

The 1629 mass grave for Batavia victims, Beacon Island, Houtman Abrolhos Islands, Western Australia

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The excavation of a multiple burial on Beacon Island recovered victims of the Batavia mutiny of 1629. Skeletal analysis indicates the grave contained three adult males, two youths, and an infant. Some of the individuals were buried with clothing and personal items. A dense soil feature at the centre of the grave was unusual, being a completely different soil to the local crushed coral. Based on chemical analysis, Accelerator Mass Spectrometry dates and excavation, we believe the feature was formed in the recent past after cray-fishers began using the island and did not derive from the seventeenth century.

This paper describes the excavation of a multiple burial on Beacon Island that recovered victims of the Batavia mutiny of 1629. Many of the 125 victims were murdered, and several multiple killings and burials are described in historical sources. The excavation of this grave was completed in 2001 after earlier excavations had removed skeletal material (Gibbs 1994; Hunneybun 1995; Pasveer et al. 1998). This paper focuses on the results of the 2001 excavation which completed the removal of human remains and excavated a dense soil feature located at the centre of the grave. The soil feature was removed from the grave intact and transported to the Western Australian Maritime Museum for further excavation. This excavation recovered further human skeletal material and metal artefacts (buttons, wire, a thimble) which could be added to artefacts recovered in 1999 (metal buttons, wire, a buckle, a pewter spoon). These finds, combined with a bioarchaeological analysis of the skeletons by Dan Franklin (Franklin 2001; Franklin & Freedman 2003), indicates that the grave was comprised of three adult males, two children (one possibly male) and an infant. By comparing these results with the historical records it is possible to postulate on who the individuals may have been, and also to rule out other known multiple burials that occurred during the mutiny. The analysis of the dense soil feature indicates that it did not form in 1629, but much more recently following the arrival of cray-fishers in the twentieth century.

HISTORICAL BACKGROUND

The shipwreck of and subsequent mutiny on the Dutch East India Company's ship *Retourschip Batavia* in 1629 in the Houtman Abrolhos Islands is famous and will be briefly outlined here. The *Batavia* was wrecked on Morning Reef in the Wallabi Group of the Abrolhos islands, off the coast of Western Australia, on the morning of 4th June 1629 with over 300 men, women and children on board. The islands were already known to mariners: Abrolhos is Portuguese for 'Open your eyes' (Broeze 1995:xx). More than 40 people drowned attempting to swim to shore. The survivors made it to nearby small islands along the reef (Fig. 1a). In the aftermath, Francisco Pelsaert, the *Batavia's* Commander, led a mission for water to the arid Australia coastline. Finding none he sailed the small boat and crew to the Dutch East India Company's headquarters of Batavia (modern Jakarta, Indonesia) to raise help.

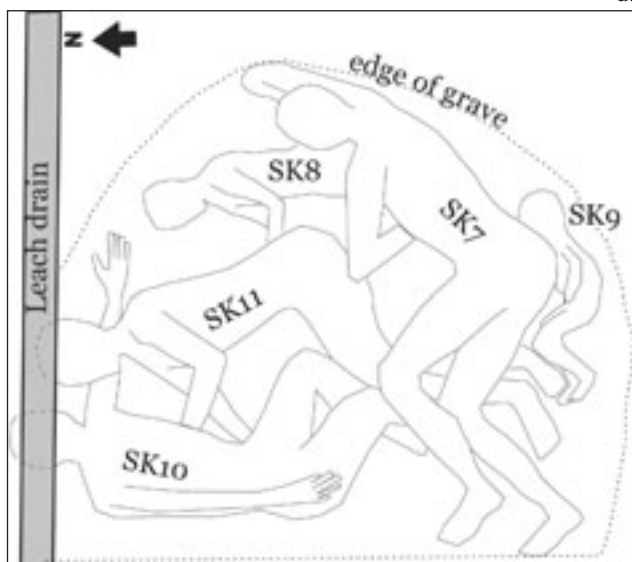
When Pelsaert returned three months later to the Houtman Abrolhos Islands he discovered that a far greater tragedy had unfolded in his absence, as Undermerchant Jeronimus Cornelisz had led a murderous campaign on the small islands. Cornelisz and his men robbed, raped and murdered many



