for many years for seasonal exploration to carry on.

Site **P**: The site where there is a collection of Arabic and Mediterranean type stone anchors and, therefore, both the oldest site in the harbour and the site of the original Galle harbour.
The most promising shipwreck site is Site J, that of the ‘Avondster’, which is a ‘time capsule’ in every sense of the word. It is premature to comment on it, although much is given in the Report for 1996-1997. A significant find was a typical Dutch galleon, made of brick with lead sheeting. The ‘Avondster’ was a European vessel sailing on behalf of a European country in the Inter Asian trade. While historical sources provide information on the logistics (food, crew, armaments etc.) and structure of ships sailing between Asia and Europe, little is known about those used in the inter-Asian trade. Due to the complete nature of the site (up to the ship’s main deck), it is expected to make a valuable contribution to nautical archaeology. Another find found by the Police rather than archaeologists—however, illustrates the potential of underwater Galle. The local divers, who make a living of plundering artefacts, had recovered a bronze statue of a Hindu deity and looked about for the highest bidder. One unsuccessful bidder had complained to the Police who confiscated the statue. Archaeologically, the most interesting feature was that, on its left shoulder, someone had deeply scratched XIV, the Roman numerals for 14. It is apparent that this was a catalogue or collection number, and that this formed part of a collection that was shipped out of Galle by a colonial official. Ships were then anchored in the stream (i.e. at a point away from the wharf) and goods and passengers were ferried to and from them by lighters and boats, respectively. It has been conjectured that, by chance, this artefact had fallen overboard while being loaded into the ship, and it was found at one of the known berths. This has left room for much speculation. It is known that Sir Alexander Johnston, Chief Justice, shipped a lot of invaluable material on board the East Indiaman ‘Lady Jane Dundas’, which sank in 1809 before reaching England. Galle was the premier port then and it is possible that this is one artefact of that collection that did not succeed in leaving Sri Lankan waters. This ship, and fellow East Indiamen, ‘Calcutta’, ‘Bengal’ and ‘Jane, Duchess of Gordon’, parted from the other ships at Mauritius on 14th March 1809 and was never heard of again. There is a list of passengers lost but no mention from which port she sailed. The cargo manifest of this ship would help verify this conjecture (Devendra, 1999). Johnston himself admits the loss of his shipment of antiques (27) (Johnston, 1824, RAS of GB and Ireland Transactions).

In view of the lack of a functioning conservation laboratory in Galle, no excavation and retrieval was undertaken but, in 1997 and 1998, several items had to be rescued as they were being exposed by wave and current action. Among them are artefacts of European, Chinese, Asian and possibly local origin, which open out new vistas for the study of regional shipping personal cosmetic items, pieces of clothing, an ivory comb, small ceramic containers (probably) from the medicine chest, ‘Beardman’ jars, a skull, parts of a gun carriage and many others. It is only further study that can reveal the contents of this time capsule and what they amount to. The most promising aspect of this site is that it can be made the centre of a comprehensive maritime heritage display in Galle. In conjunction with the Maritime Museum, the Conservation Laboratory, the stone anchor collection...
and with live closed circuit TV operating when work is in progress, it will be both a successful tourist attraction and a means of raising public awareness of the underwater cultural heritage. Under the auspices of the CCF a Mutual Heritage Centre is in the process of formation, with funding from Sri Lanka and the Netherlands, and the ‘Avondster’ was chosen to be the first major project to be undertaken.

III. The ‘Avondster’ Project and the UNESCO Field School proposal

The commencement of this project flowed from the coming together of different players to form one team. The Archaeological Department empowered the Central Cultural Fund to undertake the establishment of a maritime archaeological unit, as the need for it was implicit in the 1998 Amendment to the Antiquities Act which extended the Department’s span of control over territorial waters. A nucleus of a team of archaeological divers and conservators was available. A site of importance, suitably located to be a training site had been identified. The difficulty lay in raising funds. At this point, the Netherlands government, through the Amsterdam Historical Museum, indicated its willingness to extend funding and training and to donate equipment. Sri Lanka’s contribution consisted of staff, premises, infrastructure, equipment available and finances. To translate this offer into action, a Mutual Heritage Centre of the Central Cultural Fund was formed with the Director General of Archaeology at its head and other partners being the Department of National Museums, the Postgraduate Institute of Archaeology and the University of Kelaniya, Sri Lanka, the University of Amsterdam, the Amsterdam Historical Museum and National Museum of Ethnology from the Netherlands and the Western Australian Maritime Museum from Australia. A three year programme was planned and a parallel plan to build a Maritime Museum to house the finds was mooted. With a target now in sight, a building was commenced, built on an abandoned jetty in the historic harbour of Galle, comprising administrative, conservation and diving areas. The project was licensed on a year by year basis by the Archaeological Department, the site being described as follows: The site is the wreck of a ship which sank in 1659 and which lies at the northwestern end of Galle Harbour, about 50-100 m south off the rocky shoreline and directly opposite the Galle market. The partially buried wreck lies parallel to the shoreline in a north-easterly direction. It lies at a depth of approximately 3 to 4 m, on a gently shelving seabed composed of sand and fine sediment. The site extends over an area about 40 m long and 10 m wide. The bow lies towards the southwest and the stern in a north-easterly direction.

The GPS site co-ordinates in decimals are: Latitude dec° 6.03465 and Longitude dec° 80.221183 and the Compass bearings

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The project commenced in December 2001 and ended in December 2004: the last work of the last season being providentially completed a few days before the Tsunami hit the site. The work proceeded more slowly than hoped for because of the need to build the facility, carry on training and excavation and to equip the laboratory to the desired capacity (Fig. 4). Nevertheless, the first Report on the work accomplished was published and the second Report is nearing completion. The progress of the MAU was such that, in November 2003, at an Asia-Pacific UNESCO-ICUCH meeting in Hong Kong, a Resolution was adopted to base a UNESCO Field School in the MAU premises to provide essential preliminary training in maritime archaeology to regional archaeological institutions which lacked a facility of this nature in such close proximity to a site under exploration. Soon after this meeting, ICUCH held its Annual Meeting in Galle and the eminent maritime archaeologists who attended had the chance of visiting the site and the facility and making very useful observations and suggestions for the future (Fig. 5).

