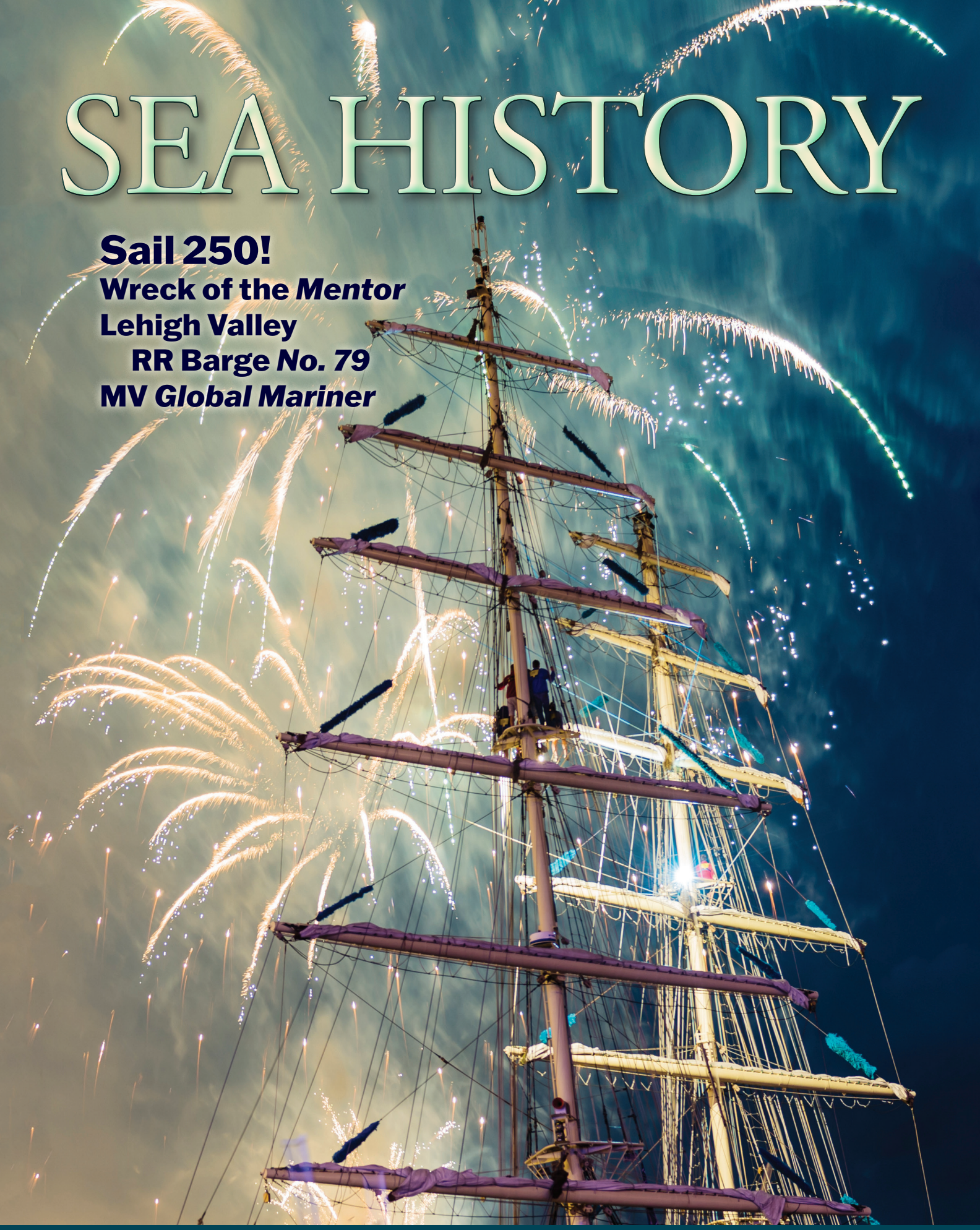
SEA HISTORY



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Greenvile Collins:

The Future Father of Hydrography's Rough Start in the Arctic

by Alan Harper

It was 1676 and England was at peace, but the king's coffers were empty. Just as the Spanish Crown in an earlier age had sent Columbus westward to forge direct links with the great Eastern empires, King Charles II sought to do the same by sending a fleet to the north—the shortest route from England to the riches of the Orient.