Fig. 1: a. Location of Beacon Island (Batavia's Graveyard) (adapted from Stanbury 2000:iii). b. Plan of vicinity of excavated area on Beacon Island (adapted from Pasveer 2000:6, figure 2).



c.



d.

Fig. 1: c. Photograph of mass grave (Photo: Patrick Baker, Western Australian Maritime Museum). d. Reconstruction of bodies in grave (based on Pasveer 2000).



Fig. 2: Image of massacres on Beacon Island from Jan Jansz's *Ongeluckige Voyagie van't Schip Batavia* published soon after the event in 1647 (Jansz 1647).

survivors. Their sole resistance was a group of soldiers based on West Wallabi Island who, led by Wiebbe Hayes, fended off attacks by the mutineers. More than one hundred victims were killed and their gruesome deaths were documented in Jan Jansz' *Ongeluckige Voyagie van't Schip Batavia, Nae Oost-Indien* (1647) (Fig. 2). Cornelisz and his cohorts were captured and tried in the islands; seven mutineers (including Cornelisz) were executed. Following a partial salvage of the *Batavia* the survivors sailed to Batavia and into history—today the dramatic story is popularly known, having been the subject of several books (Dash 2003; Drake-Brockman 1995; Edwards 1989; Godard 1993), a little-known film directed by Bruce Beresford titled 'The Wreck of the Batavia' (1972), and more recently the opera 'Batavia' by Richard Mills.

The *Batavia* disappeared into the Indian Ocean, and many of the victims of the mutineers remained on the islands, some in shallow graves. These remains were to be rediscovered three and half centuries later. The discovery of the shipwreck site on the Morning Reef in the 1960s led to systematic archaeological research and recovery of parts of the ship and its cargo (Green 1989; Green et al. 1998). Further research related to the *Batavia* has involved the analysis of artefacts and human remains discovered on Beacon Island (Franklin 2001; Franklin & Freedman 2003; Gibbs 1992, 1994; Godfrey 2000; Hunneybun 1995; Pasveer et al. 1998; Pasveer 2000; Stanbury 2000).

Beacon Island burials

This section describes aspects of the excavation of a mass grave on Beacon Island. Human skull fragments were discovered in the 1980s by fishers digging a leach drain from their privy behind two of the shacks. The drain (Fig. 1b) is a shallow perforated plastic pipe from which sewage once drained into the soil. These finds remained unreported until the Commonwealth Historic Shipwrecks Amnesty in 1993–1994 indemnified them from prosecution under the *Historic Shipwrecks Act 1976* (Gibbs 1992). A team from the Western Australian Maritime Museum partially excavated the grave site in 1994 finding skeletal material from two adults and a child (Gibbs 1994; Hunneybun 1995). These individuals were excavated completely in 1999 and 2001.

In 1999 the excavation area (Fig. 1b) was enlarged to 5 m sq and the remains of five individuals (SK7, SK8, SK9, SK10 and SK11) were removed from the mass grave (Pasveer 2000; Stanbury 2000). Many of the bones of these individuals were found in anatomical-correct position, as evident in Figures 1c and d. The crania of two individuals (SK11 and SK10) were missing, having been removed during the 1994 excavation (coded as SK5 and SK6) (Gibbs 1994).