Other Maritime Archaeological explorations

In the course of the Galle Harbour explorations, a few other activities, which are part of the larger canvas of maritime archaeology, were undertaken. The investigation of the
Great Basses site has already been referred to. Information is also available of shipwreck sites in the east coast, some partially studied that cannot be worked on in the prevailing climate of unrest. The material will thus not be dealt with here. Members of the team also followed up a report of the emergence of a wreck very close inshore at Ambalangoda. A hurried visit showed that the wreck had again been submerged under shifting sand, and confirmed that the fishermen who lived close by had in fact, removed important artefacts. The most valuable had been sold to collectors and dealers in antiques: newspaper reports had mentioned an image of a Hindu deity a fact that had been confirmed by local residents but this had been disposed of. However it had been possible to persuade some fishermen to show what they had with them. Items seen and photographed included a grinding stone, copper alloy ladle, small coconuts, quantities of cowrie shells, decorated porcelain shards, small lead weights, small cannon balls, tools including one with an ivory handle, pieces of rope, a blue and white porcelain cup and what seems likely to be part of an Astrolabe. From the information collected it was likely that it was an Indian or Sri Lankan ship engaged in the India-Sri Lanka-Maldives trade, and quite possibly a Jaffna ‘Thoni’. This, the first wreck site of a indigenous ship, has the potential of being the most significant site in the country. It is incumbent on the government to raise funds for a complete investigation, and even a site museum. Like the ‘Indus’ site, but more accessible.
than that, it has the potential for Indo-Sri Lankan collaboration, along with nautical archaeologists who have specialized in Indian Ocean ship construction (Jayatilaka and de Silva, 1998).

**Nautical and Waterfront archaeology**

**I. Boat Ethnology**

Mention has been made above of nautical archaeology, the study of the building and outfitting of ships and the logistics of the voyaging, and its later links with waterfront archaeology which deals with ports: their construction and servicing of the ships that called there. These aspects also came to be studied in depth, at around the 1980s and 1990s. Among them was Vinnie Vitharana (1992) who compiled a monograph on the outrigger craft of Sri Lanka, in a systematic and scholarly study based on much fieldwork. Vitharana added to his study an academic dimension and a very personal appreciation of the vessels and of the men who plied their trade on them. Particularly important was his study of the ‘Yathra Dhoni’, an outrigger equipped sailing cargo ship that was in use till the 1930s, the naming of the different parts of the craft and the material they were made of and the recording of the fast vanishing traditional nautical lore among fishermen. Outrigger vessels were also present in the area painstakingly researched and recorded by Gerhard Kapitan (1987a; 1987b; 1988; 1989; 1991; 1998 a-c) who brought a professional knowledge of seafaring and a high degree of nautical draftsmanship into his work. He has concentrated on meticulously drawing every variation of the outrigger fishing craft according to a common scale, paying special attention to the details of fittings, accessories and details of fastening. Nothing remotely resembling this has been attempted before and, at a time when all traditional boats are fast dying out, a compendium of his work cries out for publication. Devendra (1987; 1989; 1990b; 1991a; 1995; 1997; 1999 and 2000) approached it from a different perspective, namely, to identify the constructional characteristics of Sri Lankan ships and boats in pre-modern times. Having compiled a tentative typology of indigenous watercraft, he postulated the probable constructional characteristics of earlier craft and studied in detail three particular types: the twin-hulled logboats, oceangoing ships and the cargo carriers of inland waterways.

Apart from these research and recording works, submerged or retrieved logboats were also located and studied. A major work concerned the discovery of the chine-strakes of large ‘Paru’ in inland waters that can no longer be navigated at all. Studies into these have been done (Devendra, 1993; 2000) and (Carpenter and Godfrey, 1998) but, unfortunately, the Department has not been able to recover, let alone conserve them (this has, since, been done by the Army). On the other hand the Department, along with the Department of National Museums and the State Engineering Corporation recovered the very large chine strake from the Attanagalu Oya which was placed in a preservation tank pending
proper conservation. This artefact is of significance as it had been accorded a radiocarbon date of 1270 ± 50 BP at Beta Analytic, Miami, and Calendar calibrated at the CCF Laboratory, at a 95.4% degree of accuracy between 660 and 880 AD. It can therefore add to the corpus of knowledge on the socio-economic activities of the Maya Rata. The ‘Paru’ are an important inland watercraft in Sri Lanka, not only because they are no longer to be seen, but also because they were the largest. A complete sociological study is called for of this craft, its culture and its economic significance in history. It is also pertinent to record here that an earlier logboat from the Kelanitota ferry, retrieved and placed in the Colombo National Museum in 1952, was given a radiocarbon date of 2300 ± 100 BP at the Weizmann Institute, Israel. It has now been calendar calibrated (at the CCF Laboratory) between 550 and 200 BC. The initiative of Gerhard Kapitan in getting the dating done has to be acknowledged here.

The Galle Project team, during its first season, did an in depth study of Sri Lanka’s last traditional ocean going sailing ship, the ‘Yathra Dhoni’. Using the model at Kumarakanda Pirivena, Dodanduwa, (since presented to the Department of National Museums) as the starting point, meticulous measurements were taken and fed into a Macintosh computer in the form of a table of offsets. The computer then generated an acceptable hull form and this was tested against a software programme for small ship design (Mac Surf), which compensated for errors between the computer generated lines and the original measurements. The outcome was a complete series of constructional drawings for building a ‘Yathra dhoni’. The computer also made it possible for the design to be tested for sailing characteristics, and the results were most enlightening: ‘...a vessel of about 20 m in length was the size chosen for detailed analysis. The hull form of the yathra, with and without the outrigger, was analysed for stability, displacement, wetted surface, drag and powering requirements as well as cargo capacity for that size of vessel. The yathra hull alone was found to be reasonably stable... ... ..The addition of the outrigger, however, increased the righting moment by a factor of approximately 100. It also, of course, added to the drag created, and therefore powering requirements of the vessel (Vosmer, 1993).

In nontechnical language it means that the vessel was stable enough to sail even without an outrigger; that the addition of the outrigger considerably increased the stability but also increased the amount of power (i.e. capacity of the sailing rig) required for it to sail. In view of the oft quoted statement attributed to Hornell, that the Sinhalese were culturally wedded to the outrigger, this analysis is of great interest.

II. Port Sites

The possibility of using objective criteria to test whether a site, identified as a port site in one or more literary works, could indeed have been one was the subject of a study by Devendra (1991b). The approach adopted was to test whether the morphology of pre-
modern Sri Lankan ships, previously postulated by him, would have enabled them to use the sites identified as ports. Combining terrestrial physical features, hydrographic and oceanographic considerations with sediment flow effects from major rivers a model was formulated. Against this, it would be possible to judge whether the structure of a ship of the era would have permitted her to use a particular site as a port. Elsewhere, he had proposed on the basis of structural considerations, that Sri Lankan craft were built for use both at sea and on river. Their ability to cope with the sand spits across river mouths before the nineteenth century and the eventual choking off of the rivers by sand spit build up causing large scale deforestation combined with long shore current flow, contributed to the decline of inland water transport. Using the remains of sunken river craft from former major waterways as evidence, he traced a cause effect relationship between environmental change in the southwest and changes in the economy from an agrarian-subsistence to a commercial plantation one (Devendra, 1991a). The only port site archaeologically excavated, even partially, for many years had been the Mantai in the north-west. Mantai was a site that had fascinated historians and classicists since the nineteenth century because of the references to it in western classical literature. Exploration and excavation had been conducted by W. J. S. Boake (1887); John Still (1907); A. M. Hocart (1926-7); S. Sanmuganathan (1950-1) and M. Prickett-Fernando, 1990b.

