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The *Dartmouth*, a British frigate wrecked off Mull, 1690
2. Culinary and related items

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Introduction

The Frigate *Dartmouth*, 5th rate, sank in a storm in the Sound of Mull on 9 October 1690 while on patrol for William of Orange in his campaign against the Catholic Scots of the Western Isles (see Adnams, 1974). She was then at the close of a distinguished career and very much a 'work-horse' of the Royal Navy. It may therefore be assumed that she was equipped with utensils, storage vessels and ceramics typical of an ordinary naval vessel of the time.

By comparison with pottery and glass items found on contemporary wrecks, particularly that of the 5th rate frigate *Sapphire*, this paper investigates:

a. the degree of standardization of crockery, utensils and galley-ware on board His Majesty's ships at this time (1650 to 1700);
b. the origin of the pottery on board, and trade patterns in Great Britain and northern Europe at the dawn of the Industrial Revolution, when the largest and most obvious customers for batch-produced industrial goods were the armed services,

and provides;

c. an insight into life on board a typical 5th rate frigate, with regard to personal possessions and the provision of tableware.

The 5th rate frigate *Sapphire*, built in 1675 by Deane of Harwich, and sunk in action with the French in Newfoundland on 11 September 1696, was some 20 ft (6·1 m) longer than the *Dartmouth* according to Colledge (1969), while Battine lists her as only 8 ft (2·4 m) longer (1684). She was typical of the later generation of frigates which grew in size with the requirement for longer ocean voyages to the new colonies, and longer patrols. Sea-keeping and greater living space, albeit still cramped, were the order of the day. Divers under Dr V. C. Barber of the Newfoundland Marine Archaeological Society rediscovered and identified the *Sapphire* in 1973. It is believed that the wreck site had been located by a non-specialized group some four years previously[1].

The *Dartmouth* and the *Sapphire* shared 15 years of naval action, and together spanned some 41 years between the Commonwealth and the War of the Spanish Succession. In this period, the Royal Navy was much influenced by the Dutch, and evolved to meet the challenge of the French Navy in the following years. The opportunity has arisen to study this period of development through the comparison of these two similar vessels.

The culinary utensils found on the *Dartmouth* (with parallels from the *Sapphire*)

a. Lead-glazed earthenware

1. Coarse brown lead-glazed earthenware sherds have been located over the entire wreck site, and, for the most part, appear to be fragments of large storage jars of a different form than those described by Ashdown (1972).

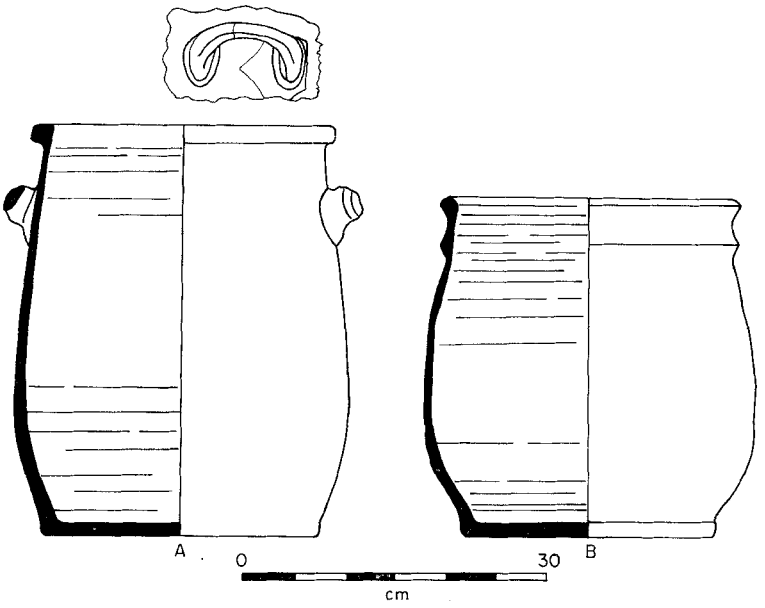


Figure 1. Lead-glazed earthenware pots.

The *Dartmouth* examples, which were either double-glazed (inside and out) or single-glazed (inside), had probably been located on the lowest deck throughout the whole length of the ship. The fabric was grey-brown or red brick-coloured and the whole typical of the Midlands Potteries (see Fig. 1 A, B for a drawn reconstruction). The grey-brown fabric indicates a high iron content and high firing temperature.

2. Figure 2 shows a flagon reconstructed from sherds of a similar character to the storage jars, but with a lighter brown-manganese lead glaze.
3. A single fragment of a substantial green lead-glazed upright handle, probably of a two-handled storage jar.

