Odyssey Papers 46

John Lethbridge and the Loss of the *Victory*

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> He was a man highly esteemed for honour and integrity, and seemed to have been born for the express purpose of the discovery, as no danger ever annoyed him whilst he was at work on the wreck of a ship, with the water up to his chin and his breath expended, that one might almost say such another man was never produced.
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> *Commander Thomas Lethbridge RN, describing his grandfather, the diver John Lethbridge, 1821 (British Library, Add. Mss 9428, ff. 353-4, Thomas Lethbridge to the Reverend Daniel Lysons, 11 April 1821)*

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After three decades of shipwreck salvage, the pioneering veteran diver John Lethbridge approached the Admiralty in December 1744 with a proposition to seek and salvage the First Rate, 100-gun *Victory* using his self-designed diving-barrel. Lethbridge's two letters of petition, and an accompanying note, are both important documents in the history of diving and for understanding the folklore that led to the belief that the *Victory* sank off the Caskets. This article presents John Lethbridge's *Victory* letters in full for the first time, reconstructs the final hours of Admiral Balchen's fleet, and speculates that the flagship's loss may have been caused by her having brought by the lee after the ship was overtaken by huge waves from astern.

1. "Necessity is the Parent of Invention"

In autumn 1744 John Lethbridge was approaching 70 years of age, and had been diving for shipwreck using his own diving-barrel designs for nearly three decades. He lived near where he was born, in Newton Abbot in Devonshire, and came from a long line of Devonshire ancestry. With the profits from his diving ventures he had recently purchased the manor of Odicknoll, a pleasantly sited estate surrounded by agricultural land 3 miles southeast of Newton Abbot. By now Lethbridge was, to quote his contemporary Daniel Defoe in the opening pages of *Robinson Crusoe*, comfortably established in "the middle state, or what might be called the upper station of low life, which... was the best state in the world, the most suited to human happiness".

It had not always been so. In his early adult life Lethbridge is thought to have been a wool merchant. For whatever reason, however, by the close of the Queen Anne's reign he had fallen on hard times. As he explained more than three decades later, in his famous letter published in the September 1749 edition of the *Gentleman's Magazine* describing his diving engine: "Necessity is the parent of invention, and being, in the year 1715, quite reduc'd, and having a large family, my thoughts turned upon some extraordinary method, to retrieve my misfortunes..."

The "method" fully merited the adjective "extraordinary": he would dive for shipwreck in a contraption resembling a cross between a wine barrel and a coffin. As well as being a man of imagination, great determination, and resourcefulness, Lethbridge was evidently something of a romantic. For one of his first trial dives using his new barrel design he quixotically chose the very moment of the full solar eclipse of 22 April 1715 to descend into a specially made trench at the bottom of his orchard.

And so Lethbridge developed the first practical diving barrel. In his letter to the *Gentleman's Magazine* – written in response to a libel against him in the same periodical two months previously asserting that he had taken the design from a relative – he gave a deceptively thorough description of his barrel. Diving barrels worked on the principle that if a wine or water barrel could hold fluid in, then the converse must be true and seawater kept out. Lethbridge's barrel was constructed from oak and reinforced

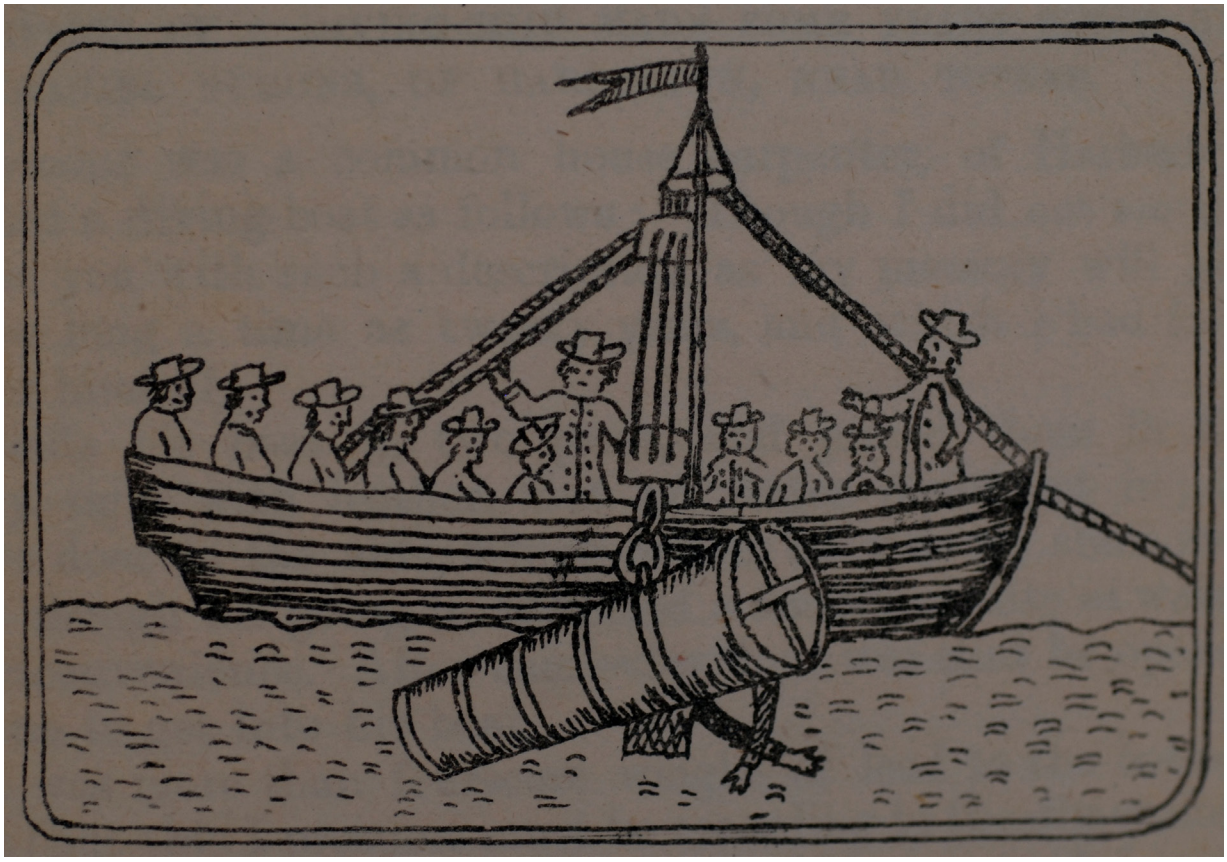

Fig. 1. An engraving on a silver tankard, which possibly belonged to John Lethbridge himself, showing Lethbridge in his diving barrel. From Amery, 1880, and reproduced with permission of the Devonshire Association.

with iron. The diver lay horizontally, face-down inside the barrel. An end cap was fitted to seal him at atmospheric pressure. A small cutaway covered by a thick glass plate allowed him to view the seabed. His arms protruded through two apertures, sealed with some combination of leather and grease (the details of which remain unclear). The air was replenished through two holes (sealed by bungs when underwater) in the barrel topside. Another bunged hole at the barrel foot allowed leakage water to be released as necessary. The barrel was ballasted to weigh a few pounds in seawater. Like a diving bell, it was manually lowered to the seabed from the yardarm of a support vessel. When the diver wished to ascend he pulled on a signal line and was recovered to the surface (see Fig. 1 for a contemporary depiction of Lethbridge diving in his barrel).

The diver would have endured much discomfort. The air within the barrel would have become progressively more stale and then unbreathable. The leather seals would have acted as vicious tourniquets on his arms, stopping the blood supply at only a couple of meters depth. They probably leaked continuously, and threatened to leak catastrophically at any time. Yet Lethbridge claimed that his diving barrels had enabled him to work in depths of 10 or even 12 fathoms, that he had often stayed underwater for half an hour or more, and that he could move about over a 12ft-square area on the seabed (Lethbridge's "fathom" should probably be interpreted as 5ft; see under 'Fathom' in Simpson and Weiner, 1989; Earle, 2007: 236, 352 n. 22). A century later his grandson Thomas, who as a child knew him, related that even when his air was nearly expended, and the water in the barrel was up to his chin, he remained unflustered (Add. Mss 9428, ff. 353-4, Thomas Lethbridge to D. Lysons, 11 April 1821).