The man he placed in charge of the expedition was Captain John Wood, an officer with scientific inclinations who was intrigued by the mysteries of the magnetic pole. Having weighed the experiences of seafarers like Barentsz and Borough and listened to the whalers who frequented the high latitudes, Wood was confident he could find an ice-free northern passage that would take them to Japan in six weeks. It stood to reason: if the sun shone up there for 24 hours a day all summer, the ice was bound to melt.

In assembling his crew, Wood selected 33-year-old Greenvile Collins to serve as master, responsible for sailing and navigating the ship. The future author of *Great Britain's Coasting Pilot* is considered the father of British hydrography, but in 1676 he was a newly qualified navigator. Collins went on to have a long, impactful career and left behind four voyage journals when he died in 1694, the first of which is his Arctic volume. It reveals the man in the making.

The expedition's flagship was the *Speedwell,* a handsome 5th-rate of 26 guns. She was ship-rigged, about 95 feet overall (excluding her bowsprit), and sailed with a crew of 74. In preparation for the voyage, her timbers were reinforced, and her hull was sheathed in protective lead. *Speedwell* was financed directly by King Charles II. Her consort vessel, *Prosperous,* had been purchased for the expedition by the king's brother, James, the Duke of York, and a consortium of wealthy speculators that included parliamentarian Samuel Pepys. Commanded by Captain John Flawes, *Prosperous* was a coastal working craft called a pink (or pincke), likely Dutch-built: double-ended with a square rig, leeboards, and a relatively shallow draft for working among the mud and sandbanks of the southern North Sea.

The two vessels left from the royal dockyard at Deptford, four miles downstream of London Bridge, and made a swift passage up the east coast to Lerwick in Shetland, arriving on 4 June 1676. Wood and Collins had sailed together before on John Narbrough's South Seas expedition in 1669–1671. Narbrough had been an inspirational officer who kept a detailed journal and

PORTRAIT BY PETER LELY (1618–1680), VIA WIKIMEDIA COMMONS

Portrait of Charles II of England
by Peter Lely, circa 1670.

surveyed the Strait of Magellan for a superb chart that was published after their return. He was a formative influence on Greenvile Collins, who, at the first opportunity, took the longboat, an azimuth compass, the lead line, and a crew of rowers, and set out to survey Lerwick's harbor. Alongside his sketch chart, he also wrote copious notes about the local people and the landscape and reckoned the town's latitude to be 60° 15'N with a magnetic variation measured at 6°W.

After six days in Lerwick, they struck out on a northeasterly course into less settled latitudes. At noon on 15 June, the main topsail yard broke, causing chaos on deck as the sail, sheets, blocks, and the 30-foot spar tumbled down on deck. Nevertheless, the expedition pressed on, and by 19 June the two ships were well inside the Arctic Circle. From the masthead, Collins glimpsed the snow-capped North Cape, south by east, 20 miles distant. The seas were stormy and full of humpback whales; the air was thick with birds. Skies remained clear enough to allow occasional noon observations as they continued sailing northeast.

By the 22nd, they were up with the ice. It was a rugged sheet with crags and cliffs so high they could not see its edge in either direction, fringed by broken lumps lurking just below the surface. This was the roof of the world, and it did not make them feel welcome. In London during this period, the Thames regularly froze over, but this was different. The scale of the ice was awe-inspiring. Fascinated, Collins made several sketches. One mountain of ice "was very blew and shining, and as I did judge might be as high as Westminster Abbey."

By Collins's estimation, they were at latitude 75° 41' N. They sailed eastward along the ice, probing its many bays and inlets, rounding its capes and headlands "as though it were land." Wood had hoped for a northerly route but found nothing in that direction but white desolation. Magnetic variation was increasing, and although Collins constantly corrected for it, he was growing less confident in their position. On the 24th, the sun came out, and he found a 28-mile disagreement between his estimated and observed latitudes, which he ascribed to an ocean current setting ESE.