Notable was the inclusion of sparkling grits in the dull grey fabric. A fragment of jar body was found nearby. The dark green lead-glazed ware found on the *Sapphire* was of similar form to the items in 1, above, with a lighter grey fabric and sounder glaze, but only about 12 in (0·305 m) high. The green earthenware from the *Dartmouth* was crude in comparison, and both the fabric and glaze resemble the dark grey clay used in local Argyll-

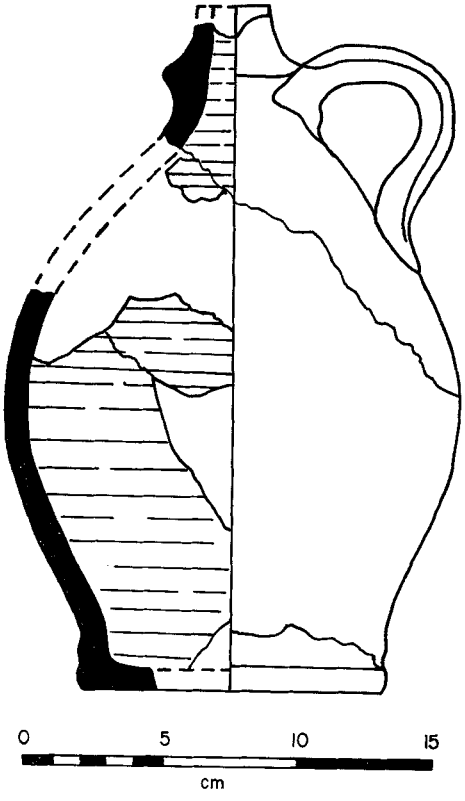


Figure 2. Brown, lead-glaze earthenware flagon, reconstructed from fragments.

shire potteries. It is possible that *Dartmouth* carried provisions which came on board with the Duke of Argyll's troops involved in the campaign. Pots in the Edinburgh Museum of Antiquities with remarkably similar fabric and glaze are attributed to Argyllshire and date from as early as the 11th century. We have not been successful in tracing a possible source further south or more recent than this.

4. Two fragments of sgraffito slipware dishes (probably not the same plate) of red earthenware fabric, with white slip pattern, clear yellow glaze, possibly Staffordshire. This is made by scratching through a coating of slip to expose the colour of the underlying body (Mankowitz & Haggar, 1957: 199).
5. Three fragments of a red earthenware jug with a marbled white slip pattern under a yellow glaze typical of John Hughson's work in Staffordshire in the 1680s.

b. Stoneware

1. A single fragment of very hard unglazed fabric of a dark grey colour may have been part of a baking dish. This is attributable to the Midlands (included in this section for convenience).
2. Small mottled brown salt-glaze stoneware flagons of the Bellarmine type but without the head or any other badge or decoration. Three examples, one intact, one damaged, and one fragmented have been recovered (Fig. 3 A–B). They are 5 in (0·125 m) high and contain approximately half a pint (imperial). An almost identical flagon has been recovered from HMS *Sapphire* (Fig. 3C).

The method of parting from the potter's wheel suggests that these were thrown by Continental potters and were probably imported Rhenish ware from Frechen, near Köln in Germany. The end of the 17th century saw a great demand for durable Rhenish stoneware to replace the old English earthenware. In London, John Dwight was quick to spot the market, applying in April 1671 for a patent 'for the mistery of transparent translucent earthenware commonly known by the names of porchellane or China and of stoneware, vulgarly called Cologneware', and again in June 1684 for another patent, which lasted for 14 years but was broken by Middleton, and Joshua Astbury, as evidenced by proceedings in Chancery (Dwight versus those named above, 1697: Blacker, 1922: Chap. IV; Mountford, 1971; 5–10).

Such production required repeatability and Dwight made notes on processes

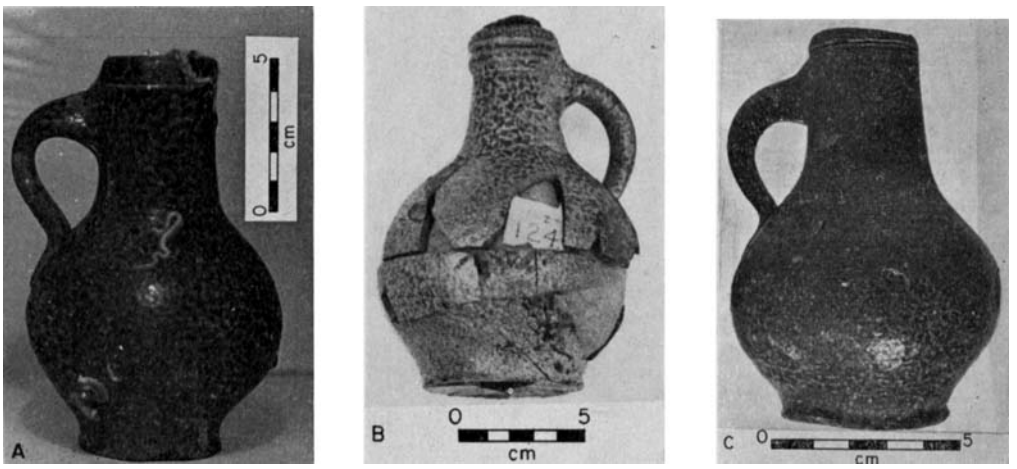


Figure 3. A. Salt-glaze drinking jug from *Dartmouth*; B. Salt-glaze stoneware flagon from *Dartmouth*; C. Salt-glaze drinking jug from *Sapphire*.

to achieve this. A typical example is as follows:

'To make a blew porcellane clay to be turn'd into vessells or to spot and inlay pots of any other Porcellane—Take five pounds of Cley, five pounds of ye fine White Earth, one pound of zaffer fine ground dryd and done through a middling hair sieve, mingle and tread. If it be wetted with water it will be brighter'.