A more comprehensive programme was undertaken in the 1980s, co-directed by S. Deraniyagala and J. Carswell, but the work had to be indefinitely postponed, due to political conflicts, after three field seasons in 1980, 1982 and 1984. The site was a horseshoe shaped mound of almost 50 ha, including the two moats surrounding it. Before work had to be halted, only 0.2% of the mound’s surface could be excavated and only 0.04% of that had been excavated to pre-Medieval levels. The finds confirmed its antiquity as a settlement site since the second millennium BC, an occupational hiatus of a millennium, followed by re-occupation and development as a prosperous seaside town and port by about the second or first century BC, and continued existence as a port site from then on to the thirteenth century AD. Artefacts found confirmed that it had, indeed, been a major manufacturing site with extensive trade links with almost all the major trading centres from China to the Mediterranean. In view of the minimal port facilities, in a physical sense, required by ships engaged in the Indian Ocean trade, much evidence of port works cannot be expected to be found and the changes in coastal morphology in that part of the island have, most likely, covered over all physical remains of any structures that may have existed. Nevertheless, selective excavation and coring did reveal the existence of a large, well built road leading from moat towards the coast for over 30 m before plunging beneath a mound of sand. Traces of the road were detected by the coring even 2.5 m under the sand, when excavation was abandoned. The possibility exists of a building of some importance at the end of the road, now covered under the sand mound. The need to suspend this work is a cause for major concern.
The archaeology of the medieval port site of Galle was also explored in the course of the maritime explorations. The work was helped by the existence of important structures and archival material and the exploration focused more on the functioning of the site as a port than on its hinterland. A rocky headland provided shelter for ships at anchor, but the approaches, rocky bottom and narrow shoreline provided no facilities for ships to be beached. The Portuguese and later the Dutch forts were built upon this headland to secure the port and anchorages. The anchorage could not be approached by land, as two fortified arms prevented access. Other bastions protected it from approach by sea. Ships were moored in the stream and not alongside. Piers/jetties were later built, but only served the harbour craft that transported materials and passengers to and from ships. This anchorage was adequate as long as the ships were comparatively small and only a few were at anchor. The radiocarbon dating from the timber arms of the stone anchors found at this site points to its being at least from the 14th century. The rocky pinnacles on the bottom made it unsuitable for the deeper draft vessels of the 19th century, as did its difficult approach. Till 1967/68, ships of shallower draft were berthed in the stream at the Katta, Capera, and Welihukka Berths, where medieval ships had also been berthed up to 1936. Galle was never a secure port, as nothing that could serve as a breakwater existed to protect ships at anchor, particularly during the south west monsoon. Further, the approach was treacherous and all but shallow draft coastal vessels needed to be brought in by a Pilot. The Dutch records are available indicating pilotage regulations in force and landmarks from which bearings could be taken. There are also records of ships in distress sinking outside the port while waiting for the pilot to arrive.

As the ships grew larger and shipping more frequent, in the 19th century, the sinking of six steamships between 1860 and 1875 is recorded. Galle was found unfit and uneconomical for development as the country’s main port and Colombo was selected as the port of the future (Ceylon, 1874). The French Mission of Archaeological Cooperation in collaboration with the Archaeological Department also launched investigations into the organisation of maritime trade connected with the ancient ports on the western and southern coasts. The port sites subjected to investigations are all situated at the estuaries of rivers: Salavattota (Chilaw) at the Deduru-oya, Wattala at the Kelani Ganga, Kalaliththa (Kalutara) at the Kalu Ganga, Bhimatiththa (Bentota) at the Bentota Ganga, Gimhatiththa (Gintota) at the Gin-Ganga, Mahavalukagama (Weligama) at the Polwatta Ganga, Nilwalatiththa (Matara) at the Nilwala Ganga, Gothapabbata (Godavaya) at Walawe Ganga and Kirinda at the Kirindi Oya. Positive results were obtained from the excavations and explorations conducted at Giribawa on the left bank of the Kala Oya, which flows to the sea at Uruvelapattana at Nariyagama on the left bank of Deduru Oya, which flows to the sea at the ancient port of Salavattota, at the village of Pilapitiya, on the right bank of the Kelani Ganga about seven km from the ancient sea port of Wattala at Diyagama, on the right bank of the Kalu Ganga which joins the sea at the ancient sea port of Kalaliththa and at Ridiyagma on the left bank.
of the Walawe Ganga which flows to the sea at the ancient sea port of Gothapabbata (54-56). Other port sites have also been investigated by the Archaeological Department. More recently excavation on another site has commenced: that of Godavaya, also at a river mouth in the south, but no definitive remarks can yet be made (Roth et al., 2001).

**Legislation**

The significant and somewhat dramatic finds of the work done in the 1990s made a national policy, and a legislative framework concerning the underwater cultural heritage essential. The Department had been engaged in moving several significant amendments to the Antiquities Act. Among them was the specific power to control all archaeological work in the territorial waters of the island. In May 1998, these amendments were passed, without division, by Parliament. Section 2 of the Antiquities Ordinance (1) was amended to include archaeological work ‘within the territorial sea of Sri Lanka’ (and further defined as ‘the area declared to be the territorial waters of Sri Lanka by Proclamation under the Maritime Zones Law, No. 22 of 1976’), archaeological activity within which has now been placed under the control and supervision of the Department. Provision has also been made for penal action against transgressors, (such as those pirating underwater artefacts) (Archaeological Amendment Act: 1998). A further piece of legislation, providing for a Maritime Cultural Heritage Authority (also under the Director General of Archaeology) is (hopefully) in the last stages of completion.

The Amendments referred to above have introduced several benchmark criteria, which are significant in terms of maritime archaeology. They provide for the financing of urgent archaeological projects, such as the Galle Project. To permit development to take place while yet protecting the heritage, and without placing an additional financial burden on the government, the Amendments provide a mechanism for funding cultural environmental impact assessment surveys, by the Department, of any sites being considered for development work (either by the Government or other). The cost of such surveys and of the work involved in preservation, conservation, recording etc. will be borne by the developer who shall set apart one per cent of the total cost of the development work for this purpose. There should, therefore, be no more need to solve problems like those that beset the Galle Project. The assessments would have to be completed within a required time frame. Since the material and personnel available within the Dept. may be strained by this requirement, provision has also been made for the delegation of the Director General’s powers to appoint ‘any person possessed of special expertise and resources in, or for the exploration, excavation, conservation and restoration or maintenance…’. Under this proviso, it would be possible to call upon special expertise and resources from outside the country, should it be necessary. This has a significance in relation to areas of expertise not fully developed in Sri Lanka, one such being maritime archaeology. In fact, a survey was conducted in Galle by the Department, using the expertise of The Western Australian
Maritime Museum, at the cost of the company involved in building the proposed new port, and the Department allowed the MAU to participate in it and paid its expenses as well.