A comprehensive analysis of the human remains from this mass grave (Franklin 2001; Franklin & Freedman 2003) updates earlier work by Hunneybun (1995) and Pasveer et al. (1998) and incorporated the findings of the 2001 excavations described here. Following the 1999 excavation

there were aspects of the grave requiring further research, as described by Pasveer:

The bodies were found to lie over, under, or in, a large deposit of black, dense soil penetrated by numerous fine roots...Embedded in this black deposits were metal buttons, some fibrous material and impressions of woven, fibrous material, which may indicate the presence of fabric. Since this black deposit obviously needed special care and investigation it was left in situ for future investigation. (Pasveer 2000:8)

In 2001 the excavation of the mass grave resumed. The aims of this fieldwork were to complete excavation of the group burial initiated in 1994 and continued in 1999 and then to remove, if possible, the solid soil feature within the grave as a complete unit for analysis at the Western Australian Maritime Museum. It was hoped this analysis would allow us to determine the origin, significance and condition of embedded human remains and artefacts.¹ This research was intended to help determine who had been buried in the mass grave. Pelsaert's account of the mutiny focuses on the crimes committed on the island through confessions extracted from the mutineers and has been the primary historical source for understanding what occurred on the islands as it details how and where some of the 125 victims died. Additionally, the archaeology has the potential to provide an account of the events surrounding the mutiny from a different perspective to that of the journal.

EXCAVATION METHODS AND ANALYSIS

Field methods

The excavation of the grave reopened the six squares from the 1999 excavation which was backfilled to the top of the dense soil feature. The aim was to remove intact the dense soil feature (affectionately termed "The Blob") at the centre of the grave. Accordingly, the sands surrounding around the dense soil feature were excavated in 5 cm layers (Fig. 3). This material was sieved using 5 mm and 3 mm nested screens. The residues collected from the sieves were searched both on site, and due to the slow detailed sorting required, later in the Western Australian Maritime Museum. This process led to the recovery of the teeth of the infant (SK12) which were almost indistinguishable from the crushed coral and shell matrix that constitutes the local geology of Beacon Island and underlay the dense soil feature.

The dense soil feature required careful treatment during excavation and removal, and was constantly kept damp to prevent the black matrix and the protruding human bones from drying out. Photographic techniques, following those developed earlier (Green 2000) were used to create a 3-dimensional photo model of the soil feature. A wooden box was then built around the soil feature, which was further packed with sandbags and hardened foam allowing safe transport to the Western Australian Maritime Museum laboratories in Fremantle.



Fig. 3: Photograph of soil feature 2001 prior to removal with the leach drain in the background. (Photo: Patrick Baker, Western Australian Maritime Museum)

Analysis of dense soil feature

The analysis of the grave contents, the dense soil feature and its contents at the Maritime Museum involved several techniques. Initially the dense soil feature was X-rayed revealing the location of artefacts and bones (Fig. 4). The matrix was then excavated in thin layers of one centimetre. The time afforded by excavation at the Museum allowed the bone fragments to be carefully removed and their position carefully plotted using photogrammetry. The dense soil feature consisted of a thick vegetable matter combined with soil and intrusions of white material. Samples for AMS dating were taken from the organic material that had formed inside the long bones; this meant that it could be determined, by radiocarbon dating, whether the dark matrix had formed in 1629 or shortly afterwards.

FINDINGS

The findings presented here provide a synthesis of the analyses of the Beacon Island grave and its contents. The focus in this paper is on the artefacts, the dense soil feature found in the grave and the interpretation of who was in the grave. A more detailed description of the human remains and the methods used in their analysis is provided elsewhere (Franklin 2001).

Individual human remains

The removal of human skeletal material allowed more complete articulation of skeletons SK7, SK8, SK5+SK11, SK6+SK10, SK9 and SK12. These findings contributed to

detailed analysis of human remains from the mass grave conducted by Pasveer (Pasveer et al. 1998; Pasveer 2000) and by Franklin (Franklin 2001; Franklin & Freedman 2003). As a result it is possible to state that there were six individuals in the grave: three adults, a teenager, a child, and an infant (Table 1). The infant SK12 was represented only by 19 teeth. Only one had visible trauma (the cranium of SK 6 where the upper right first incisor appears to have been forced through the alveolar process into the nasal cavity), however this does not rule out a violent death for the remainder, as murder by drowning or a cut throat (two common methods on the islands) would not necessarily leave evidence of trauma on the bones.