Another factor contributing to his navigational unease was the convergence of the longitude meridians as they got nearer to the North Pole. We do not know which charts he was using, nor on which projection they were

COURTESY ARADER GALLERIES

Greenvile Collins's journal, June 1676, includes the hydrographic survey of Lerwick Harbor, Shetland Islands.

drawn, except that they were certainly Dutch, or based on Dutch originals. He had copied a full-page polar map onto the second page of his journal, opposite a plane chart of the waters off northern Russia, so he was clearly in two minds as to how to think about navigating in these far-flung latitudes.

Their options were limited in any case. Their only hope was to continue eastward, for somewhere ahead lay Novaya Zemlya. No one knew whether it was an island or a peninsula. Wood had read that Steven Borough and other Elizabethans had found what appeared to be a southern channel, but the way beyond was always blocked by ice. In 1597, the Dutch explorer Willem Barentsz had gone north around it and wintered on its far side, but went no further. One way or the other, it was their only hope of an open passage to Japan. Collins wrote that it was "very cold and frosty with ffoggs."

Two days later, with both the rigging and the men at the masthead frozen stiff, the fog lifted briefly, and they saw land ahead, 15 leagues off: the 4,000-foot heights of Novaya Zemlya, standing clear above the horizon at a distance of more than forty miles. "Very high land and covered with snow," Collins wrote. As they continued drifting eastward, they landed a boat on the ice and encountered walruses for the first time. He noted that they were massive creatures, 12 to 14 feet in length, which "ly on the ice and sleep And have one of their company that watches and when hee sees any thing frightens them hee wakes the rest of his company."

The calms continued. Thick fog settled in again. Squinting into nothingness, their eyes began to play tricks on them. With just a breath of wind in their sails, the ships were borne blindly eastward with the current, ghosting in towards the invisible shore until, on the 28th, they found it. Looming high and white out of the fog, the rocky, snow-covered coastline rose like a seamless extension of the Arctic ice, utterly impenetrable. They pinned their hopes on the southern channel, only vaguely indicated on the chart, to lead them through.

The next day, the fog was as dense as ever, and they sounded: 75 fathoms. Land was close. An hour before midnight, with the *Prosperous* shadowing the frigate inshore, rising and falling on the swell, Collins heard a sudden shout warning of ice ahead. Captain Flawes immediately ordered his helm hard over. With her shallow draft, the smartly handled pink spun around, came through stays, and settled on a port tack to make good her escape.


1676 June | A voyage for the Discovery of a Passage unto

and Some Small and very Deep: The Sea Horses or Sea-Morses ly on the Ice and Sleepe, ~~...~~ And have one of their Company that watches and when hee Sees any thing that ffrightens them hee wakes the Rest of his company

There are Some Sea Morses that are very bigg, being in Length about 12 and 14 foot, and their Teeth weighing Ten pound a peece and are worth in money 7 or 8 pound, their Teeth are very white and the best Ivory that is:

☿ 28 ffrom the 27th noone to this day noone little wind with Calmes from the N° to the W^t wee Stood Close in with the Ice and ffound it to Joyne to the Land. att night wee Stood of from the Ice. it being very thick and ffoggy.

♃ 29 In the Morning very great ffoggs and the wind att W and WbS. and the Ice of both Sides of us. being Imbayed within it, wee Stand away to the Southard Close upon a wind to gett out from the Ice, att 10 a Clock wee Sounded and 75 ffatham.

Att Eleven a clock at night the Prosperous Pinck called to us, bearing away upon us. and Crying out that the Ice was on the wether Bough with that wee clapt the Helme hard a wee ther. and beare up Round and brought the Ship upon the other Tackt. But before the Ship came too, upon this Tackt Shee Struck on a Ledg of Rocks w^ch lay under water, with that wee ffired Severall Gunns to give Cap^t ffllawes Notice that wee were in Distresse, But Cap^t ffllawes gott cleare. being att