Up to now, two initial cultural impact assessments (incorporated within the Terms of Reference of the Environmental Impact Assessments specified under the Coast Conservation Act) have been undertaken in respect of the (revised) Regional Port of Galle, the South Colombo Port and the Hambantota Port projects respectively. In the case of Galle, the location of the currently proposed facility was largely influenced by the work done by the archaeologists and the historic harbour area has been given the protection it deserves. In the case of Colombo, where the Asian Development Bank funded study by an Australian firm, the Assessment has succeeded to the extent that the ‘Drunken Sailor’ site has been placed outside the proposed area of construction and the group of buildings of over 150 years old has been designated, in the plan, as a ‘historic precinct’, without hindrance to the activity of the proposed port. In the case of Hambantota, which is to be an inland port involving the dredging of the Lunugam Levaya which is a pre-historic site, it was recommended that the port project be abandoned. However, political considerations were considered more important than heritage considerations: a factor that is encountered in many EIAs on land sites as well. All the above Assessments were conducted by Devendra.

At international level Sri Lanka, as a member of ICOMOS, with a member on its scientific committee abides by all the ICOMOS guidelines on the conduct of archaeology and conservation, including maritime archaeology in national waters drawn up by ICUCH. Sri Lanka has been represented by Devendra on the International Committee on the Underwater Cultural Heritage (ICUCH) since its inception and participated in the drawing up of the guidelines which were accepted at the Sofia Conference and which now form the Rules of the UNESCO Convention on the Protection of the Underwater Cultural Heritage, as well as the provisions of UNCLOS III in this regard. The UNESCO Convention was adopted by its General Assembly in November, 2001, which date coincided with the commencement of the ‘Avondster’ project. It was therefore decided that this project, which was Sri Lanka’s first maritime archaeological project, would be issued with a license designed on the Rules. UNESCO then invited Devendra to present the concept in Jamaica, at a Seminar on the Convention meant for the countries in the Americas. This was followed by a request to do the same in Mozambique, focusing on the South and East African states. The Third occasion was in Hong Kong, at the Seminar already referred to. The model developed in Sri Lanka has now been adopted in South Africa and will continue to be a model for other nations to consider and adapt. An important aspect of the model was that it encouraged collaboration with foreign institutions but insisted that the work be carried out strictly under Sri Lankan Law and under Sri Lankan leadership. The following extract from the paper read out at Jamaica illustrates the need for these to be followed: ‘The exact location, expressed in GPS coordinates, is required for declaring the area
around it protected. More importantly, the question of title to the site needs to be addressed. In the ‘Avondster’ project such a question did arise, which was settled before it became a question. This revolved round a Netherlands’ claim to the wreck, based on that Government’s position as successor to the Dutch East Indies Company, or VOC. Although this position can be maintained in several parts of the world (i.e. the case of the ‘Batavia’ in Australian waters) it is not sustainable in Sri Lanka. Apart from the Sri Lankan claim of title to all property lying in its territorial sea (vide the Maritime Zones Law of 1976 and the Amendment to the Antiquities Ordinance of 1998), when the Netherlands ceded Ceylon to the British under the Treaty of Amiens of March 17th 1802, the British restored all her conquests in the war to the Netherlands and Spain, respectively, save for Sri Lanka (Ceylon) which, under Clause 5 reads:

‘The Batavian Republic cedes and guarantees in full property and sovereignty to his Britannic Majesty all the possessions and establishments in the Island of Ceylon that before the war belonged to the Republic of the United Provinces and to their East India Company’.

Since British possessions were transferred to Sri Lanka in 1948, all these one-time possessions of the VOC became Sri Lankan property. Another matter of some importance is that the wreck lies in Sri Lanka’s internal (i.e not even territorial) waters. The point made is the need to examine title before venturing into excavation (in cooperation with non-national institutions), as several countries have shown interest in excavating shipwrecks connected to their history lying in Sri Lankan waters (Parthesius et al., 2003).

**Treasure Hunters and salvors**

Earlier in this paper reference was made to the dangers posed by treasure hunters to the maritime heritage. Reference was also made to the advent of treasure hunting in Sri Lanka. The latter requires clarification. Treasure hunting takes different forms. Apart from the obvious form, it also takes the form of overtures to governments hard pressed for cash, as in the case of Cuba mentioned earlier. The first such suggestion to Sri Lanka was put forward through Ananda Guruge by the then ambassador to UNESCO, to His Excellency the President. The proposal was that Sri Lanka should grant Eric Surcouf exclusive rights to explore and exploit all the richest areas, in terms of shipwrecks (Correspondence a, 1990). Guruge, with little understanding of the impact of doing so, made the proposal as Surcouf is known to have done some good work, scientifically. The Archaeological Commissioner, however, consulted UNESCO and the suggestion was allowed to die a natural death. Much later, Mike Flecker approached the Archaeological Department to permit commercial exploitation of ‘treasure ships’, in return for payment (Correspondence b, 1994). The share-out proposed was that he would take 70% of the saleable finds, and give the country 30%. On this occasion, too, the Department correctly decided not to accede to the request.
The most important incident took place between these two. After the discovery of the Great Basses site, it was systematically looted by many, including an underwater tour group with close connections to Clarke, who had brought the first maritime archaeologist to this country. Knowing that the site had been declared an archaeological reserve, he yet served with a group who regularly dived, and continues to dive on the site without Departmental authority. He requested His Excellency the President for approval for a project aimed at financially benefiting the country (Correspondence c: 1992). Finally, during the second season of the Galle Project (1994) he joined hands with the Spanish Main Treasure Company, its subsidiary, the Great Basses Treasure Company - both registered in the USA - and the Southern Cross Entertainment Group and asked the Department to approve the making of a TV series celebrating Clarke’s return to the reef. A promise was made to set up a training programme for maritime archaeologists and a maritime museum; and, in return, 70% of the coins (of the approximately one ton estimated by Throckmorton) they would collect was asked for. When the Department and the Ministry did not grant permission, Clarke sought the approval of the Prime Minister, directly (Correspondence d: 1994). MHT intervened, and wrote to the Prime Minister, tabling reasons why approval should not be granted. After the matter was investigated by the Prime Minister’s Office, in the presence of the Director General of Archaeology and the Chairman, NARA, Clarke was granted permission to only make a film and not to do any archaeological work, touch the coins or other artefacts and even do the filming under the supervision of several Sri Lankan authorities (Correspondence e; 1994). No film was made - at least, to the knowledge of the government - but looting of the site has not ceased. The letters, however, are available in the files of the Archaeological Department. 

Extracts from the letter written by Robert Knecht, (Correspondence f, 1993) one of Clarke’s partners in the project, describing the narrative line of the projected film read as follows: ‘In 1961, Clarke’s dive partner, Mike Wilson, discovers a shipwreck off Great Basses Reef. Embedded in the wreckage are the remains of chests of silver rupees…. Clarke contacts Mendel Peterson of the Smithsonian Institution as he ‘is a one-man clearing house for shipwreck information. As thanks for his assistance, Clarke gives Peterson roughly 600 rupees which go on loan to a Smithsonian display…In 1980, Fismer founds the Spanish Main Treasure Company…In 1989 Fismer acquires the only US collection of the Treasure from the now retired Mendel Peterson…In 1992 Fismer and Knecht again meet Clarke in Minehead, England, for his 75th birthday celebration.’