Table 1: Skeletal material from group burial, including sex and age estimations based on findings of Franklin (2001) and Pasveer (2000).

Individual	Sex	Age	Description
SK5+SK11	Male	35–45	Damaged cranium & post-cranial skeleton
SK6+SK10	Male	20–30s	Damaged cranium & post-cranial skeleton
SK7	Male	20s	Skull & post-cranial skeleton
SK8	Possibly male	12–16	Skull & post-cranial skeleton
SK9	?	5–6	Skull & post-cranial skeleton
SK12	?	<1	Deciduous & permanent teeth

Grave fill

No discernable stratigraphic layers were found at the site, but there was a tendency for the upper 40 cm of the excavated area to be contaminated with modern (twentieth century) cultural

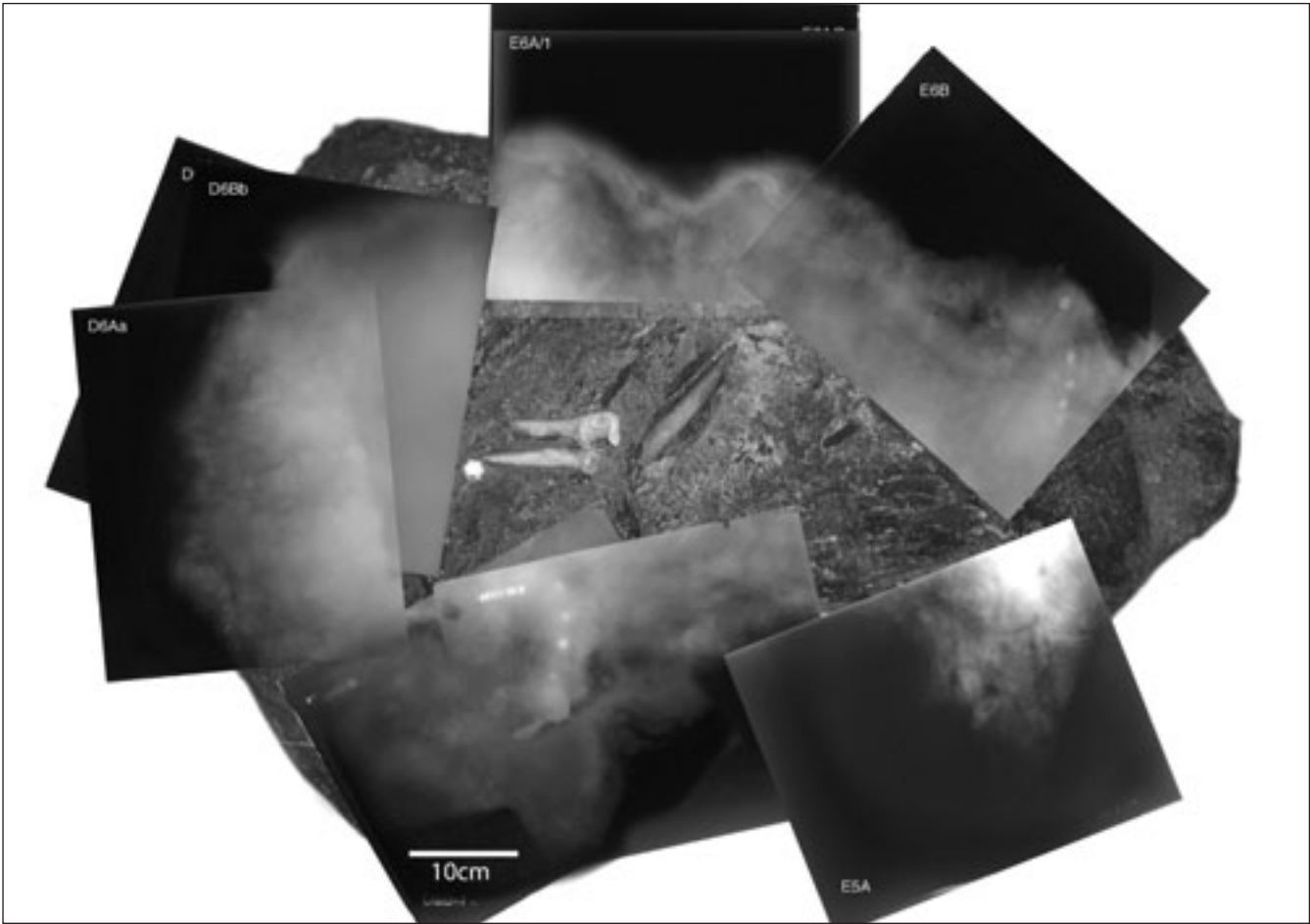


Fig. 4: Photograph and X-ray of soil feature prior to excavation at Maritime Museum. The X-ray overlays show rows of buttons (white) in the upper right and lower left of the black deposit. (Photo: Patrick Baker; Western Australian Maritime Museum)

material. The upper matrix was characterised by a darker soil than the yellow-grey pre-European sands, presumably as a result of mixing contaminants from the surface. The disturbed natural soil in the grave was a mixture of aragonite and calcite, formed by the coral, shells and limestone common to the surface of Beacon Island. The elemental composition of the grave matrix was predominantly calcium, intermixed with small amounts of magnesium, phosphorus and sulphur, presumably derived from bird droppings, the dominant fauna on the island. The pH of the soil is 8.5 which is normal for calcium and aragonite. The electro-conductivity (indicating salt content) was low and there were minor traces of carbon and nitrogen (Franklin 2001; Rohl & Gilkes 1999).