Rhenish potters like Elers were encouraged to come to Lambeth where John Dwight appears to have specialized in large batches of utility stoneware. His luxury contribution was mainly confined to figurines and very large ornamental vases. Two of the small utility jugs from the *Dartmouth* bear the characteristic 'tear drop' glaze runs of Dwight imitations (Rackham & Read 1924: 69–72).

3. Fragments of a mottled brown Bellarmine-type stoneware flagon with part of the bearded face (Fig. 4). This is an example of the type described by Anderson (1974: fig. 3), about one litre.

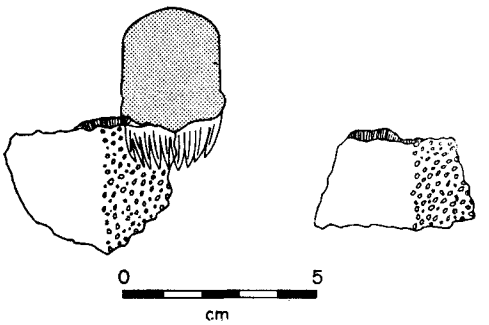


Figure 4. Fragment of Bellarmine stoneware flagon, showing part of beard from face design.

This type of flagon is usually decorated with a floral or foliate pattern enclosed in a disk or with a badge, motif or crest below the face. The neck handle is obverse to the decoration.

4. Two fragments of fine white salt-glaze stoneware with a raised foliate pattern. These are Westerwald (Mountford), but have none of the usual blue or maroon colouring.

The intricate pattern was achieved by the impressed moulding process, using a metal or alabaster tool. The most likely form is reconstructed in Fig. 5 and may have been a drinking jug. Some typical examples had a silver or pewter-capped rim. Both fragments were found at the stern of the ship quite close to each other, and are most likely to be part of the same pot.

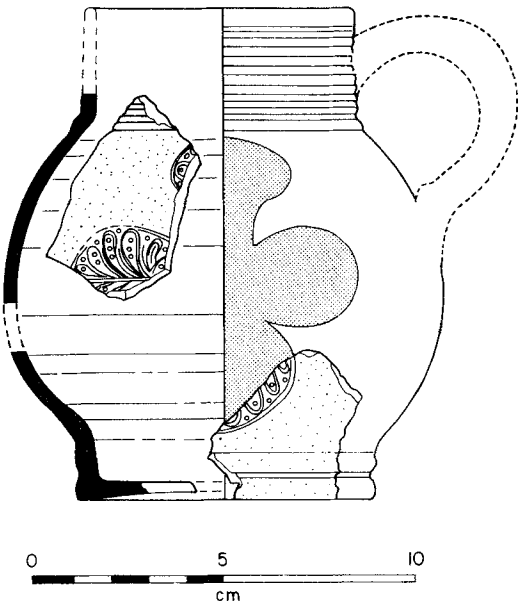


Figure 5. Westerwald-type drinking jug; approx 1 pt (0·6 l)

5. Fragments of a small Westerwald type drinking jug in grey, blue and maroon patterned salt-glaze (Fig. 6). Many of these coloured stoneware jugs and matching mugs were made to commemorate the coronation of William and Mary (Honey, 1952: 667). Various examples exist in Bristol City Museum and those of the set which are large enough, have a William and Mary Coronation plaque on them. The blue and maroon glaze was produced by Guigliemus of Coblenz with cobalt and manganese *c.* 1689–90 (Honey).

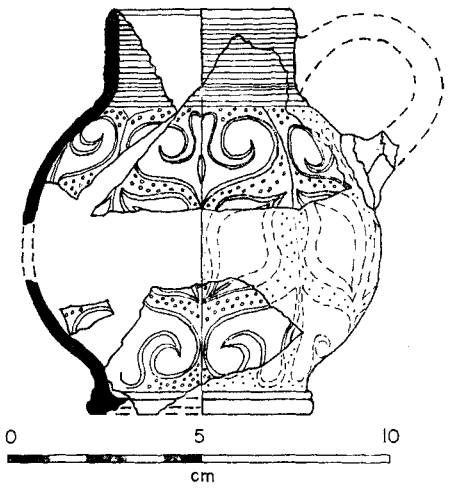


Figure 6. Westerwald-type drinking jug.

Figure 7. Westerwald mug.