‘After almost two years of planning, two 30 lb. Masses of rupees, still in the shape of the bags which once carried them, are now ready to be presented to the public. A third coin-mass is being placed in the ‘Clarkives’, a museum commemorating Dr. Clarke’s life works. There are less than 2000 of these silver coins. Some are being crafted into exquisite jewellery, others remain unbezzled. Each Certificate of authenticity is a hand cut die gold embossed numbered limited edition, signed by Arthur C. Clarke, Mendel Peterson, Capt.
Carl Fismer and Robert Lewis Knecht. The first 40 certificates are personally signed by the group and are available by closed bid offer. The videos ‘In Search of weightlessness’ and ‘Before 2001’ narrated by Clarke, also accompany the coins.

Whether the narrative is true or not is a matter of opinion: the letter, however, remains in the Department’s files.

Throckmorton’s words, quoted earlier, bear repetition:

‘Like all sensible treasure hunters, Clarke and Wilson wanted to risk their future investment against a known possible profit. They had the blessings (sic) of the government, which only demanded that the project be conducted as an archaeological rather than a salvage operation. The question of who owned the finds was more vague but it seemed certain that Clarke and Wilson owned at least half, although there was a question as to whether the wreck was legal salvage’.

By a strange coincidence, years later, a catalogue of a sale of treasure from various underwater sites reached this country. Among the collections listed on sale are several from ‘The land of Arthur C. Clarke’. Illustrated are the coins from the Basses wreck and some Dutch coins said to be from the ‘Hercules’ but minted decades after its sinking. Coincidentally, there are illustrations of the Surat coins from the Basses, mounted as jewellery, as described in Knecht’s letter. Inside the back cover are listed the world’s first ten salvors: Clarke’s name has been placed at the head of the list (1993).

**Conclusions**

Systematic maritime archaeology in Sri Lanka is (in 2004) only a few years old but, as evidenced by what has been set down above, it has ventured into a number of areas other than exploration of undersea sites. It has also been conducted in a reasonably scientific and scholarly fashion and been commented on favourably by maritime archaeologists elsewhere. The archaeological and historical importance of Galle Harbour has received much international publicity, partly resulting from its own website: <http://www.hum.uva.nl/galle/index.htm> (now unfortunately not on the Net). The ICOMOS International Committee on the Underwater Cultural Heritage, (ICUCH) was willing to consider its candidature for world heritage status, if Sri Lanka took the initiative of making an application. However infrastructure development in Sri Lanka was insufficiently developed for such an application to be made. Sri Lankan waters and coastal areas contain not only remains of sunken ships but also remains of human habitations, the location of some of which are known. Work on such a site would provide archaeologists with essential information regarding stratification. An area that will, in the future, be of great interest will be the underwater exploration of the major irrigation works: none of these have yet been explored archaeologically. It is to be hoped that a long-term programme, as envisaged at the start of the second century of Archaeology in this country will, with the establishment
of a Maritime Cultural Heritage Authority, lead to the creation of a specialized unit, devoted to maritime archaeology within the Archaeological Department.

**ADDENDUM: The Tsunami of 2004 and after**

The Tsunami of December, 2004, completely destroyed the material assets of the MAU. The buildings were wrecked. The Containers, which were used to house chemicals and materials brought for later use, were either on top of trees or washed out of Galle Bay. About 80% of the artefacts were missing, along with computers, cameras, video cameras, laboratory and drawing office equipment, drawings and records, the library, etc. However, the most important asset a trained team of archaeologists and conservators, remained intact. Of the artefacts, the larger ones like cannon and anchors undergoing conservation in large tanks withstood the fury of the sea. Since all records were digitally duplicated in the Netherlands, it is possible to reconstruct the artefact register even though the artefacts themselves are lost. Only one report was published by 2004, and the second, third, and final reports were published as a single two volume publication, many years later. However, this is contrary to professional standards and it is to be deplored that the responsible State institutions permitted the foreign partners to do so. Starting with the personnel, the process of building a new began. The whole of the maritime archaeological world, with the leadership of ICUCH, pledged whatever support they can give, in recognition of Sri Lanka’s signal achievements. The Netherlands once again, undertook to build up the MAU to something near its lost position, within one year. The prime matter of interest is to examine how an underwater site has stood up to a tsunami wave: there is no record of a similar occurrence. A suitable building was found for the resurrection of the Conservation laboratory and the dive centre was rebuilt. UNESCO Asia-Pacific, which had selected Galle as a suitable venue for an ongoing Field School for maritime archaeologists in the Asia-Pacific region, found funds for two programmes - for MAU personnel to test whether the plan could go ahead. After this experiment was found to be satisfactory, a trial Field School for international participants was conducted in 2008. It was my good fortune to co-ordinate all three. A formal three-year programme was planned, to be conducted from 2009 onwards by UNESCO, in association with ICUCH and the Nautical Archaeological Society, which will design the curriculum. The MAU is assisting them in the groundwork: in the process of which, it has ventured for the first time outside the womb of Galle.

**PART: 2**

**After the Storm: picking up the pieces and moving on**

At the end of 2004, which also marked the end of the Avondster project, the premises of Maritime Archaeology Unit were destroyed by the tsunami. The entire building and facilities were destroyed, and 80% of the retrieved artefacts were reclaimed by the sea. Fortunately,
the most important resource - the trained team - was spared, and all the data was intact as the data backups were stored in the Netherlands. However, with the help of well-wishers all over the world, particularly the Netherlands and Australia, and with the great commitment of Sri Lanka, we reopened the MAU within three months in premises nearby (Fig. 6). We had to spend nearly one year reorganizing and building up the Unit from scratch. The rest of this part of the paper only seeks to record the re-building process and the training, field work and research that characterised this phase.

UNESCO Field School Project

Following the project proposal for the establishment of an Asia-Pacific regional ‘Centre of Excellence’ field training facility, the First Initial Training of the Trainers Program was held in 2006 (Fig. 7 and 8). This one month field school was conducted by UNESCO and the Central Cultural Fund. A systematic training course was conducted, and the team consisted of 12 local trainees and one from the People’s Republic of China, who were exposed to subjects outside their purely practical experience. The MA Unit was earmarked to be upgraded to a Category II centre to operate ‘under the auspices of UNESCO’. It would also contribute to the execution of UNESCO’s programme (by capacity-building, information exchange, and research). It would be legally independent, but associated
Fig. 7 Exploration on SS *Conch* shipwreck 1903. (Rasika Muthucumarana)

Fig. 8 SS *Conch* shipwreck 1903. (Rasika Muthucumarana)
with UNESCO by contract. The centre was to be housed in Galle, which is a world heritage site and an ideal location for both local and regional marine archaeologists to study ship wrecks, providing access to more than 30 shipwrecks in the vicinity. In 2008 the Advanced Training of the Training Program - UNESCO Field School Project was completed. Unfortunately, due to the consequences of the (then) ongoing terrorist war, Sri Lanka was not in a position to fulfil the requirements of this ambitious plan and the programme was shifted to Bangkok. MA Unit personnel have undergone training there and alumni of this programme, representing several nations have worked under Sri Lankan leadership in fieldwork on Sri Lankan sites, since then.