It is important to note that the grave fill had been disturbed throughout by burrowing birds, although the excavation indicated that many of the bones remained in their correct anatomical position. The skeleton most disturbed by burrowing was that of a child (SK9) which was located at the margin of the grave (Pasveer 2000) (Fig. 1).

Solid soil mass in grave

Analysis of the dense soil feature was conducted by Dr Rohl and Prof. Gilkes (Soil Science and Plant Nutrition, University of Western Australia) (Rohl & Gilkes 1999). Samples were analysed for pH, EC and total carbon, and by X-ray diffraction and X-ray fluorescence. These analyses were intended to help us interpret how the solid mass formed in the grave.

This dense soil feature contains mainly organic material (44%) with minor amounts of gypsum and halite. It is slightly acidic (pH approx. 6.4) and salty (9.8 mS/cm) due to the free halite. The white inclusions are presumed to be gypsum. In order to determine the origins of the dense soil feature a sample was analysed by Assoc. Prof. Ghisalberti (Chemistry

Department, University of Western Australia) (Godfrey 2000). This sample yielded 1.1 per cent soluble organic matter and was analysed by proton and carbon-13 nuclear magnetic resonance (NMR) spectroscopy. The insoluble component was analysed by carbon-13 solid state NMR spectroscopy indicating the presence of cellulosic, tannin and lignin material consistent with plant matter. This supported visual observations suggesting that the soil was in fact dense plant material. Further analysis of the fatty insoluble component by pyrolysis gas chromatography/mass spectrometry using thermally assisted hydrolysis and methylation (Dr Challinor, Forensic Science Laboratory, Chemistry Centre, Western Australia) (Godfrey 2000) indicated the presence of compounds consistent with hydroxy-substituted carboxylic acids and a compound with a lignin origin. These results indicate a plant origin and are not consistent with human body fat.