After a few seasons diving on wrecks in the Westcountry, in summer 1719 Lethbridge salvaged five guns belonging to the Fifth Rate *Looe* man-of-war lost in 1697 near Baltimore harbour, Ireland, and guns lost with a Dutch ship near Plymouth. In March 1720 he went to London in search of capital and influence to promote his invention. With gentry and nobility watching on, and with the South Sea Bubble underway, over three days he successfully demonstrated his diving engine in the Thames, the traditional proving ground for would-be treasure divers seeking to attract backers. London newsheets reported that he stayed underwater for half an hour, took meat and drink with him and had his dinner underwater, and had a

fire in his engine upon which he baked a cake. The reader today is left to ponder whether the newsheets were satirising some of the bizarre claims for inventions made in those bubble days. Nevertheless, despite his proven successes, and despite the crazed investment psyche of the time, Lethbridge could not convince anyone to provide the vessel and finance that he needed to salvage a proper treasure wreck.

Lethbridge now met Jacob Rowe, who was also said to hail from Devon. Rowe was something of an entrepreneur and a determined self-promoter. He had the ear of many influential and powerful men, just what Lethbridge lacked at that time. An uneasy partnership was born. A few months after meeting Lethbridge, Rowe patented his own diving barrel, and in November 1720 advertised the fact widely in London newsheets. There is little doubt that he copied Lethbridge's idea, although, in latter versions at least, his design was constructed using copper rather than oak. In the right conditions these barrels were practical diving engines. With Lethbridge in the subordinate role, the two men worked together for the next two years, but then fell out and went their separate ways (Lethbridge, 1749; Cowan, 1985: 24-52; Fardell, 2010: passim; Rowe, 2000: 5-14; Earle, 2007: 169-218, for Lethbridge and Rowe biographies).

After parting company with Rowe, Lethbridge carried on diving for at least another quarter of a century, and probably longer. He was by far the more successful diver. Long before Rowe disappeared from the scene, Lethbridge had made his fortune through treasure salvage, leaving him with no financial necessity to continue diving. Yet for Lethbridge diving meant far more than a merely means of earning a living. It was his passion. In July 1743 the outward-bound Dutch East Indiaman the *Hollandia* struck a rock off the Isles of Scilly and sank in a hundred feet of water. The following May Lethbridge was employed by the Dutch East India Company to search for the wreck – although, having no precise knowledge of where the wreck lay, he was defeated in his quest by the strong tidal streams in the area and (compared with tropical waters at least) the poor visibility (Heath, 1750: 150-4; Fardell, 2010: 46-7).

With his failure to find the *Hollandia*, one feels that Lethbridge was a disappointed man and that he regretted the lost chance to salvage another wreck. Five months later came news of the *Victory*'s disappearance. Lethbridge's imagination was caught again. The *Hollandia* was a quintessential treasure wreck: an East Indiaman loaded with silver lost in a beautiful island setting. But the *Victory* was an even better wreck: a First Rate Royal Navy vessel, perhaps the finest ship in the world, lost with a famous admiral and all hands in a terrific storm, when nearly in a home port after having driven a French fleet from the seas.

2. The Loss of the *Victory*

In early autumn 1744 Admiral Sir John Balchen, his flag in the 100-gun *Victory*, was returning to Portsmouth after a successful though unspectacular two-month cruise in the Channel approaches and off the Iberian Peninsula. Balchen was in his mid seventies, and – without any premonition of shipwreck – he must have known this was his last command. His fleet comprised 15 Royal Navy vessels accompanied by a handful of Dutch men-of-war.[1] With favorable winds from the western quarter, the homebound Atlantic voyage had so far been a good one (see Fig. 2 for approximate track).[2] After Cape St Vincent, at the southwest corner of Portugal, had disappeared over the eastern horizon early on 25 September, the fleet had sailed northwest for two days, reaching a longitude of about 12° 30' west of Greenwich, and then turned north for two days. On 29 September, having reaching a latitude about 43° north – almost level with the northern coast of Spain and the entrance to the Bay of Biscay – the fleet had turned northeast to run towards the English Channel.

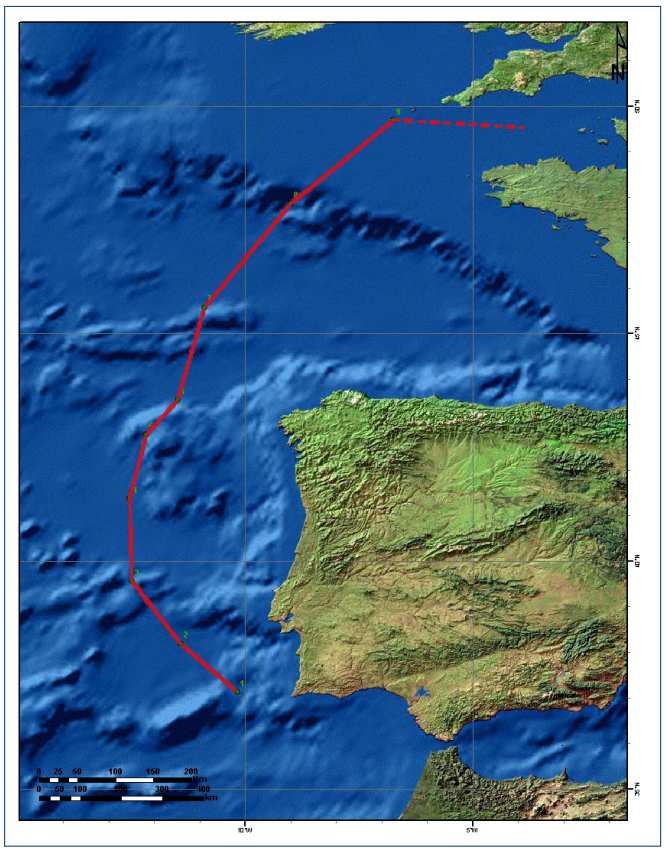

Fig. 2. Map of the Second Rate Duke*'s approximate track from midday 25 September to 3am on 4 October 1744, as she accompanied the* Victory *during Admiral Balchen's final voyage. Photo: © Trevor Newman & Odyssey Marine Exploration.*[3]