6. An almost complete mug (Fig. 7) with similar decoration to 5 above. An example of this type of mug is illustrated in the *Katalogue des Kunstgewerbmuseum*, Köln 1971: Item 615a, Humpen, Steinzeug. If they are indeed part of a Coronation set, this would support the dating and identification of the wreck, since the coronation of William and Mary took place in 1689.

Such items may well have been issued to the wardrooms of HM ships when William of Orange took over James II's navy. This would be more effective than having a portrait of the Sovereign on the wall, since the Sovereign would be virtually toasted every time a mug of ale was raised.

c. Tin-glazed ware

1. Blue and white fine delftware fragments with part of birdwing pattern, possibly part of convoluted jug.
2. Parts of a blue and white delftware bowl.
3. Examples of plain white delftware ointment jars with a very flaky tin-glaze were most likely made in south-east England, but possibly imported from Holland (Fig. 8). The drawn reconstruction suggests a 'London' form.

Examples of albarelli from the *Sapphire* were taller, white tin-glazed, hand-decorated in blue and brown, and larger than the *Dartmouth* ointment jars.

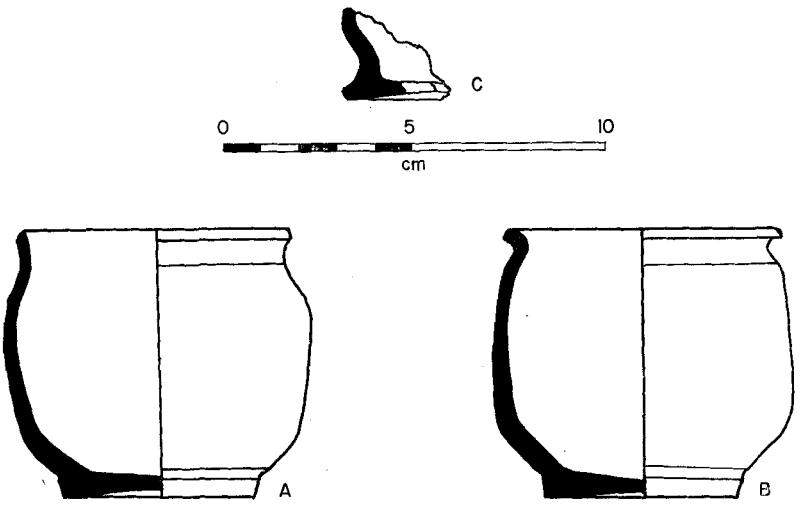


Figure 8. Ointment jars: London forms, 1690–1700.

d. Glass bottles

1. Numerous coarse green glass 'Onion' type wine bottles. One intact example recovered to date (Fig. 9). This type of glass readily devitrifies when submerged in the particularly acidic sea-water of the Sound of Mull. On the sea-bed, it is

Figure 9. Green glass 'onion'-type wine bottle from *Dartmouth*.

often quite soft like black soap, but on being exposed to air rapidly hardens and cracks, forming an opaque layer of brown silicate on the surface. Great care has been needed to conserve the intact sample which has been kept immersed in fresh water to avoid crazing and disintegration.

A spectrum analysis of the base of one such bottle revealed traces of the lees of a Bordeaux type red wine. It is not known whether this was 'mise en bouteille à chateau' or bottled in England. This type of bottle was in common use throughout Europe at the time, and was also present on the *Sapphire*.

2. Coarse 'brandy' type glass bottles similar to 1 above and sometimes in a browner glass. Cognacs are bottled today in this pattern of bottle, which of course is now moulded and has a volume of about 70 cl, slightly greater than the 'onion' bottle. This type was also present on the *Sapphire*.
3. Base of pale green case bottle. Rectangular profile typical of Schnapps bottle with pewter screw-cap. (Fig. 10; Bax & Martin, 1974: 90 & fig. 6B; Larn & others, 1974: 77 & fig. 14; Cederlund & Ingelman —Sundberg, 1973: 320; Smith, 1627). A similar type was also present on the *Sapphire*. Some of the latter had glass stoppers.
4. Fragments of broken green and blue square-based bottles which may well have contained ink, toilet water or medical supplies. They were too small to have been used for victuals, the bases being about 1·5 in (0.075 m) square. The blue glass appears rather too pale to have been Bristol blue.

   The square base of a clear example matches that of a very delicate bottle with ground glass stopper in Bristol City Museum (17th century) (Fig. 11). This type was also present on the *Sapphire*.

e. Wooden galley and storage vessels

1. The sides and bases of several wooden barrels have been found throughout the ship. Barrels may have been used to store almost anything from dried peas to gunpowder. However, Battine's manifest (1684) shows 91 tun barrels of ale on board. Cask fragments have also been found on the *Sapphire*.
2. The sides or staves of a wooden bucket were found quite near the galley area at the after end of the forecastle.
3. A round disc of wood 2·75 in (0·07 m) in diameter was found in an area of broken concretion. Adhering to the disk were several hazel-nut shells, a complete nut, and a piece of twig which was also probably hazel. The disk was either the bung of a large storage barrel, or more likely the base of a miniature barrel containing a seaman's personal cache of hazel-nuts gathered locally. The nuts may have been a locally obtained substitute for some other provision not readily available in the north.