Four organic samples from the black soil feature were submitted to the Centre for Isotope Research, Radiocarbon Laboratory, University of Groningen for Accelerator Mass Spectrometry (AMS) dating, with the aim of determining the origins of the dense soil feature (Table 2). The AMS dates all indicate that the samples from the dense soil feature formed after 1950.

Table 2: Accelerator Mass Spectrometry (AMS) dates from dense soil feature.

Beacon Island Land Site (BILS) code	Excavation unit	Location	AMS Result
BILS 1010	Unit E5.B/ Unit 5	Close to upper surface of feature (6cm)	Modern
BILS 1034	Unit 5.A/ Bottom Unit 1	In association with buttons near base of feature (20 cm)	Modern
BILS 1035	Unit E5.A/ Bottom Unit 1	In association with buttons near base of feature (20 cm)	Modern
BILS 1044	Unit E5.A/ Unit 3	From interior of long bone, 2 cm from upper surface of feature	Modern

Artefacts

Most of the artefacts to survive in the grave were metal, including buttons, a thimble, parts of a pewter spoon and copper wire. In the 1999 excavation 19 buttons were found either *in situ* or in sieve residues; eight concreted buttons ran down the chest from the chin of the youth SK8 (Pasveer 2000; Stanbury 2002). After concretions were removed from one of the buttons (Schneider 2001) the similarity between the ornate cast copper alloy buttons worn by the youth (Fig. 5a) compared closely to buttons excavated in 1973 from a button-making workshop in Amsterdam (Baart et al. 1977; Schneider 2001) (Fig. 5b). Other plain buttons are similar to those found on the *Batavia* shipwreck site.

Fragments of twisted copper wire were associated with the male adult (SK11) (Table 1) and thought to be related to jewellery as they were very fine and curved. The metal had deteriorated in some instances to provide only a thin green stain of utterly fragmented material. The pewter spoon fragments were found close to the adult male SK7 and were also similar to a type found on the *Batavia* (Green 1989:153; Pasveer 2000). A small metal buckle was also recovered.²

In 2001, artefacts were identified in the X-ray images of the dense soil feature. This revealed two rows of buttons (Figs 4, 5) which were removed and cleaned by conservators. These are consistent with Dutch buttons found at the *Batavia* site. An open-topped thimble, which was similar to one found on the

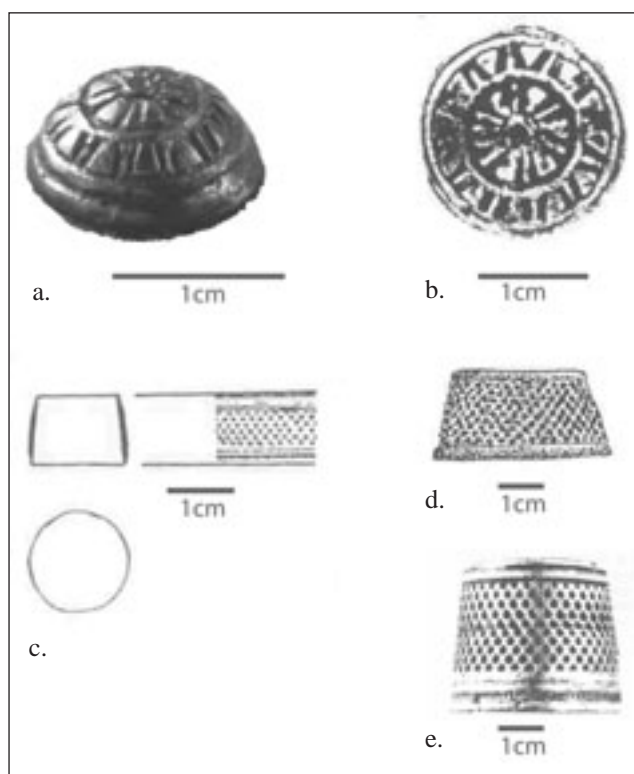


Fig. 5: a. Button found on the chest of SK8 (Photo: Patrick Baker; Western Australian Maritime Museum). b. Similar decorative button excavated in Amsterdam (Baart et al. 1977:193). c. Sewing thimble from *Batavia* (Green 1989:174, BAT 3183). d. Sewing thimble from Zeewijk wreck in 1727 (Ingleman-Sundberg 1978:97, ZW230E). e. Sewing thimble excavated in Amsterdam (Baart et al 1977:145).