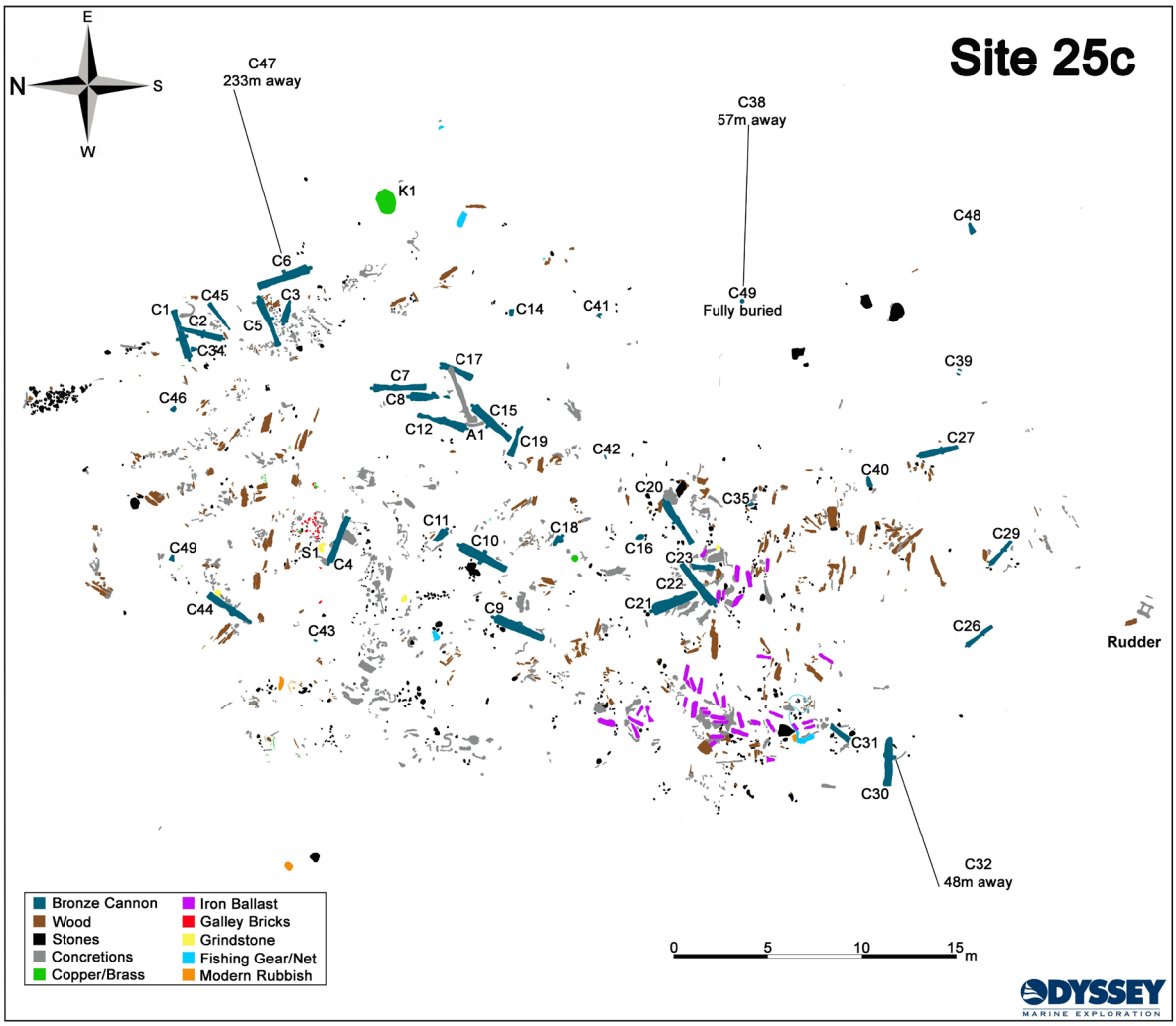

Fig. 3. Site plan of the wreck of the Victory, *the bows to the northeast and the stern to the southwest. Photo: © Odyssey Marine Exploration.*

For 72 hours from noon on 30 September its speed averaged 6 knots or more, leaving several Royal Navy vessels and the Dutch ships to fall to the south and behind the main body of the fleet.[4] During the afternoon of Wednesday 3 October, lookouts sighted the Isles of Scilly to the northeast. By three o'clock the main fleet, including the *Victory*, was some 4 leagues south of St Agnes Lighthouse. But the weather was deteriorating, with a heavy swell from the west and a storm in the offing. The fleet's navigators would have been relieved at having made such a convenient landfall in the English Channel in daylight. Confident where they were now, they could plot their courses for the coming 12 hours of darkness.[5] The southwesterly gale promised a swift passage up Channel.

The fleet now steered east-southeast by the compass, giving an over-the-ground course close to due east, and made about 7 knots.[6] On this course, with at least 150 nautical miles of clear sea room ahead, there was no danger of running ashore during the coming night. At about nine o'clock in the evening the fleet passed some 20 miles south of Lizard Point. Around the same time the wind veered to westerly and increased to "a violent gale" – perhaps Force 9 or even Force 10 in modern parlance – driving a heavy sea and squalls of rain before it. The fleet increased speed now, to 8 and later 9 and 10 knots. At ten o'clock the 80-gun *Princess Amelia* gave up the chase and lay a-try with no sails set, to ride out the storm as best she could (see Smyth, 1996 for nautical terms). Half an hour later the 90-gun *St George*, flagship of Vice-Admiral William Martin, broached to: that is, as she yawed in a heavy sea her bow swung to windward, leaving her broadside on to the waves. In any conditions this was a dangerous mishap. In the storm that night it could easily have been catastrophic. Fortunately, the *St George*'s crew got her head into the wind and she was able to lie to. Shortly afterwards the Fourth Rate *Exeter* brought to. The Third Rate *Monmouth* found

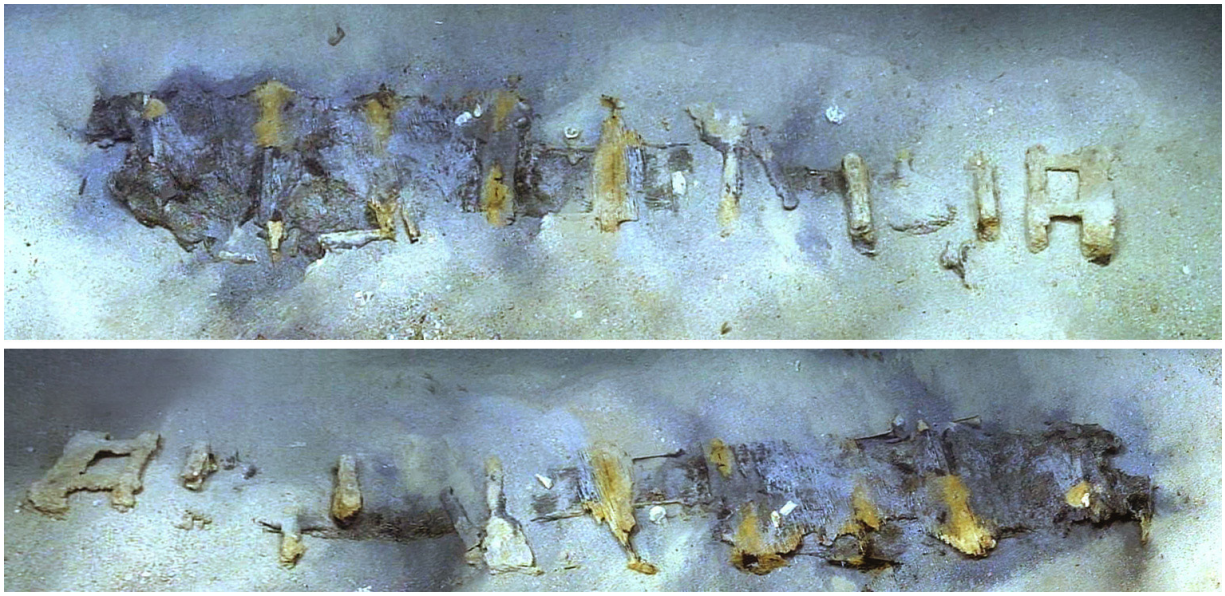

Fig. 4. Despite Admiralty reports of the Victory*'s rudder washing onto Jersey in October 1744, her entire head and main piece are preserved to the southwest on the wreck site. Photo: © Odyssey Marine Exploration.*

herself running ahead of the *Victory*: "At eleven the Admiral being about four miles astern we lost sight of him, it being impossible to keep him company in such a violent gale", wrote Lieutenant Trehearne in his journal. And so the remaining fleet began to disperse as, rather than maintaining position relative to the Admiral, each ship was forced to contend with the weather.

The other leading vessels, following the *Victory*, pressed on. At one o'clock in the morning of 4 October they were some 45 miles south of Rame Head. The storm was getting even worse, pushing huge waves stern-on to the beleaguered vessels as they tried to hold station with Balchen's flagship. As the hours wore on, most vessels suffered torn sails and broken masts and yards, and many – like the *Princess Amelia* and *St George* a few hours previously – were forced to lie to. But even the vessels that brought to suffered. Later in the night the *Exeter* shipped several heavy seas as she rolled through the huge waves. With her pumps overwhelmed, her crew were forced to cut away her mizzen and main-top masts, with all the sails and rigging, and to jettison 12 guns and carriages so she could scud once more and get the waves behind her.