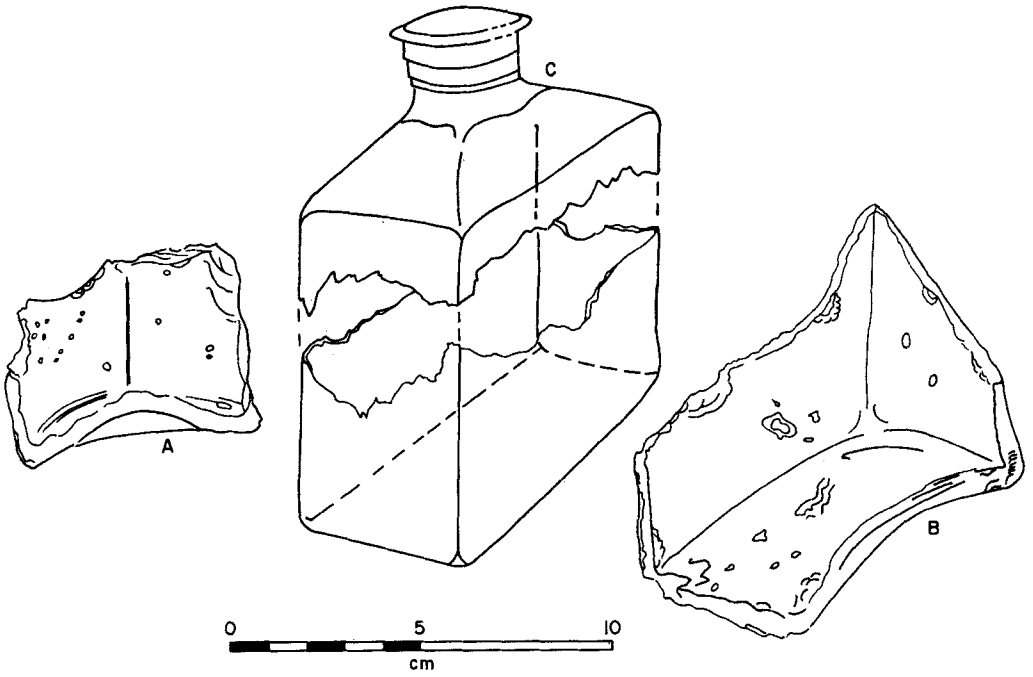


Figure 10. A, B. Base of pale green case bottle. C. Reconstructed drawing with pewter cap.

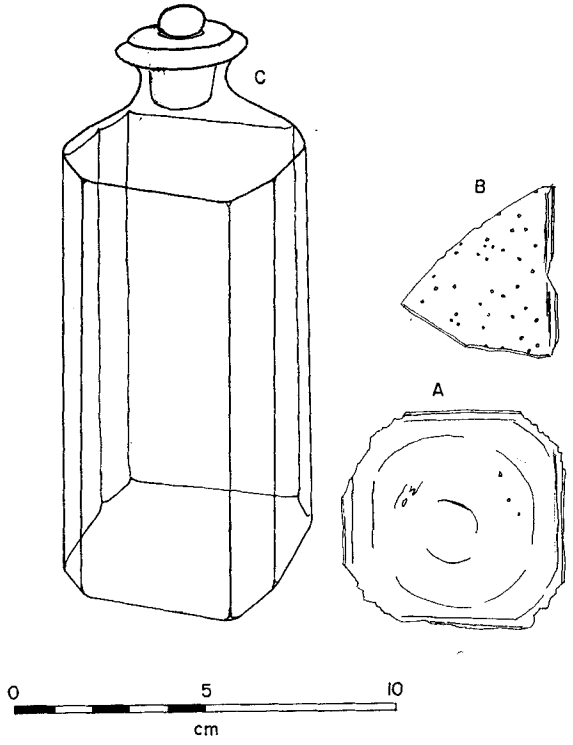


Figure 11. A, B. Fragment of side and base of square-based 'medicine' bottle. C. Reconstructed drawing from example in Bristol City Museum; 17th century.

f. Pewter vessels

1. Seven pewter dinner plates and a larger serving dish have been found. Two plates were more or less intact, but the others were badly folded and in two cases incomplete (Fig. 12). So far, cleaning the heavily pitted pewter has failed to reveal any identification marks, but the plates had a ribbed edge and were of similar pattern to that described by W. Zacharchuk (1972: 162, fig. 6).
2. The rim of a small pewter bowl was found amidships, and a complete bowl near the stern of the ship.