Batavia (Green 1989:174, BAT 3183) and to a sewing thimble from the Dutch ship *Zeewijk* wrecked in 1727 (Ingleman-Sundberg 1978), was also found. These types have been found in contemporary contexts in Amsterdam (Baart et al. 1977:145). The open-topped thimbles were used for working with heavy material such as leather and canvas and would be part of the kit of Dutch sailors while closed thimbles were used for more delicate work (Baart et al. 1977:147).

INTERPRETATION

The Burial

This research is intended to help answer the question of who had been buried in the mass grave and more mundanely, how the dense soil feature formed in the grave. We propose that the burial is not of the Predicant's family (discussed below) and that possibly the dense soil feature that formed in the grave resulted from a reaction between the soil in the immediate vicinity of the grave contents and the contents of the modern leach drain. It is also possible, from the archaeological evidence, to describe some of the events related to this mass burial in 1629.

There are several descriptions of deaths, killings and burials in historical accounts, the main source being Pelsaert's journal (Drake-Brockman 1995; Pelsaert 1994). A recent study of the historical accounts of events surrounding the mutiny indicated many individual and group murders on and near Beacon Island, as well as deaths from drowning and sickness (although many of the sick were murdered before meeting natural deaths) (van Huystee 2000). Two main mass burials are described in the journals, although others associated with the slaughter could have gone unreported.

One multiple burial was that of the Predicant's family. The Predicant was a minister on the *Batavia* whose family was murdered on 21 July while he was meeting with Cornelius and his cohorts. The Predicant's wife and six children were beaten to death, their maid was also killed, another female had her throat cut, and another man was battered to death. Another earlier burial reportedly occurred on 10 July or 12 July when Passchier van den Enden (gunner), Jacob Hendricxsz (carpenter), a sick boy (unnamed) and an English soldier Jan Pinten were killed and buried (Drake-Brockman 1995; Franklin 2001; van Huystee 2000).

Franklin convincingly suggests that the three adults and one youth in the mass grave are those of van den Enden, Hendricxsz, Pinten and the cabin boy. This is based on the age profile, and finding that SK7 probably limped in life which matched descriptions of the carpenter (Hendricxsz) (Franklin 2001). Certainly this group fits better with the excavated evidence than with the profile of the Predicant's family burial. The child (SK9) and infant (SK12) could have died of natural causes or been among those murdered in early days. Clearly the infant was born on the voyage and may be one of those described as suckling. Maijken Cardoes was identified as having a suckling child who was strangled on 20 July 1629 (the day before the murder of the Predicant's family). However, if the grave includes Enden, Hendricxsz, the unnamed boy, and Pinten, then the infant, given its location at the bottom of the grave, would probably have died before 10 or 12 July. Thus it remains inconclusive who was buried in the grave, although we suggest it was not the Predicant's family, but possibly earlier victims, perhaps those who died between 10–12 July, 1629. For a more detailed synthesis see Franklin (2001).

It is possible to describe how the grave formed, which would relate to the behaviour of survivors and murderers (Gibbs 2002; 2003). The grave in 1629 would have been

shallower than it is today, as the surface has been built up in the historic era, perhaps covered with less than 20 cm of sand. The infant SK12 would appear to have been the first in the grave. Some were buried with clothing, despite reports that clothes were retained by the murderers, and some everyday items, such as thimbles and jewellery, possibly in their clothes, were also interred.