A little after midnight the 90-gun *Duke*, flagship of Vice-Admiral James Steuart, lost her main-topsail. Two hours later, in mid-Channel and perhaps 5 to 15 miles short of being abreast Start Point, she lost her fore-topsail and broached to. The wind had now veered to west-northwest, and strengthened yet again. Like the *St George* four hours previously, the *Duke* was fortunate to get her head into the wind and lie-to. Soon afterwards her lookouts lost the *Victory*'s lights in the distance. This was the last reported reliable sighting of Balchen's flagship.[7]

Although the two lesser flags had both already broached to and were lucky not to have capsized, and the three-decked *Princess Amelia* had long since laid-a-try, as had other vessels in the fleet, the *Victory* was pressing on up Channel at between 8 and 10 knots, close to her maximum speed. Why?

The *Victory*'s design had often been criticised for being too high-sided in proportion to her breadth, resulting in poor sailing qualities, especially to windward. Her high stern was presumably an advantage in a following sea, as it provided protection against being pooped: that is taking a wave over the stern. But her height left her especially vulnerable to broadside seas. Presumably her officers thought it would be too dangerous in that storm to turn the *Victory* to windward the nine points or so of the compass necessary to lie a-try. Yet they had ample opportunity to do so earlier during the evening of 3 October, when the storm was less severe. Notably, the *Princess Amelia* (which Balchen personally knew had a reputation for vulnerability to oversetting) had taken this precaution, shortly after the wind had veered westerly and some six hours before the *Victory* was lost (Baugh, 1977: 212-16, Balchen to Admiralty, 17 January, 2 February 1735; Navy Board to Admiralty, 24 January 1735, for Balchen and the *Princess Amelia*). Nevertheless, having sighted Scilly and knowing they had the Channel open before them, it appears that the

Victory's officers reckoned their safest course was simply to scud before the wind, until the storm blew itself out. In the conditions, and with the *Victory*'s especial vulnerability to broadside seas, this seems a reasonable choice; or at least the best of two bad choices. After all, running down wind in a storm of that strength brought its own dangers; and despite having brought to during the storm, with the huge seas abeam the *Duke* and the *Exeter* were later forced to turn again and run down-wind.

The *Victory* must have sunk not long after the *Duke* last saw her lights. How was she lost? The *Victory* wreck site plans show that the wreck lies orientated with her bow to the north-northeast and stern to the south-south-west: that is, with her port side broadside onto the wind that night (Fig. 3). Given that before she foundered she was steering a little south of east with the gale on her starboard quarter, her stern must have turned through the wind before or during the wrecking process. This is consistent with her having brought by the lee – the helmsman having lost steerage as the ship was overtaken by the huge waves from astern, allowing her stern to turn through the wind thus bringing the wind onto her opposite quarter. To bring by the lee in a storm was to court catastrophe, more dangerous even than broaching to. In his *Seamanship in the Age of Sail*, John Harland (1984: 213-14) has described the likely consequences:

> In extremely foul weather, the seaman had only two choices: to scud, that is, run before the wind; or to lie to, staying fairly close to the wind, but making headway only very slowly. The greatest danger was to be apprehended if he got broadside on to the wind and sea, particularly if aback, when he was liable to be overwhelmed by the waves ... If the wind were on the quarter, and through careless steering the stern swung across the wind so that it came on the other side ... the ship was said to have been 'brought by the lee' ... seas smashed against the broadside and swept the decks. If the backed sail caused sternway, the rudder fastenings could be damaged, the tiller broken, and the rudder lost. The vessel could be knocked down 'on her beam ends', and if not recovered, be in immediate danger of foundering.

As a direct illustration of being brought (or taken) by the lee, in his *Biographia Navalis* (1798) John Charnock (1798: 135) gave an account of events leading to the loss in 1782 of the 74-gun *Ramillies*, flagship of Vice-Admiral Thomas Graves, in an Atlantic storm: "the *Ramillies* was taken by the lee, her main-sail thrown aback, her main mast came by the board, and the mizzen-mast half way up; the fore-top-mast fell over the starboard bow, the fore-yard broke in the slings, the tiller snapped in two, and the rudder was nearly torn off. Thus was this capital ship, from being in perfect order, reduced, within a few minutes, to a mere wreck..."

These words may well be apposite to the *Victory*'s final moments, as she was swamped by the storm and huge seas running from the west, first forcing her fully broadside on to the waves, and then – with her crew having completely lost control of their ship – knocking her over. On current evidence, the hypothesis that the *Victory* brought by the lee and quickly capsized appears to be the most likely explanation for her loss. Odyssey's surveys of the wreck site suggests that the *Victory*'s port side may have collapsed onto her starboard flank. This is consistent with her having capsized with the seas on her port side. Despite a report that a large part of the *Victory*'s rudder was washed ashore on Jersey (ADM 1/909, Steuart to Admiralty, 18 October 1744), the surveys recorded her rudder intact on the seabed and orientated close to its expected position on the wreck (Figs. 3-4), suggesting that it did not break off during the wrecking process (Cunningham Dobson and Kingsley, 2010: 238, 241, 247; Seiffert *et al.*, 2013: 13-17. 21, 26).

It is difficult to resist pushing further into speculation. If the *Duke* was indeed about 5 to 15 miles short of being abreast Start Point when her lookouts lost the *Victory*'s lights, given where her wreck lies today the *Victory* must have sunk by about four o'clock in the morning. In the storm conditions that night only the best of helmsmen would have been allowed at the wheel; but if an accident happened long experience had shown it was most likely soon after a change of helmsman, before the new man could get a feel for the wheel (Hutchinson, 1969: 153, 172; Harland, 1984: 214-15; Boudriot, 1988: 258). Four o'clock in the morning – about the time the *Victory* was lost – was the standard naval time when the morning-watch relieved the middle-watch.

3. The Missing Flagship

The remaining vessels of Balchen's fleet and one of the Dutch ships anchored off Portsmouth during Friday 5 October. Another Dutch ship arrived on the afternoon of the 6th, another on the morning of the 7th and the last one on the afternoon of the 8th. All the fleet was by now accounted for except the *Victory*, last seen at the height of the storm. At first it was hoped she had been driven to east of Portsmouth, and might be lying near Dungeness or in the Downs, but as the hours and days went by with no news concerns for her safety grew (ADM 1/909, Steuart to Admiralty, 6, 7, 8, 9 October 1744, ADM 51/282, *Duke* log; ADM 51/361, *Fly* log; ADM 52/537, *Augusta* master's log). Over the following days the London newsheets reported the fleet's homecoming, without the *Victory*. Rumours that she had arrived in Plymouth or Portsmouth in

a shattered condition quickly proved unfounded (BCol. *Daily Advertiser*, 10, 15 October 1744; *Daily Post,* 10 October 1744; *London Evening Post,* 6-9 October 1744; *London Gazette,* 6-9 October 1744; *Penny London Post*, 8-10, 10-12 October 1744).

On 11 October Vice-Admiral Steuart ordered the 50-gun *Falkland,* Captain Grenville, and the *Fly* sloop, Captain Lloyd, to search for the *Victory*, first in the Channel Islands and then along the English coast east of Portsmouth. The two vessels sailed promptly, and by the afternoon of the 13 October were on the northern side of the tide race between Alderney and Guernsey. Their lookouts saw no signs of wreck here or near the Caskets. They spoke with several ships sailing down Channel; none had heard anything of the *Victory* being to the east. On arrival at Guernsey, Grenville met bad news. Wreckage conclusively from the *Victory*, most conspicuously masts and yards, had been washed ashore on the coasts of Jersey, Guernsey and Alderney. A Guernsey peasant sold Grenville a carved figure that clearly came from the *Victory*'s stern decoration. There were no reports of survivors.

The Guernsey islanders supposed the *Victory* had run ashore on the Hanois reef, off the western end of Guernsey, or on the isolated Roches-Duvres, 20 miles further to the southwest. Perhaps glad of the access to official ears, the islanders were vociferous in their complaints that the lighthouse on the Caskets was not being properly lit. From this fragmentary evidence Grenville concluded that the *Victory* had been lost near the Channel Islands with all hands, and that poor maintenance of the Caskets light may have contributed to her loss. Contrary winds prevented Grenville from searching the Hanois for wreckage, and he quickly returned to Portsmouth, from where on 18 October he wrote to the Admiralty with the melancholy news (ADM 1/909, Steuart to Admiralty, 12, 13, 18 October 1744; ADM 51/340, *Falkland* log; ADM 51/361, *Fly* log; ADM 1/1830, Grenville to Admiralty, 18 October 1744).