Figure 12. Pewter items from the *Dartmouth*.

g. Items of cutlery

1. A magnificent pewter spoon (Fig. 12) was found well forward in the ship. Two similar spoons and one of a different pattern were found in the stern. The broken handle of another item, possibly a spoon or fork, was found amidships. The handle and part of the bowl of another spoon, two porringer handles, and yet another spoon bowl, all in pewter, were found towards the stern of the vessel. A similar porringer was found on the *Sapphire*.
2. A crudely carved, scrimshaw handle of a knife or fork, with a reddish substance like sealing wax on one side, was found at the stern of the vessel.
3. Five examples of a set of ivory utensil handles similar to those described by Bax & Martin from the *De Liefde* (1974: fig. 10d), but less decorated, were found. Their carved heads were missing, however.
4. A common bone knife handle was found amidships.
5. A hardwood knife handle with square hole for blade tang was found well forward in an area of concretion.

   A fine 'gold' wire Turkshead type braiding at one end was possibly a seaman's personal decoration. It is possible that this was not a utensil handle, but that of a foil or dagger, since an ornate hand-guard with a square hole of the same size was found nearby.

h. Brass tableware

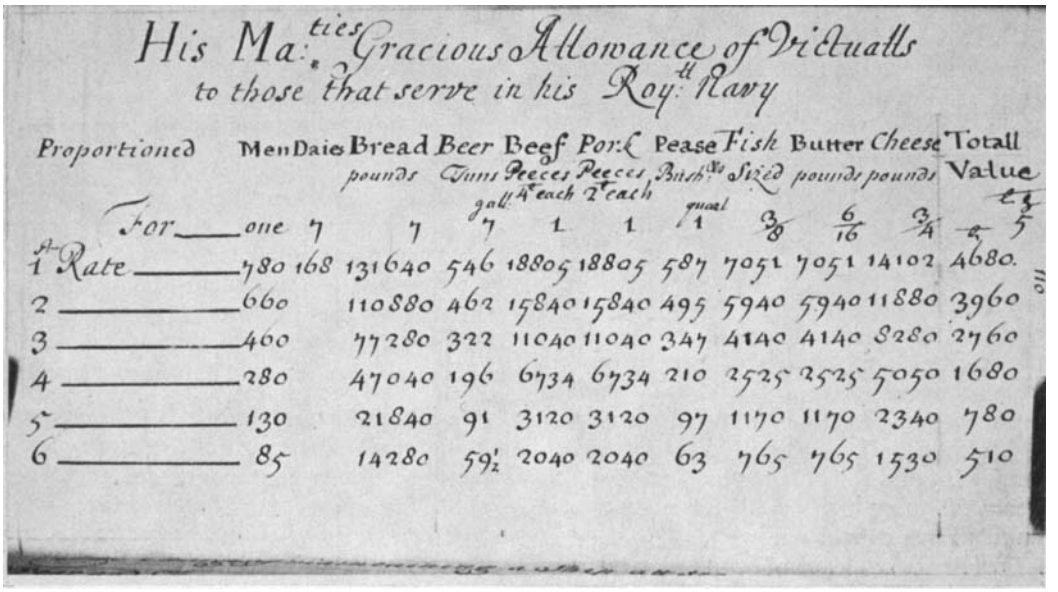
1. A very thin brass dish with heavy black

deposit, possibly the remains of a dipped silver coating.

2. A brass spoon, also probably silver-dipped, but with little trace of the original surface left.

Discussion

An examination of reference sources confirms much of the conjecture involved in the previous section, providing 'your ordinary ship's allowance' in accordance with Battine's Admiralty Victualling List 1684 (Fig. 13) and his expenses on shore, and provide his *Petty Tally* which is a competant proportion according to your number of these perticulers following:—Fine wheat flower, close and well packed; Rice, Currands, Sugar, Prunes, Cynamon, Ginger, Pepper, Cloves, green Ginger: Oyle, Butter, Holland cheese or old cheese; Wine vinegar, Canarie sacke, Aqua Vitae [Schnapps], the best wines, the best waters, the juyce of limons for the scurvy; White Bisket, Oatmeals, Gammons of Bacon, dried Neats' tongues; Beets packed up in vinegar [pickled]; legs of



His Maties Gracious Allowance of Victualls
to those that serve in his Roy.ll Navy

Proportioned For	Men	Daies	Bread pounds	Beer Tuns gall.	Beef Peeces each	Pork Peeces each	Pease Bush.rs	Fish Sized	Butter pounds	Cheese pounds	Totall Value £ s d
1st Rate	one	7	7	7	1	1	1 quart	3/8	6/16	3/4	5
	780	168	131640	546	18805	18805	587	7051	7051	14102	4680.
2	660		110880	462	15840	15840	495	5940	5940	11880	3960
3	460		77280	322	11040	11040	347	4140	4140	8280	2760
4	280		47040	196	6734	6734	210	2525	2525	5050	1680
5	130		21840	91	3120	3120	97	1170	1170	2340	780
6	85		14280	59½	2040	2040	63	765	765	1530	510

Figure 13. Battine's Admiralty Victualling List, 1684.

and certain extra items recommended in Captain John Smith's 'Petty Tally', or list of domestic items (1627):

'Many suppose anything is good enough to serve men at sea, and yet nothing sufficient for them ashore, either for their healthes, for their ease, or estates, or state. A Commander at Sea should doe well to thinke the contrary, and provide for himselfe and company in like manner; also seriously to consider what will bee his charge to furnish himselfe at Sea with bedding, linnen, armes, and apparrell, how to keepe his table aboard, Mutton minced and stewed and close packed up with tried sewet or butter *in earthen pots*. To entertaine strangers, Marmalad, Suckets [fruit preserves], *Almonds*, Comfits and such like.