**Fieldwork since 2004**

In April 2008 the second phase of the UNESCO regional field school program for maritime archaeology was held in Galle. At the end there was a need of finding a shipwreck of Asian origin to use for training activities in the next field school session. In October 2008 we started an exploration with the funds from UNESCO Bangkok office to find some new suitable sites for future fieldwork. Under the instructions of Dr. Mohan Abeyratne (Deputy Director General - Central Cultural fund) a team of maritime archaeologists and conservators set off for the South Coast. Our main targets were the wrecks around the Great Basses reef and the possible wreck site near the Godawaya. After 1993 this was the first time the MAU team explored the sites around the great Basses reef. During our survey we managed to record three sites near the reef and one site 04 km west to the Little Basses lighthouse. Two of the sites in Great Basses were reported in 1960 by Sir Arthur C. Clark. One is known as the famous Silver coin wreck which sank in 1702. The other one is known as the bottle wreck due to the large number of glass bottles found at the site (Fig. 12). The wreck with the silver coins which is situated just beneath the light house became the first target. Due to the rough sea conditions the team had to face a lot of difficulties to reach the site. The wreck was between two reefs and the cannons and anchors of the ship were lying on the sandy bottom. The site and the objects were recorded and compared with the early survey records done in early 1960’s and 1990’s.

The Bottle wreck is exactly in front of the Great Basses light house to the land ward side. Due to the excellent visibility the site can be viewed from the surface by snorkelling. The wreck might have been a victim of this reef in the same way as the other wrecks around it. The ship’s construction cannot be traced as its remains are not intact, only some iron plates, couple of anchors and unknown iron parts are visible. Most probably this may be a timber wreck sheeted with metal plates, as it carried a lot of ceramic and bottles, it is called by the same name by the local divers. There are various types of bottles scattered all over the wreck area. Most of them were produced in Sri Lanka. The lettering on these bottles mentions ‘Superior Soda, Clarke Romer & Co., Ceylon’ according to archival research the above company dated back to 1850s. According to the local divers the site
was much better preserved several years earlier. The present condition is critical; prime attention should be paid to preserve the site very promptly.

The third wreck we explored is known as the Copper wreck among the local divers, because of copper plates and nails on the remains of the hull. This is a steam powered small vessel lying on a sandy bottom at 20 m depth. Most of the copper plates and parts were looted by the local divers long ago. The bottom part of the structure with a propeller, one large boiler and some parts of the engine are still visible on the site and there are also some wooden hull parts with a lot of copper nails. The site was measured and photographed during the survey. The team also visited an iron wreck near the Little Basses lighthouse. It is a large iron cargo vessel in very shallow water. It appeared to be wrecked by running into this shallow area. The wreck is not an old one with an archaeological value, but it is a rich breeding ground for abundant marine life. And a beautiful diving site. After the exploration at the Great Basses the team came to Godawaya. During the exploration at Great Basses the team members also collected and investigated the data related to the Godawaya. The stone bench and the stone anchor were carefully investigated. The two conch divers who found the site were interviewed for as much information as possible. According to them the site was at 30 m depth and 03 km away from the coast. There was no possibility of finding potsherds and artefacts like the stone bench from that area unless there had been a shipwreck.

On 18th October following the directions of those two divers, the team did their first dive over that site. At a depth of 31 m they found some mounds made with corals and sea plants and some potsherds on the seabed among those reefs. The seabed near the site is comprised of coralline rocky formation whereas a wide area is covered with thick grained coralline sand towards the northeastern part of the site. The maximum height of the reef on the northwestern part is approximately 1.5 m. There is no vegetation growth observed at site, however, at a few places gorgonian growth was noticed besides some marine pinkish layer on the rocks. Under some mounds, which were thought of as reef, we found some timber sections. Those very fragile wooden parts were covered with a thick layer of corals and plants. These were scattered over an area of about 100 sq m. However, the extent of the site may increase when surface sand is removed from the site. Interestingly, at one place the removal of sand by hand fanning yielded a number of potsherds just below 10 cm in the sediment. Thus the actual extent of the site may be determined only after thorough examination of the site by the removal of surface sediments. Between and around two large mounds there were lots of potsherds. Other than the potsherds, some complete and near complete jars were found. Some were huge and covered to seem part of the environment. This was a clear sign that the site was undisturbed and settled as it is. But it was not easy to understand the site formation, and nor were we able to identify any parts of the ship’s construction. Apart from the potsherds we found some glazed ingots, which were used to glaze or colour the clay pots (Fig. 9).
After November 2008, MAU was not able to investigate the site again or to start a proper project due to the huge financial crisis of the Central Cultural Fund. The site was in great danger after 2008 because of the development of the new harbour in Hambantota and also of looting. Finally in 2010 MAU managed to get some funds from its annual budget and at the same time the UNESCO and the Netherlands Cultural Fund also released some funds to start an exploration to document the Godawaya site. An international team comprising of experts in diving and underwater archaeology from India, Indonesia, Malaysia and Philippines participated in the assessment with MAU. The mound of timber or planks on the northern side of the baseline was recorded in detail. Based on collected data, a preliminary site map was created. Large numbers of potsherds were noticed during the exploration and a few were recovered earlier. Those have been identified as Black and Red Ware. At least two large sized jars of at least 1.3 m height have been observed.

Black and red ware has a special place in the archaeology of the Indian subcontinent and the earliest date of the ware goes back to the 3rd millennium BC and continues with some variation till the early centuries of the Christian era. Pottery reported from the site is very commonly used and might have been used for storing water and other liquids like oil on board (but more information is needed). The comparative study of pottery of Godawaya wreck with other terrestrial sites of Sri Lanka suggests a time bracket of the 4th century BC to 1st century BC (Table 1).
### Table 1: Comparison of pottery of Godawaya wreck with other terrestrial sites of Sri Lanka