COURTESY ARADER GALLERIES

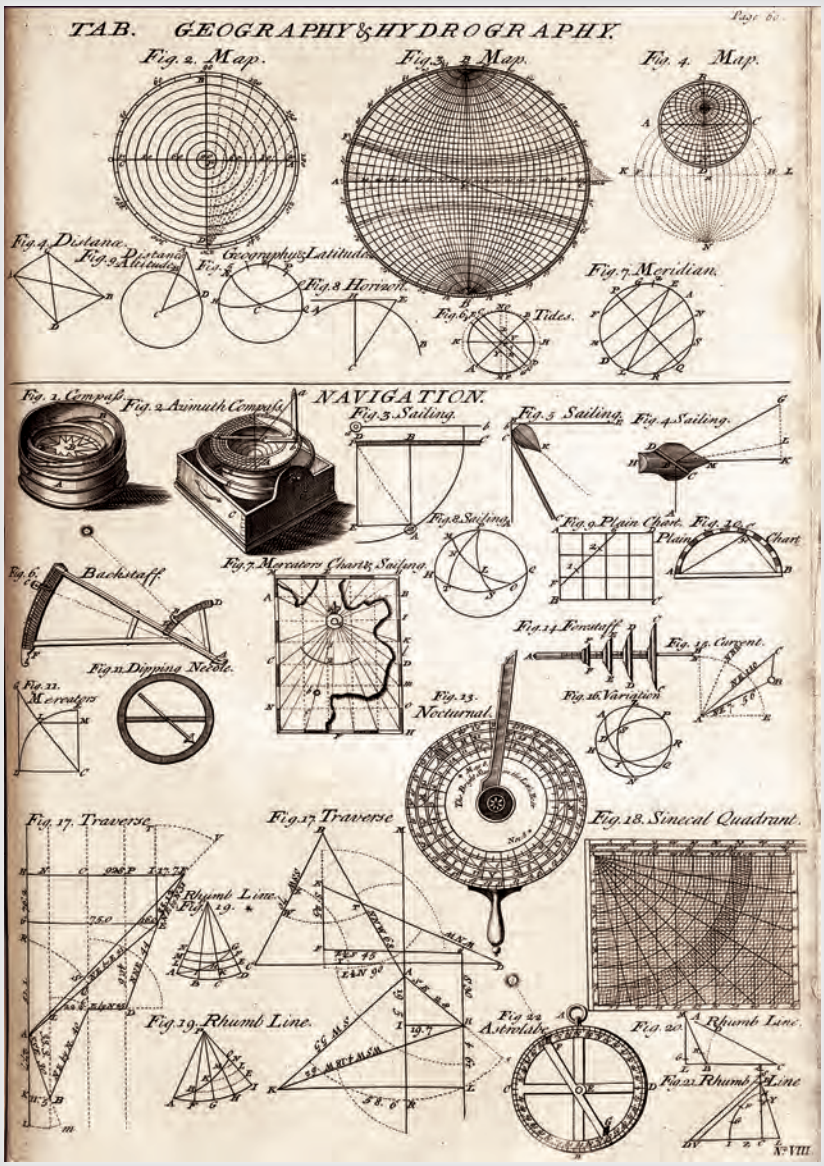
Greenvile Collins's journal, June 1676, describes the fauna of the Arctic.

Greenvile Collins
(1643–1694)

Greenvile Collins was a naval warrant officer who worked successively for Charles II, James II, and William III as a mapmaker, navigation tutor, and yacht captain. Even by the standards of the tumultuous times he lived in, he had an extraordinary career, journeying to Patagonia and Chile in 1669–1671 under Captain—later Admiral—John Narbrough (as well as undertaking the Arctic expedition detailed here) and serving for extended periods in the Mediterranean. One cruise was dedicated to teaching the rudiments of navigation and seamanship to the teenage Duke of Grafton, one of Charles II's numerous illegitimate children.

In 1688 the European world shifted on its axis when the Dutch stadtholder William of Orange invaded England with the conspiratorial cooperation of the Protestant establishment, including the Royal Navy. Collins was there, navigating the Catholic King James II's flagship, HMS *Resolution*. William's succession led, in short order, to the Bill of Rights, which redrafted the contract between the crown and the people. It marked the end of absolute monarchy, at least in England and Wales. To cap an extraordinary naval career, Collins is known today for his great atlas of sea charts, *Great Britain's Coasting Pilot* (1693), and he is regarded as the father of British hydrography.