'Some it may be will say I would have men rather to feast than fight: but I say, the want of those necessaries occasions the loss of more men than in any English fleet hath beene slaine since '88 [Spanish Armada]. For when a man is ill or at the point of death, I would know whether a dish of buttered rice with a little Cynamon, Ginger and Sugar,

a little minced meat or roast beefe, a few stewed prunes, a race [root] of green Ginger, a Flapjacke, a can of fresh water brewed with a little Cynamon, Ginger and Sugar [a posset]—bee not better than a Poore John [hard dried cod], or salt fish with oile and mustard: or bisket, butter, cheese, and oatmeale pottage on fishe dayes: or on flesh dayes, salt beefe, pork and pease with "Six Shilling Beere". *This is your ordinary ship's allowance* and good for them that are well if well conditioned, which it is not alwayes, a Sea-man can (too well) witnesse. And after a storm, when poore men are all wet, and some have not so much as a cloth to shift [change] him, shaking with cold—few of those but will tell you a little sacke or Aqua Vitae is much better to keep them in health than a little small beere or cold water, although it be sweet' (my italics throughout).

The above quotation more than adequately suggests the vicissitudes on board a sailing ship of the day, with no mention of the additional hardships of battle. Captain Smith is unusually preoccupied with the welfare of his crew, and this is a very early record of a captain showing some understanding of the physiology of exhaustion due to exposure. It is to be hoped that Captain Pottinger was as conscientious in providing for his lower decks, but the difference between Smith's list and the items in the List (Fig. 12) (about 50 years later) does not suggest that Smith's ideas caught on.

Despite the evidence of economic pressures on English potters to copy continental pottery, and the fact that we were involved for most of the time in political and religious squabbles with France, Spain and the Low countries, it remains probable that during the serving life of HMS *Dartmouth*, wines, sacke (sherry), schnapps, brandy and special pottery, were still imported from their respective countries. It may be that this trade was indirect through a neutral state.

Before we analyse the implications of the List (Fig. 14) it must be appreciated that most of these items have been damaged to such an extent that identification has only been confirmed when several pieces have been found. For example, 49 fragments of a salt-glaze flagon (Fig. 3B) were collected over an area some 20 ft (6·5 m) by 10 ft (3·3 m) in varying depths and from nearly 3 ft (1·0 m) below the sea-bed. Many of these pieces were set in a massive sheet of concretion. The 49 fragments formed 90% of a single jug. Hence it is clear that artefacts in an underwater site may be dispersed to a greater extent than is normal on a land site. The List is therefore only a broad indication of the area in which an item was stowed or in use. The lower storage area of the vessel, and the main gun deck on which it is believed that most of the crew lived, extended over the whole of the ship's length, and we may therefore expect to see crew items and storage vessel fragments as much in the stern as amidships and in the forecastle. This is adequately borne out in fact, but one wonders why more of these common items do not occur towards the bow. This is possibly explained by two facts:

a. that the ship is much more broken up at the forward end than at the stern, where rock falls have prevented further dispersal of the structure and contents;
b. that the bow of the ship is in an area of stronger currents, which assisted the dispersal of wooden barrels and buckets.

Despite these considerations, it is immediately apparent that most of the more sophisticated items are in the area of the Great Cabin. Fine ivory utensils have been scattered further forward, but apart from these, which may have been pocketed by crew or may have simply drifted because of their lightness, there is so far no evidence of any luxury items amidships or forward. Our preliminary report (Adnams, 1974) implies that the *Dartmouth* was wrecked with its stern onto the island, and a detailed appraisal of the orientation of the wreck is included in a paper currently under preparation. The evidence of the List is complementary to the above papers. Less easy to demonstrate is the concept of standardization of culinary equipment.

It may merely be that by common practice very similar ware was in use throughout Europe or some area not confined to the Royal Navy. Alternatively, some of the plainer items may have been standard ware