<table>
<thead>
<tr>
<th>Pottery from Godawaya</th>
<th>LKB Lower Kirinda Basin Typology</th>
<th>Gg Anuradhapura Gedige Typology</th>
<th>Tss Akkurugoda Tissamaharama Typology</th>
<th>Comparative Dating</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/SL/S/GODA/M/2/02</td>
<td>Form 13A 1 / Phase III 350-250 BC</td>
<td>Form 3b? no Reference Form 4a or 5f? no Reference</td>
<td>Form A1-1 / Rim type 4 / Phase a, b &amp; c/400-200 BC</td>
<td>400-100 BC</td>
</tr>
<tr>
<td>2008/SL/S/GODA/M/2/03</td>
<td>Form 1A3 / Phase I / 900-500 BC Form 1A3 (Sub type 1c1) TB/1/54, exterior 7.5YR, 6/6 Orange, interior black, paste fine, luster- medium, ware- BRW, diameter 21cm, thickness - 5.33 mm (Phase I)</td>
<td>Form 16c (iii) 800-100 BC Gg page 76/77/111/115</td>
<td>Form G / Rim type 5a / Phase a &amp; b /400-200 BC</td>
<td>900-100 BC</td>
</tr>
<tr>
<td>2008/SL/S/GODA/M/2/04</td>
<td>Form 5I -I / Phase III/ 350-250 BC</td>
<td>Form 16a (iii/iv) 800-100 BC Gg page 76/77/111</td>
<td>Form G / Rim type 5a &amp; 4 Phase a /400-300 BC</td>
<td>800 BC -350 AD</td>
</tr>
<tr>
<td>2008/SL/S/GODA/M/2/05</td>
<td>Form 8n (ii/i) 50-200 CE Gg page 72/74/114/115</td>
<td>Form 8d (ii)??-?? AD Gg page 72/73/118</td>
<td>Form F / Rim type 1.2, 4b / Phase a &amp; b /400-200 BC</td>
<td>400-200 BC</td>
</tr>
<tr>
<td>2008/SL/S/GODA/M/2/06</td>
<td>Form 8d (ii)??-?? AD Gg page 72/73/118</td>
<td>Form F / Rim type 1.2, 4b / Phase a &amp; b /400-200 BC</td>
<td>400-200 BC</td>
<td></td>
</tr>
</tbody>
</table>
Stone Quern/ Bench

The important finds from the shipwreck of Godawaya are stone objects like querns or small benches in significant numbers. In archaeological literature this stone artefact has been referred to as querns for grinding soft substances of food stuff like curry paste. The archaeological evidences for the stone quern dates back to the Mesolithic period in rudimentary shape but during the Neolithic and protohistoric periods the querns were well shaped. In Sri Lanka, the Yatala monastery (Somadeva, 2006: 193) close to Godawaya yielded several stone querns with four legs and one of the querns has a Brahmi inscription dated to 250-100 BC. Ramba, a large Buddhist site on the southern Sri Lankan coast also has evidence of a quern which is displayed in the site museum. There has been substantial discussion on the uses of this stone object and the question has been raised as to why so many of such artefacts are found in the wreck site. If this was used as a quern stone for individual use, then one or two are enough and also decoration on the surface wouldn’t be necessary. But what could be other uses? What about it being a seat for monks to meditate or for a ritual use? The discovery of a number of such stone artefacts from Buddhist monasteries at Yatala and Ramba does support the above notion. However, if one carefully examines them a few stones at Yatala and Ramba have a significant depression in the middle of the stone suggesting their use as a quern stone. However, a stone such as one at Yatala which bears a Brahmi inscription might never have been used as a grinding stone and rather just for some symbolic purpose. Large number of artefacts have been reported from the site which seems these were exported to another country.

Glaze ingots

These are another significant find from the site. These are dark blue colour silica glass in a bun shape. This discovery became an important one from this region, because Glass ingots are not reported so often. The first regular production of glass was in Mesopotamia and Egypt around 1500 BC or slightly earlier (Shortland and Eremin, 2006: 581-603). The evidence of glass objects from this region dates back to the early historic time and often bangles and beads are a common find from these sites. The mechanism of the use of these ingots as raw material for manufacturing bangles and beads needs detailed investigation. There are some clay substances on the round surface of the ingots. It may from the mould/block which was used to make the ingots. These ingots may not provide the possible time bracket and origin independently. However, elemental analysis may provide the origin of these ingots.

Possible parts of the wreckage

Although reconstruction of the ship might possibly be the most interesting part of the site, unfortunately no conclusive work could be done due to the limited working time and the
fact that no wooden structure has yet been positively identified at the site. The bulk of what appeared to be the structure is scattered approximately 10 m in length and about 3.5 m in width (Fig. 10). Observations underwater initially indicated that this appeared to be bunches of wooden logs. Closer examination by scraping off some of the material revealed that it was not wood but rather some kind of metal. This part needs a detailed investigation not only underwater but also by taking a few samples for analysis.

![Fig. 10 Remains of the Godawaya site. (Rasika Muthucumarana)](image)

**Conclusions**

*Preserving the Past for the Future*

In Sri Lanka, the Department of Archaeology has been actively involved in the development of underwater or Maritime Archaeology for the past two decades. The amendment of the Antiquities Ordinance in 1998 to bring the territorial waters under the jurisdiction of the Department of Archaeology, and the drafting of a new act to establish a Maritime Cultural Heritage Authority, show the importance given to Maritime Archaeology in Sri Lanka. The 2001 Convention on the protection of underwater cultural heritage, to be conserved and managed by state parties, which Sri Lanka hopes to ratify soon, is a step in the right direction. With the recent developments of the MA Unit and the regional field school
program, the ratification will theoretically give us a strong position within the region. However, we have to face reality. Despite all these developments and efforts we need to understand who we are and what our contribution will be, as a developing country in South Asia. Will it be enough to be the first country in the region to ratify the convention? There are only few of us and only a few small institutes who really care about protecting our underwater cultural heritage. The 2001 convention gives a strong structure and guidelines to safeguard the UCH. However, in regard to Sri Lankan legislation, we already have enough laws but we have been unable to apply them to protect the UCH in our country. The weakness of the enforcing authorities has been a drawback to this important area of archaeology.

Fortunately we do not have well organized treasure hunters with modern technology. But small scale looting and distractions occur all around the country. There is also a new trend developing in Sri Lanka breaking and salvaging iron shipwrecks to collect iron. This is a very profitable business in Sri Lanka these days. This occurs because salvage permits are issued without any awareness of the value of shipwrecks and without referring to the proper authorities. Looters destroy wrecks by using explosives and heavy machinery. Large pieces of iron are blasted and salvaged, using lifting barrels. This destroys all the archaeological evidence as well as the surrounding environment. The illegal use of explosives is a major concern for Marine Archaeologists and divers. Explosives used underwater cause shock waves which travel four times faster in water than in air. The impact of these shock waves kills fish instantly. Although illegal, the use of explosives to catch fish is widely practiced in Sri Lanka. Explosives are also often used in Sri Lanka during legal and illegal salvage operations. Use of explosives underwater can also cause the disorientation and death of divers who are within range of the explosion. Thus, the use of explosives for fishing and unauthorized salvage operations is a major threat to Marine Archaeology as well as the development of the diving tourism industry.

We are trying very hard to deal with these issues but are yet to receive a positive reaction from the authorities as well as the government, whose responsibility it is to develop a national policy to prevent these actions before ratifying the Convention. It is doubtful whether ratification alone will solve these problems overnight. It is not only about ignorance or weakness, but several other factors too, including economic issues such as unemployment, lack of funds and the political situation. As a developing country, the government has many other priorities. We have after all been fighting a war against a ruthless terrorist outfit for more than 20 years, spending approximately US $1700 million per year. The conflict also caused destruction to underwater cultural remains in the war zones. The Department of Archaeology receives only a 0.1% share of the National Budget. The Central Cultural Fund, the main institute engaged in underwater archaeology, currently
receives nothing from the government. We are totally dependent on funds obtained from tourist ticketing at cultural sites and from undertaking archaeological and conservation projects. The global financial crisis has countered the potential for tourism generated by the end of the war. As such, we continue to experience a serious financial crisis.