Origin of dense soil feature

One of the aims of the research was to identify the nature and source of the dense soil feature. Discussions with archaeologists who work with mass burials indicated that the dense soil feature was a rare formation that had not been documented in other contexts (Richard Wright, pers. com. 6 Feb. 2001). Consequently, a sample of the soil feature was retained for the museum collection (BILS 856).

Based on the Accelerator Mass Spectrometry (AMS) dates it was a modern formation focussed around the seventeenth-century grave. One theory concerning the origin of the dense soil feature is that modern batteries dumped on the surface had leached sulphuric acid that reacted with the calcium carbonate to form gypsum. This is supported by a high lead content in the dense soil feature. Another possible source of sulphur may be human organic waste which is designed to secrete from holes along the leach drain transecting the north side of the grave. This explanation is supported by the chemical analyses, however it is not clear why the halite (salt) only formed within the dense soil feature and not in the calcium carbonate rich grave fill. This theory does not explain why the distribution pattern of the gypsum is consistent throughout the dense feature (much like raisins in a fruit pudding) rather than at the extremities.

Another possibility is that the feature was formed by vegetation growth attracted to the vicinity of the human remains, which provided a barrier or trap for nutrients in stark contrast to the porous surrounding soils. This type of event was observed in the excavation as thick vegetation grew from the sewerage leach pipe. This explanation fits the distribution of the grave, in that the dense soil feature was located around and below several human individuals at the centre of the grave. However, it is unclear why the interface between the soil and the grave fill is abrupt, except to propose that this may suit the formation patterns of a dense ball of root fibres in a hostile environment. It is also unclear what was the source of the gypsum, except to note that it appeared to increase in quantity in those areas of the feature where bones had been located, especially in bone marrow. As stated above the gypsum appears to have a plant origin and therefore the distribution pattern may be a by-product of the fibrous plant growth close to the human remains (Godfrey 2000).

Dense soil features such as this may be found in other contexts. If so, it is worth noting that some skeletal material and metal artefacts were preserved within the feature, and that the soil horizon may have protected the grave contents from burrowing birds, at least in recent years when the area had been cleared by the fishers of the thick vegetation that grows around their shacks.

CONCLUSION

Dutch encounters with Australia in the seventeenth century currently represent the earliest phase of European history on this continent. Historical accounts of exploration begin in 1606 when at Cape Keerweer the crew of Willem Jansz's *Duyfken* landed and met Cape York Aboriginal people (Mulvaney 1989). Other landings were accidental, such as the

wrecks of Dutch East India Company ships *Batavia* (1629) and *Vergulde Draeck* (1656), following the wreck of the English Eastindiaman *Trial* (1622). These accidents would lead to expeditions of recovery and exploration and initiate sustained European awareness of Australia's west and northern coasts. The story of the mutiny of the *Batavia* is a macabre start for Australia's pre-colonial history, and the sites related to this event are of national significance. There have been other human remains found on the island, although these lie beyond the scope of this paper. These burials represent the earliest European terrestrial sites in Australia. Presumably other graves remain to be found and studied. Additionally, further archaeological research in the islands may securely identify the earliest European structure in Australia; perhaps the gallows erected by Pelsaert, or the huts built by Wiebbe Hayes and his men on West Wallabi Island.

We conclude that the burial was a shallow grave made in the coral surface at the centre of the island. The circular shape of the grave, and the position of the bodies, suggest the soil was scooped out, possibly by hand, rather than carefully dug with tools to form a steep-sided grave. This suggests the hasty disposal of a group of corpses which, given the horrific events unfolding on the island, is hardly surprising. The historical accounts describe that the burials were done by the mutineers on some occasions in an attempt to hide their crimes, although we would expect other survivors to have buried victims out of decency. Artefacts indicate some were buried with clothes and personal items. The analysis of these artefacts and comparison with findings from other Dutch sites is the next step required in the study of this burial. This research will need to follow the conservation of the artefacts and may lead to a better understanding of the individuals.

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