Meanwhile, on 16 October, London newsheets reported that the commander of a sloop arrived at Gosport told how on the 4th he had seen the *Victory* near Alderney without her foremast. Few people gave the story credence, but a general perception linking the *Victory* and Alderney was beginning to form. On the 18th the newsheets reported that wreckage apparently from the *Victory* had been washed ashore on Alderney and Guernsey. Two days later the gist of Captain Grenville's letter to the Admiralty began to appear in print. Concurrently came news of bodies being thrown ashore in the Channel Islands, and from somewhere emerged rumours of guns of distress being heard off the Caskets around the time the *Victory* disappeared (BCol. *Daily Gazetteer,* 18, 22 October 1744; *Daily Post*, 18 October 1744; *General Advertiser*, 16, 18, 22 October 1744; *London Evening Post,* 16-18, 18-20 October 1744; *Penny London Post,* 19-22 October 1744).

It was clear that Balchen's flagship had been lost with all hands. What was not clear was where or how she had been lost. And in the void of vague evidence and conjecture, by a process akin to what a latter age would call confirmation bias, it came to be believed that the *Victory* had been wrecked on the Caskets during the night of 4-5 October: that is nearly a full day after and more than 40 miles from where she foundered. Counter evidence was disregarded. Why was there no concentration of wreckage at some discrete spot, near the supposed wreck site, in the Channel Islands? Instead the wreckage – mainly peripheral material like masts and oars, rather than material integral to the hull itself, like beams, capstans and gun carriages – was dissipated, suggesting that it had drifted from far away. And why was there no concentration of bodies coming ashore? Perhaps most tellingly of all, if the *Victory* had been lost on the Caskets, why was there no reliable sighting of her during daylight hours of 4 October? The visibility had been good that day and the remainder of Balchen's fleet was still at sea, spread over the mid-western English Channel in the area the *Victory* would have been located had she been wrecked on the Caskets that night.

In public at least there appears to have been a reluctance to countenance the possibility that the *Victory* had foundered during the storm of the early hours of 4 October. In private, many of the more astute and independently minded Royal Navy officers surely had their suspicions. Both the *Exeter* and the *Duke* had been lucky to survive the storm. The *Victory* was known to be vulnerable to broadside seas. And there was general disquiet in the naval profession about the seaworthiness of larger British men-of-war, with much resentment directed at the Navy Board, which was held responsible. Of this era of warship design it was even said that captains were reluctant to be appointed to First Rates because their lack of stability meant they could deploy their lower-deck guns only in calm seas, and in rough seas their instability actually rendered them dangerous. In June 1744 – in a characteristically acerbic comment – Vice-Admiral Edward Vernon suggested that through inefficient ship design the Surveyor of the Navy, Sir Jacob Acworth, was responsible for as much damage to the Royal Navy as might be expected from two lost battles to the French (Baugh, 1977: 195-9, 223-5, Vernon to Admiralty, 18 June 1744; Steel, 1922: 175-6). Less than four months later the *Victory* foundered.

The disaster gave Vernon the opportunity to launch further assaults on the Navy Board's competence. In a semi-anonymously authored pamphlet, which everyone

knew he had written, Vernon openly questioned whether the *Victory*'s loss may have been caused by faults in her construction (Kingsley, 2015b: 8-10). Yet it may be misleading to read too much into Vernon's conjecture. The *Victory*'s loss offered a tactical opening for a disgruntled admiral like Vernon to vent his frustrations with the Navy Board. As a highly experienced seaman, he must have suspected that she may simply have been caught broadside onto the storm and capsized. But such an explanation would not have served so well his aim of attacking the Navy Board and especially Acworth. For the Admiralty and Navy boards, in contrast, perhaps the most convenient explanation for the *Victory*'s loss was simply that she had struck the Caskets.

4. The Lethbridge Petitions

During the evening of Wednesday 26 September 1744, a terrific storm hit the Westcountry. A new moon spring tide combined with the low atmospheric pressure and southerly gale to produce the highest tide in living memory at Plymouth. Along the southern coasts of Dorset, Devon and Cornwall, houses and goods were washed away, cellars flooded, harbours damaged, and vessels wrecked. The Cobb at Lyme Regis was breached in several places and huge quantities of stone split and washed away. In Scilly "the sea rolled in vast mountains" and breached the bank upon which stood the archipelago's main town, Hugh Town, washing away houses and goods. Fortunately, most of the inhabitants had been watching the spectacular seas from vantageous viewpoints, and thus were out of the path of the deluge when it swept through their homes. When the storm cleared at Plymouth the inhabitants were amazed to see that the Eddystone Lighthouse was still standing (*Sherborne Mercury,* 9 October 1744; Heath, 1750 for Scilly).

Like any active salvage diver witnessing such a storm, from his home near Newton Abbot John Lethbridge must have thought of shipwreck. Perhaps over the following days he made enquiries about whether there were any wrecks worth deploying his barrel for. We do know that another tremendous storm hit the Westcountry a week later, and that on hearing of the *Victory*'s loss Lethbridge made enquiries at local seaports for news of her whereabouts, and then directly approached the Admiralty petitioning to salvage her wreck.

The weekly *Sherborne Mercury* was probably John Lethbridge's most important published source for news of the *Victory*. Drawing its national news from the London newsheets, which it generally repeated five days to a week later, the *Sherborne Mercury* was published in Dorset every Tuesday, and circulated widely in Devon and Cornwall. The first hint that Balchen's flagship may have been lost came in its edition of 16 October, which reproduced an extract purportedly from a letter written by Vice-Admiral Steuart on board the *Duke* off Portsmouth on the 8th:[8]

> On the 3rd instant we met with a hard gale of wind which tore all our sails and rigging, so that we were obliged to submit to the mercy of the waves. On the 4th we had ten feet water in our hold, which made our condition very bad, and the dread of death appeared in every face, for we momentarily expected to be swallowed up. The *Exeter*, Capt. Broderick, was in more danger than we were, she having lost her main and mizzen masts, and her upper deck guns were some minutes under water, insomuch that they were obliged to throw twelve of them over-board to save her from sinking. Admiral Balchen was departed from us in the storm, and is not yet arrived.

The same edition repeated a report from London of the 11th: "This morning we had no account of the *Victory*, Sir John Balchen, so that we are in great pain for him."

The following edition of 23 October reproduced the text of a letter from Guernsey, variations on which had already appeared in London newsheets:

> By letters from Guernsey, dated the 14th instant, we have advice, that part of a wreck, several long oars, etc., all marked *Victory*, with white lead, are thrown ashore at Alderney; as also a portmanteau of cloaths belonging to Capt. Cotterel, of Col. Wolfe's Regiment of marines. By which and many other circumstances it appears that his Majesty's ship the *Victory*, of 110 brass guns, commanded by Sir John Balchen and Captain Faulkener was lost in the night, between the 4th and 5th instant, near Alderney. And as there was no account of the crew (which we hear consisted of about 1100 sailors, and two companies of marines) at Guernsey the 14th instant, 'tis feared they all perished...

Three weeks later the *Sherborne Mercury* of 13 November published a summary of letters from France: fishermen from Cherbourg had reported seeing much wreckage off that coast and near Alderney; on 9 October a French fishing boat called at Alderney and learnt that during the storm of a few nights previously the islanders heard many signals of distress fired out to the west and the following day saw wreckage off their coast, from which they concluded a ship had been wrecked on the Caskets.

As the news of the *Victory*'s loss and speculation about her fate were unfolding in the newsheets, Lethbridge made enquiries in the local seaports. He heard from masters of vessels then at Torbay and Plymouth that during the storm, around the time of the *Victory*'s disappearance, they had heard guns of distress fired and seen the lights of a large vessel go out in the region of the

Petition of John Lethbridge for the Salvage of the *Victory* (NMM/ADM/A/2339, Navy Board In-letters from the Admiralty Board)
Undated (Mid-December 1744?)