In coastal areas, unemployed local groups are the main parties engaged in looting and the destruction of shipwrecks. The lack of tourism due to terrorist activities in the area has caused many people to lose their income, and thus they turn to looting. The authorities and politicians do not give their support to prevent this, but some politicians are directly involved in these salvage operations or support them in other ways. Salvaging shipwrecks, in particular, is becoming a major problem, more so than looting artefacts. Thus, we need to consider all these matters before we try to protect the Underwater Cultural Heritage of the country. We need to be wise rather than radical or strict on these matters, or we will lose faith among the community and potentially make enemies of useful parties. By creating public awareness and by very careful efforts, recently we managed to protect two significant shipwreck sites which were partly destroyed by looters. We are doing our best despite all these hurdles to reach a point where all parties can agree (Fig. 11).
Acknowledgements

Special thanks to Prof. Jeremy Green and his colleagues at Western Australian Museum, to Robert Parthesius and the archaeologists from the Netherlands and to all the international friends who helped to develop the MAU in many ways. Our thanks are also due to Dr. Mohan Abeyratne, former director of the MAU, to Prof. Sudarshan Seneviratne and Prof. Nimal de Silva for having their faith on us.

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The Merchant Shipping Act, No. 52 of 1971, Section 239.


Website: Galle - Port City, <http://www.hum.uva.nl/galle/index.htm>


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Somasiri Devendra Even as a schoolboy in the late 1940s, he had been fascinated by the rapid growth of maritime archaeology due to Cousteau’s SCUBA equipment. After retirement in the late 1980s he introduced maritime archaeology to Sri Lanka and led/guided all projects for about 18 years. A founding member of the ICOMOS International Committee on the Underwater Cultural Heritage (ICUCH) he still serves on its panel of experts, having worked on the ICOMOS Charter on the subject which is now incorporated in the UNESCO Convention. Appointed Special Advisor on Maritime Archaeology to the Director General of Archaeology, and to the Advisory Board to the Ministry of Cultural Affairs and National Heritage, he was associated with Maritime Archaeology in India since its inception. Awarded a UNESCO Junior Fellowship for his pioneering work, he has served as a UNESCO resource person at Regional Conferences on the Convention (the Americas, South and East Africa and the Asia-Pacific), coordinated three UNESCO Asia-Pacific Field Schools and delivered the keynote address at an International Experts’ Conference. Widely travelled and published, he has now retired but continues to research Sri Lanka’s maritime heritage.

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Rasika (MUTHU) is working as a maritime archaeologist in the Maritime Archaeology Unit (MAU) of the Central Cultural Fund, the custodian agency for the UNESCO world heritage sites in Sri Lanka. He joined the Avondster Project in 2001, which was the first field operation of the MAU. After the Avondster project he has been involved with conducting most of the underwater archaeological field work projects in Sri Lanka and some of the UNESCO field school projects. Apart from his day to day work such as underwater explorations, excavations and conservation, he is devoted to developing field archaeology and human resources of the MAU. He strongly believes that developing an applicable and unique structure to bring up maritime archaeology in Sri Lanka is more necessary than importing theories from western countries. Rasika is also a professional photographer and a landscape artist who loves to travel and stay close to nature.

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The importance of marine archaeology in India has coincided with the increasing visibility of maritime history. This has contributed to changing the perspective of the history of the sub-continent, from the land-locked history of the northern plain to incorporating the view from the peninsula. The study of the Indian Ocean becomes inevitable. The recognisable changes in maritime history relate to the economy of trade and the technology involved. In both these areas maritime archaeology provides data. Shipwrecks can confirm evidence on the volume of trade and the items traded. Ships' timbers, cloth fragments, cargoes, tell their own story. Viewed from the Indian peninsula, the span of the Indian Ocean trade went from West Asia to South-east Asia, initially dependent on the monsoon winds, until the technology of ship-building overcame this. Eventually this trade linked Tunis, Egypt, the Red Sea, India, South-east Asia and southern China. The Afro-Asian maritime links were a counterpart to the land-based Silk Road. The inter-dependence of economies and of settlements is striking. European enterprise, though a late arrival, changed the economy of Asia. The papers in this book refer to many parts of the world, and many aspects of maritime history and shipwrecks. It therefore makes a fine and illuminating introduction to marine archaeology as a historical source.

—Romila Thapar, Professor Emeritus of History, Jawaharlal Nehru University, New Delhi

In 'Shipwrecks around the World: Revelations of the past', volume Sila Tripathi has gathered a sterling assemblage of authors who cover maritime archaeological subjects that span the globe from the North Atlantic to the Indian Ocean, from the South Atlantic to the Pacific, and seas too numerous to name individually. Similarly, the myriad countries from New Zealand to Namibia, from Bahrain to Brazil, from Australia to Sweden are far too many to list. I know of no other work that offers such a broad geographical range of topics related to this relatively new field of research. Not only are specific shipwrecks described and interpreted by their excavators in this exceptional collection, but some of the world’s leading practitioners discuss subjects as diverse as ceramics, hull construction, conservation, wood identification, depictions of watercraft, anchors, localized rigging, maritime trade, naval warfare, and ports and harbours. In addition there are essays on the state of maritime archaeology in particular locales, from Korea to Sri Lanka to Spain and France, as well as on the past and future of the field of maritime archaeology in general, and the role of laws to protect our underwater cultural heritage. The chapters I have read in advance of publication compel me to offer heartiest congratulations to Sila Tripathi for putting together this unique reference.

—George F. Bass, Institute of Nautical Archaeology at Texas A&M University

'Shipwrecks around the World: Revelations of the past', is a collection of papers from some of the world's leading maritime archaeologists. In all, 35 papers on maritime archaeology and maritime trade from around the world. This publication will be an important contribution to the study of maritime archaeology of the world. The subject is becoming popular in India where many universities and research institutions are becoming involved in the field. This volume is intended to provide the latest information for Indian as well scholars and students of other countries. The Marine Archaeology Centre of the CSIR-National Institute of Oceanography in Goa has an impressive publication record with papers published in Journal of Archaeological Science, Antiquity, World Archaeology, International Journal of Nautical Archaeology, Current Science, Bulletin of the Australian Institute for Maritime Archaeology, International Journal of Maritime History, Man and Environment and Mariner's Mirror. In addition, the Centre has published a number of books on maritime archaeological subjects relating to shipwrecks and archaeological sites in Indian waters. This is an impressive record and to be commended. Maritime archaeology is a relatively new discipline, but is growing and expanding as an academic subject. Publications such as this will help to develop the field and ensure that underwater cultural heritage is preserved and protected.

—Jeremy Green, Western Australian Maritime Museum, Fremantle, Western Australia