Area of ship	Culinary items found on board	Estimated number of individual items located
Forecastle and galley	Ship's kettle and brick fireplace with fireclay tiles	1
	Pewter spoon	1
	Crude bone utensil handle with wooden core	1
	Fine ivory utensil handle (part of set)	1
	Broken wine bottles	Many
	Part of wooden bucket	1
	Parts of wooden barrels	Several
Midships—(Most of main gun deck and hold)	Pewter bowl rim	1
	Saltglaze stoneware jug (approx. half pint)	3
	Pewter plates	2
	Pewter spoon or fork handle	1
	Earthenware storage vessels	1
	Wooden utensil handle with gold wire	1
	Bone utensil handle with wooden core and initials	1
	Fine ivory utensil handle (part of set)	1
	Broken wine bottles	Many
	Barrel ends and sides	Several
Stern—Great cabin and chirudgeon's room	Ornate pewter spoon or fork handle	1
	Ornate pewter porringer	1
	Bowl of pewter spoon	1
	Pewter bowl	1
	Pewter plate	1
	Brass dish—possibly silver dipped	1
	Brass spoon	1
	Westerwald drinking jugs	2
	Westerwald mug	1
	Westerwald item, unidentified	1
	Fine red earthenware dishes with white slip pattern	2
	Ointment jars	3
	Blue and white delftware items, unidentified	2
	Lead glaze storage vessels, earthenware	5
	Unglazed sherd of baking dish	1
	Bellarmine saltglaze jug approx. one litre	1
	Carved scrimshaw handle with metal ferrule	1
	Fine ivory utensil handle (part of set)	1
	Broken wine bottles	Many
	Broken 'brandy' style bottles	3
	Screw-top decanter, square base	1
	Hazel-nut barrel	1
	Barrel end	1
	Small coloured glass bottles (inks/medicine)	Several
	Saltglaze stoneware jug base	1

Figure 14. List of culinary objects found on the *Dartmouth*.

used by the Approved Victuallers, but there is as yet no evidence on the *Dartmouth* of the beautiful brown, blue, green and grey stoneware 'gin bottles' found on the *Sapphire* (Fig. 15), and no evidence on the *Sapphire* of the Westerwald items found on the *Dartmouth*. This suggests that officers

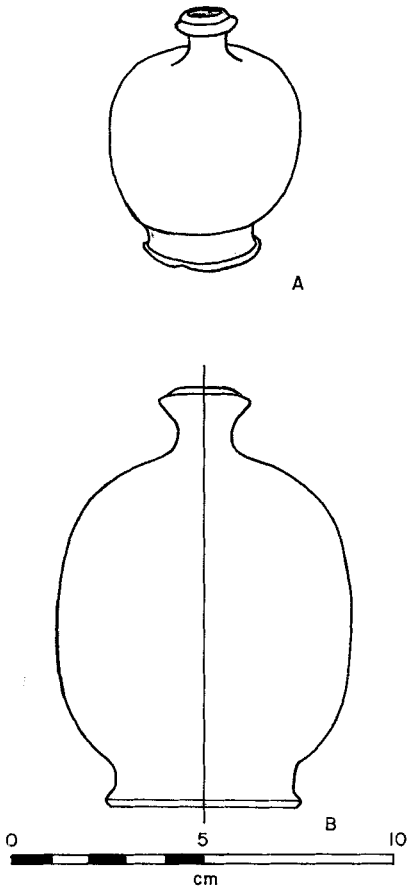


Figure 15. Stoneware 'gin bottles' from the *Sapphire*.

at least, took along some attractive personal possessions to brighten the off-watch hours.

It is fair to say, however, that there is a high degree of commonality. It was not until 1899 that the Admiralty supplied mess utensils from approved suppliers as follows (Pugh, 1971):

a. mess kegs, mess kettles, meat dishes, pot hooks, tin canisters, pepper dredgers, salt jars and soup ladles—to each mess;
b. one drinking cup per four persons;
c. one spoon per person;
d. one additional spoon per six persons.

The source of the *Sapphire's* 'gin bottles' is unknown, but the quality and colours of the glaze suggests that they could not have been English at this date, and may well have been oriental. They have a costrel form, but are without handles.

The following pattern emerges:

a. The crew ate off pewter plates with pewter or crude home-made utensils, possibly personal possessions.

   A knife and spoon seems more likely than a fork for the sort of food prepared in a ship's kettle. It is to be noted that no drinking vessels were located amidships and forward, so possibly they received their 'gallon' of ale from a common ladle in an open barrel.
b. The Midshipmen, Bo'sun and Quartermaster had similar eating ware, but probably drank from the apparently copious supply of wine in bottles and jugs.
c. The Captain, Chirudgeon, Chaplain (?), Ship's Chief Officers, Army Officers and Gentlemen on board had conventional cutlery, some silver-dipped dishes but mainly pewter table-ware, with a few coronation mugs and delftware for best occasions. The presence of brandy bottles and a decanter, as well as wine bottles and jugs, suggests that they were well stocked to combat a boring winter on patrol. These latter items do not appear on the ship's list of stores (Battine, 1684).

The excavation of the *Dartmouth* continues through 1975 and it is hoped to recover sufficient of the remaining fragments of most of the ceramic items described to reconstruct them to a three dimensional, if not entirely complete, condition. We understand from Vernon Barber, that we may look forward to detailed accounts of the *Sapphire* in due course.

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Notes

[1] Annual Report of the Newfoundland Marine Archaeology Society 1973.

[2] Newfoundland Marine Archaeology Society (Avalon Marine Archaeology Society). Project Proposal 1975.