To the Right Honourable the Lords of the Admiralty

The Humble Petition of John Lethbridge of Newton Abbot in the County of Devon Diver

Shewith [shows]

That your Petitioner in the year 1715 invented a diving engine for recovering wrecks sunk in the sea wherewith your Petitioner in the year 1719 took up the guns belonging to the *Looe* man-of-war lost near Baltimore in Ireland and the same were afterwards safely brought to Plymouth in the *Weymouth* man-of-war commanded by the late Sir Robert Johnson.

That in the year 1725 your Petitioner was recommended by the then Right Honourable the Lords of the Admiralty to the service of the Dutch East India Company in the capacity of a diver and your Petitioner likewise took up for them in three voyages (two of which were at the Island of Porto Santo near Madeira and the third at the Cape of Good Hope) in silver, guns and anchors to the value of thirty thousand pounds, the greatest part whereof lay in ten fathom water.[9]

That your Petitioner in the year 1735 likewise took up about eight thousand pounds from an English East Indiaman lost on the Isle of May.[10]

That your Petitioner did also in the month of May last dive on the wreck of a Dutch East Indiamen near the Isles of Scilly [i.e. the *Hollandia*].

That your Petitioner is informed and verily believes his Majesty's ship the *Victory* was lately lost on the coast of Alderney wherein was [?] contained several brass guns and other things of considerable value.

Your Petitioner therefore humbly proposes to your Lordships to search for the wreck of that ship in his engine and is almost assured of finding the same, he being capable of searching two miles square in a calm day and scarce doubts (in case such wreck can be found) not only of being able to sling the guns and anchors as fast as a vessel can take them on board, but also to take up what money or other valuable things may be contained therein. And for that purpose your Petitioner will (if your Lordships think proper) lay before you an account of what vessels and other materials will be necessary for an affair of that nature which he hopes you take into consideration and do therein as to your Lordships shall see [?] meet.

And your Petitioner shall ever pray.
John Lethbridge

Caskets. From another shipmaster Lethbridge gleaned that the rocks around the Caskets were shallow enough to catch a man-of-war, and that great quantities of wreckage had been washed ashore on the Normandy coast. Lethbridge thereby concluded that the *Victory* had been lost on the Caskets, and that most likely he could find and salvage the wreck. Indeed, he seems to have relished the professional and personal challenge placed before him.

Having gathered what information he could, Lethbridge wrote to the Admiralty, probably in mid-December 1744 (the document has no date), asking them to employ him to search for and salvage the *Victory*. The petition covered one page, comprised some 500 words and bordered on laconic (NMM/ADM/A/2339, first John Lethbridge petition, mid-December 1744?). Lethbridge explained that he invented his diving engine in 1715, and briefly described his major diving successes: the *Looe* man-of-war in 1719; silver, guns and anchors worth £30,000, most of which lay in 10 fathoms of water, in three voyages for the Dutch East India Company; material worth £8,000 belonging to an English East Indiaman lost in the Cape Verde Islands; and that the previous May he had searched for a Dutch East Indiaman (the *Hollandia*) in Scilly. He went on to explain how he believed the *Victory* was lost on the Caskets and, that if employed to search for her, was "almost assured" of finding the wreck. Having found the wreck he expected to be able to sling her guns and anchors as fast as a supporting vessel could haul them onboard, as well as recovering other valuables. Lethbridge claimed to be able to search "two miles square in a calm day", which may have been just about possible in clear tropical waters and ideal conditions. For example, in a diving day of 12 hours and water visibility 50m (i.e. 100m search width in shallow water), the diving engine would have to be towed at 2.3 knots to search 2 square statute miles and 3.1 knots to search 2 square nautical miles. Such search rates would be comparable to a modern autonomous underwater vehicle operating with a basic sonar suite suitable for finding cannons and anchors. In English Channel waters the visibility would have been much less than 50m, and it appears implausible that Lethbridge could have searched "two miles square" in one day.

An un-named representative (probably the Henry Reynole Spiller who dealt with Lethbridge's follow-up petition) passed Lethbridge's petition to the Admiralty. The Admiralty was intrigued, and on 22 December passed the petition to the Navy Board, within whose remit any such salvage operation would fall (NMM/ADM/A/2339, Thomas Corbett to the Navy Board, 22 December 1744). In the meantime, Lethbridge was asked to clarify the greatest depth of water in which he could use his diving engine, and told that his request would be considered further once there was reliable news of where the *Victory* had been wrecked (NMM/ADM/A/2339, accompanying Admiralty note, no date, read 24 December 1744).

Lethbridge's reply of 15 January 1745, together with a covering letter by his son John to "Henry Reynole Spiller", is of great interest for diving history (ADM 106/1012/167, second John Lethbridge petition, 15 January 1745; ADM 106/1012/168, John Lethbridge Jnr to Henry Reynole Spiller, no date, 15 January 1745?). The letters describe Lethbridge's diving capabilities, insights into his working methods, and glimpses at how he researched his wrecks and promoted his capabilities.

The two documents explain how Lethbridge was capable of working at depths down to 10 fathoms, and perhaps even 11 or 12 fathoms; that he could remain quarter of an hour at 10 fathoms and half an hour in 6 fathoms; that he required only three minutes on the surface (while his air was being replenished) before he was ready to dive again; and that he could work continuously in the barrel for eight hours. The cost of the engine and diver's tools would amount to perhaps £20 for the expedition. (Lethbridge presumed the Royal Navy would supply the support vessel and associated deployment equipment.)

Together with Lethbridge's *Gentleman's Magazine* letter of 1749, which gave details of his barrel design, and his previous *Victory* petition, we thus begin to perceive a fascinating picture of how a barrel diver operated. One thing we still do not know is how the diver coped with what would have been the excruciating barotrauma on his arms. One wishes that Lethbridge had elaborated on this. On our current understanding – following logic that is hard to rebut – the blood supply to the diver's lower arms and hands would have been stopped at only a couple of meters depth, quickly resulting in paralysis. How did Lethbridge overcome this? How was he capable even of tugging the ascend line, let alone doing any salvage work? A modern exercise in experimental archaeology by Robert Sténuit in a replica barrel and test tank has served mainly to highlight the problems rather than to provide answers (Newman, 2014).[11]

In the January 1745 petition and accompanying letter, Lethbridge and his son explained why they believed the *Victory* was lost on the Caskets, and therefore why she would almost certainly lie in a depth of water in which they could undertake salvage. It was, of course, on this point that the Lethbridge proposal broke down. Despite all the rumour and supposition, there was no substantial evidence to suggest that the *Victory* wreck lay on or near the Caskets or any other reef. The information coming from the locality was equivocal. On 12 January Nicolas Dobree, a wealthy Guernsey merchant and local agent for the Admiralty, wrote to the Navy Board describing reports of wreckage seen near Alderney, which led him to suppose the *Victory* was lost near the Caskets, or between the Caskets and Alderney, on the night of 4-5 October. Yet the wreckage Dobree described was mostly loose and scattered flotsam. To explain the lack of substantial wreckage, Dobree speculated that the larger pieces of wreck would have lain deeper in the water and been propelled by the tide rather than wind, and thereby swept away by the violent tide race which ran between Alderney

Petition of John Lethbridge for the Salvage of the *Victory* (ADM 106/1012/167, Navy Board In-letters Misc.)
15 January 1745

15th January 1744 [1745]

To the Honourable Commissioners of his Majesty's Navy. The humble petition of John Lethbridge Diver proposing to recover the wreck of the *Victory*. [Written on overleaf of letter]

To the Honourable the Commissioners of his Majesty's Navy. The humble petition of John Lethbridge of Newton Abbot in the county of Devon, Diver.

Shewith [shows]

That your Petitioner in a petition lately laid before your Honours set forth that in the year 1715 your Petitioner invented a diving engine for recovering wrecks sunk in the sea wherewith your Petitioner took up the guns of the *Looe* man-of-war lost near Baltimore in Ireland and also that your Petitioner had recovered with the same machine a considerable treasure in other parts of the world and likewise that your Petitioner was desirous of searching for his Majesty's ship the *Victory* lately lost in order to recover her guns, etc.

That your Petitioner being apprehensive the former petition is deficient with respect to depth of water, the time remaining of underwater to do business, your Petitioner's reasons for imagining the *Victory* was lost near Alderney, and some other particulars.

Therefore your Petitioner takes the liberty to inform your Honours that your Petitioner is capable of doing business in ten fathom water, can remain a quarter of an hour underwater in ten fathom, half an hour in six fathom, and is capable of coming up to the boat's side for fresh air and descend on the wreck again in three minutes.

That your Petitioner hath worked eight hours in the engine in one day without coming out of it.

That the expense of the engine and other materials in order to work on the wreck at a moderate computation will amount to twenty pounds.

That your Petitioner is informed by the master of a Dutch ship (that put into Torbay) that in the beginning of October last in the night time and very stormy near the Casquets he heard many guns (which he took for guns of distress). That your Petitioner was informed by a gentleman from Plymouth that a master of a ship reported there that in the beginning of October in the night time being stormy near the Casquets he saw the lights of a stout ship go out who believes 'twas the *Victory*'s lights.

That your Petitioner is also informed by another master of a ship that there are several ledges of rocks on the Casquets in shallow water that can take up ships and he believes that the *Victory* was broke to pieces on them rocks (and not foundered), there being great quantities of wreck seen on the coast of Normandy about the time the *Victory* was supposed to be lost.

That your Petitioner from the above accounts hath justification to believe he can find the place where the *Victory* was wrecked and also recover her guns, money or other valuable things that are sunk in the sea. That your Petitioner hopes your Honours will take this matter into consideration, your Petitioner being ready to serve your Honours in this respect. And your Petitioner shall ever pray.

John Lethbridge

15th January 1744
Read 1st Feb. 1744 [1745] [in margin of letter in a different hand]

John Lethbridge Jnr to Henry Reynole Spiller (ADM 106/1012/168, Navy Board In-letters Misc.), no date, 15 January 1745?

To Henry Reynole Spiller, Esq. [presumably lately of Shepperton, Middlesex]

By the account of the *Victory* taken altogether, it appears that she was wrecked to pieces, and if so 'tis morally impossible that she can lie so deep as 14 fathom and of this the Council are good judges, especially when they consider that she did not draw more than 5 fathoms and ½ water, and giving allowance for the ascend and descend of the sea in a storm, she might strike and be wrecked in about 7 or 8 fathom water, and it's highly improbable that the wreck lies deeper than 7 fathom; as to the Casquets being 14 fathom at low water it's a mistake, for there are several ledges of rocks not more than 5 or 6 fathom under water; as to depth of water, my father hath done business in between 11 and 12 fathom which is the utmost he can do, though my father would not have you make any alteration in the last petition. If the *Victory* did not founder (as in all likelihood she did not) it's a 100 to 1 but she lies in less than 10 fathom, and this my father judges from experience, of which he hath had more than any one man in England, a considerable account thereof the Council may have [?] of Mr Gerard Bolwerk merchant, in BilletteryYard, Billettery Lane, London [presumably Billiter Square]. This gentleman is agent for the Dutch East India Company has [?] agreed with my father on their behalf for three voyages, in which he recovered in guns, anchors and silver to the value of thirty thousand pounds, great part of which lay in 11 fathom water. The charge of the engine, etc. is meant no more than the engine and tools etc. immediately concerned in diving, not including the diving boat, cables, anchors, gun ropes, etc., all which it's presumed his Majesty's Docks are always well supplied with, and therefore will not be an additional charge to the expedition. The three minutes mentioned in my last[12] it meant three minutes time, after the peg of the engine is taken out, that my father can descend to the wreck again. Please to deliver the last petition the first opportunity and your answer will vastly oblige my father.

Sir, your most obedient servant,
John Lethbridge Junior

and the Caskets (ADM 106/1007/12, copy in NMM/ADM/B/128, Nicolas Dobree to Navy Board, 12 January 1745). Even without the benefit of post-2008 hindsight and the Odyssey Marine Exploration discovery of the wreck, the flaw in Dobree's reasoning should have been clear: the scattered flotsam he described could have drifted for tens of miles, and was not necessarily indicative of the *Victory* having been lost nearby. One wonders whether Dobree's suggestions that the *Victory* was wrecked near the Caskets may in part have been prompted by his personal enmity towards Thomas Le Cocq, the proprietor of the Caskets Lighthouse (Kingsley 2015a: 8-13).

For its part, the Navy Board was forced to concede that it simply did not know where the *Victory* wreck was. On 11 February 1745 the Navy Board wrote candidly to the Admiralty, "with regard to its having been seen, we have heard nothing more than what was published in the newspapers" (NMM/ADM/B/128, Navy Board to Admiralty, 11 February 1745).

The months went by. In August 1745 Thomas Le Cocq Junior, son of the Caskets Lighthouse proprietor, wrote from Alderney to the Navy Board relating that the local fishermen – who went out to the Caskets and other offshore rocks most days – had seen no signs of the *Victory* wreck (ADM 106/1012/240, 12 August 1745). This was a telling observation: if the *Victory* wreck did lie on the Caskets, in the days and weeks after the loss there would have been substantial wreckage and debris concentrated near where she lay. We may be sure that in the aftermath of the *Victory*'s loss the Channel Islanders would, at the first opportunity, have searched outlying rocks for wreckage. Yet there were never any reliable reports of substantial wreckage, only scattered flotsam. And even if the *Victory* wreck lay between the Caskets and Alderney, this area was almost entirely unsuitable for barrel diving: for the most part it was too deep, and the fierce tidal streams would preclude deploying a barrel except during very short intervals at slack water.

With no wreck to dive on, or even a viable area to search, the Lethbridge proposal to salvage the *Victory* came to nothing. Meanwhile, with no direct evidence to the contrary, the idea that the *Victory* was lost on the Caskets passed into folklore and eventually the history books, and through repetition came to be accepted almost as fact.

As the businessman head of the family, Lethbridge, together with his son, continued to seek out diving ventures using his barrel designs until well into his eighties. Unfortunately, the scant surviving records shed little light on this time of his life. Lethbridge died in Devon in 1759, his enthusiasm for treasure diving undimmed. Jacob Rowe had died some years earlier, probably in the 1740s. Most of their fellow barrel divers had either ended up broke or returned to their former professions. By the time of Lethbridge's death, the era of barrel diving was drawing to a close. The engines, and all the brave men who had ventured forth in these clumsy but, in favorable conditions at least, curiously effective contraptions passed into history.

As a pioneering practical diver and a pioneering practical engineer, Lethbridge made his own distinct contribution to the Age of Enlightenment. He was also the most successful salvage diver of his era. Almost inexplicably then, there is today no entry for him in the *Oxford Dictionary of National Biography,* and he remains almost unheard of outside the world of diving history. The tercentenary of Lethbridge's first trial dives in his Devonshire garden passed some few days ago in 2015. His subsequent achievements and adventures surely deserve to be better known and better understood.

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The following abbreviations are used in this article: ADM: The National Archives, Kew, Records of the Admiralty, Naval Forces, Royal Marines, Coastguard, and related bodies; BCol.: Burney Collection, the British Library; IOR: India Office Records, the British Library; NMM: the National Maritime Museum library, Greenwich.

Notes

1. The Royal Navy fleet comprised: the First Rate *Victory* (100 guns); Second Rates *Duke* and *St George* (90 guns); three-decker Third Rate *Princess Amelia* (80 guns); two-decker Third Rates *Captain, Monmouth, Prince Frederick and Suffolk* (70 guns); Fourth Rates *Augusta, Exeter, Princess Mary* and *Sunderland* (60 guns); fireships *Aetna* and *Scipio* (8 guns) and sloop *Fly* (8 guns).
2. The author's discussion of the fleet's homeward voyage and the events of the night of 3-4 October 1744 are derived from ADM 1/909 (Vice-Admiral Steuart's letters of 6 and 13 October 1744 to the Admiralty) and a selection of log books and journals from the fleet (unless stated otherwise all held in The National Archives, Kew):
   - *Augusta:* ADM 51/74, Captain John Hamilton; ADM 52/537, master Phillip Madge (including 24-hour log table)
   - *Captain:* ADM 51/164, Captain Thomas Griffin
   - *Duke*: ADM 51/282 (also NMM/ADM/L/D/263), Captain Thomas Trevor; ADM 52/576, master John Pridham (including 24-hour log table); ADM/L/D/264, Lieutenants Edward Parker and George Seton; NMM/ADM/L/D/265, Lieutenants John Ecles and Robert Mason
   - *Exeter*: ADM 51/326, Captain Thomas Broderick; NMM/ADM/L/E/173, Lieutenant James Randell
   - *Fly*: ADM 51/361, Captain Jonathan Lloyd
   - *Monmouth:* ADM 51/613 (also NMM/ADM/L/M/242), Captain Henry Harrison, ADM 52/658, master John Duncan (including 24-hour log table); NMM/ADM/L/M/240, Lieutenants George Ireland and John Trehearne; and NMM/ADM/L/M/241, Lieutenants Anthony Atkinson and Robert Roddam
   - *Prince Frederick:* ADM 51/735, Captain Harry Norris; ADM 52/595, master John Pointer (including 24-hour log table)
   - *Princess Amelia*: ADM 51/735, Captain John Barker; ADM 52/333, master Thomas Evans (including 24-hour log table)
   - *Princess Mary:* ADM 51/739, Captain Thomas Smith; ADM 52/650, master John Sprake
   - *Scipio:* ADM 51/869, Captain Archibald Stuart
   - *St George*: ADM 51/854, Captain Roger Martin; ADM 52/606, master Nicholas Trevelen (including 24-hour log table)
   - *Suffolk:* ADM 51/944, Captain Edward Pratten
   - *Sunderland:* ADM 51/944, Captain John Brett
3. In Fig. 2 plotting such courses from ships' journals is necessarily problematic: how to interpret the navigation data? The track assumes a start point derived from the fleet's last sighting of Cape St Vincent early on the morning of 25 September. To plot a ship's voyage I have used the latitude directly, as quoted in an officer's journal, and calculated the daily longitude change using the

quoted course and distance run, to give midday positions on each day during the voyage (see Newman, T.J., *Prepare to Follow Jane Mitchelson: Sir Clowdisley Shovell, the Earl of Peterborough, and the Rise of English Sea Power in the Mediterranean 1704-1707,* unpublished, for a fuller explanation of this method of plotting ship's courses from officers' journals). Having completed these calculations for a selection of journals from Balchen's fleet, I believe an average latitude and longitude derived from the data in the journals of Captain Thomas Trevor and Lieutenant John Ecles of the *Duke* probably comes close to the track actually followed by the main body of the fleet from 25 September to midday on 3 October (solid line in plot). For the following 15 hours (hashed line), until the *Duke* lost the *Victory*'s lights, I have used the hourly navigation data recorded in the log book of John Pridham, the *Duke*'s master, and adjusted for compass variation.

4. By 3 October the *Prince Frederick, Scipio* and *Sunderland* were well to the south of the main fleet, and the *Suffolk* appears to have fallen behind to the west.
5. Sunset in Scilly on 3 October 1744 (14 October by the modern calendar) was at 17:36 and sunrise the following morning at 6:48. During that night the new moon was nine days old, and high water at Devonport was at midnight. The tides were on (very) small neaps.
6. The best source for navigation data that night is the hourly log tables in the masters' log books from the fleet (see Note 2). This was the raw data from which the master and ship's officers calculated their own daily courses and distances run. By common practice, these recorded hourly courses and would not have been adjusted for compass variation (magnetic declination) or for leeway owing to the wind, currents, or tidal streams. (Variation and leeway were allowed for when transferring the hourly courses and speeds to the traverse table, and thus the daily courses and distances run recorded in journals do allow for these effects.) In 1744, variation in the western English Channel was some 16º west of north. Allowing for variation, an east-southeast compass course thus becomes an over-the-ground course of close to east-by-a-half-south (i.e. 96º). With the violent gale on the stern quarter, there would have been a little leeway, perhaps a couple of degrees, and the fleet's over-the-ground speed may have been up to 10% higher than that measured by log line and recorded in the masters' log tables. That the fleet followed a course close to due east is implied by the *Victory*'s wreck lying some 12 to 13 hours sailing almost due east of her position south of Scilly on the afternoon of 3 October. My suppositions for the fleet's positions during the ensuing night have been derived assuming this start position and using the masters' hourly courses (adjusted for compass variation) and recorded speeds to calculate hourly changes in longitude and latitude. For compass variation, see Moore, 1784: 187, 196, 200; Hutchinson, 1968: 154; and the National Geophysical Data Center (US National Oceanic and Atmospheric Administration) website: http://maps.ngdc.noaa.gov/viewers/historical_declination/. Accessed 6 May 2015.
7. Vice-Admiral Steuart wrote that the *Duke*'s last sighting of the *Victory* was more than an hour after any other vessel in the fleet. Where was the *Duke* when her lookouts lost the *Victory*'s lights? After allowing for compass variation, a literal interpretation of her master's hourly navigation figures would put the *Duke* in 49º 30' N, 4º 00' W. Additional allowances for leeway (2º) and increase in speed (10%) would put her in 49º 32' N, 3º 46' W at the same time. Such calculations are, of course, necessarily approximate. In fact, given the position of the *Victory* wreck site, when the *Duke*'s lookouts lost the *Victory*'s lights the *Duke* would almost certainly have been a few miles north of these calculated positions. To make the calculations fit, a further 4º of westerly adjustment to the recorded hourly courses is required. Writing to the Admiralty on 13 October, Vice-Admiral Steuart confuses matters by saying that when she lost the *Victory*'s lights he judged the *Duke* to be in latitude 49º 34' N and 2º 14' east of St Mary's in Scilly – which implies the *Duke* was in 4º 05' W. He goes on to say that St Mary's then bore WbN½N, 30 leagues (which implies 49º 28' N, 4o 06' W); that the Lizard bore NW¼W, 12 leagues (implies 49º 34' N, 4º 31' W); and that Start Point bore NEbN¾E, 15 leagues (implies 49º 39' N, 4º 26' W). Steuart's quoted distances and bearings to the Lizard and the Start are thus apparently the result of careless chart work, resulting in gross longitude errors. Presumably Steuart's calculations were based on the source data recorded in the *Duke* master's log (ADM 1/909, Steuart to Admiralty, 13 October 1744).
8. Though substantially accurate, the *Sherborne Mercury* copy of 16 October bears little resemblance to anything actually written by Steuart to the Admiralty. The *Sherborne Mercury* report appears to have been derived from London newsheets of 10-12 October (e.g. BCol. *Daily Post*, 10 October 1744; *Penny London Post*, 10-12 October 1744).
9. In 1725 and 1726 Lethbridge successfully salvaged the Dutch East Indiaman *Slot ter Hoge*, lost on Porto Santo in 1724, and in 1727-8 worked on several Dutch East Indiaman wrecks in South Africa (Fardell, 2010: 21-38).
10. The *Vansittart* was wrecked on the Isle of May in Cape

Verde in 1719. Jacob Rowe, possibly accompanied by Lethbridge, salvaged the wreck heavily in 1721. Lethbridge himself led an expedition to the wreck in 1735 (Fardell, 2010: 12-18, 41-5).

11. For Robert Sténuit's test dives, see *Chronicle. The Treasure of Porto Santo,* first broadcast on BBC Two on 24 November 1977.
12. This suggests that John Lethbridge Junior wrote or partly drafted the actual petition of January 1745, although clearly it was meant to be read as if it was written by his father (who doubtless did oversee and approve it). The signatures on both the Spiller letter and the petition are similar, and unlike three known examples of John Lethbridge Senior's signature (all dated to 1735), which suggests both were signed by John Lethbridge Junior (see Fardell, 2010: 42; IOR/E/1/40, letters 104-5, 199, for John Lethbridge Senior signatures in 1735; cf. IOR/E/1/44, letter 217, for John Lethbridge Junior signature in 1762).

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