COURTESY BRITISH LIBRARY



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(above right) *Great Britain's Coasting Pilot,* 1693, by Greenvile Collins.

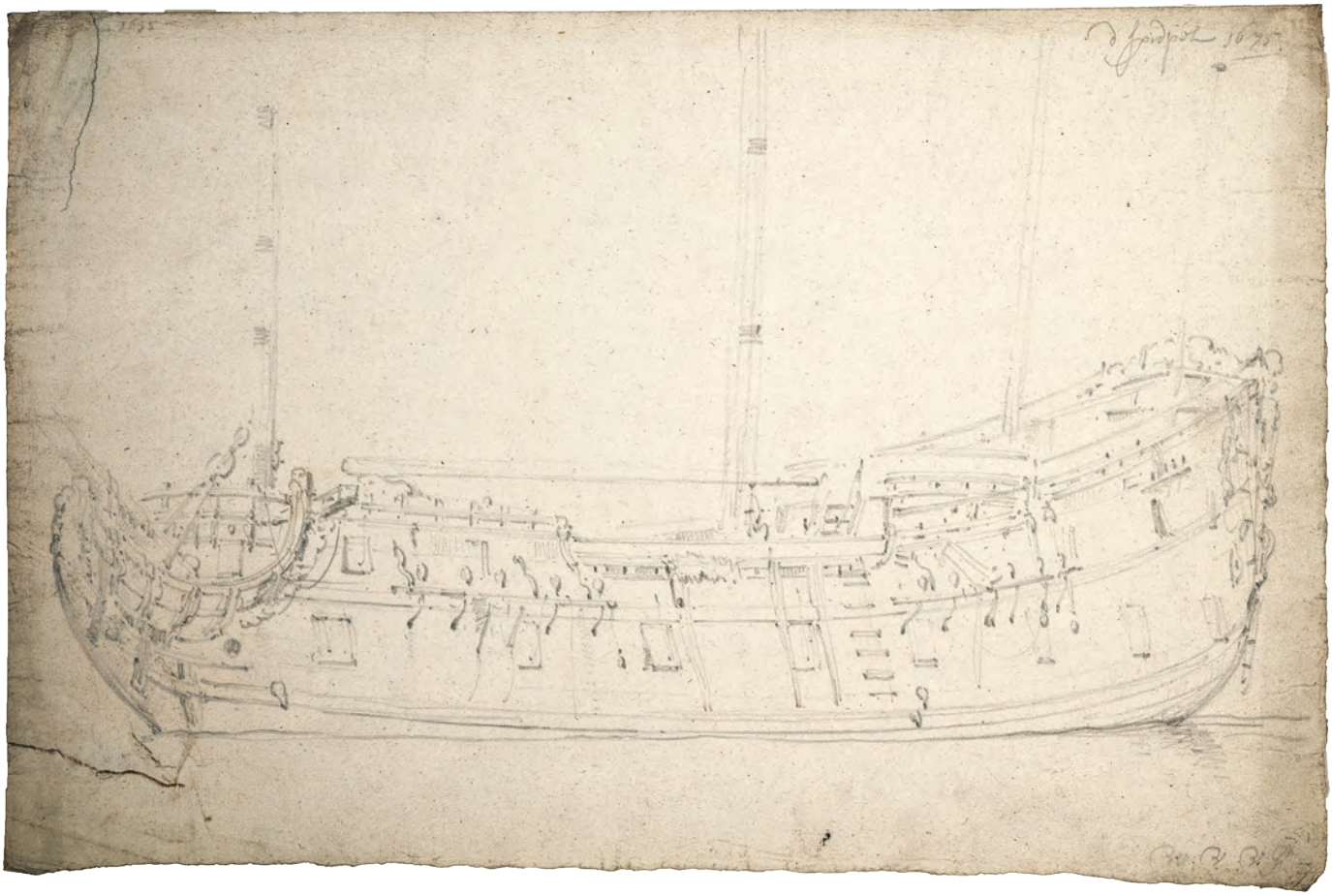
(right) An engraving printed in *Cyclopædia: or, an Universal Dictionary of Arts and Sciences* (1728) illustrates the essential tools and mathematical principles that would have been available to hydrographers in this era.

The *Speedwell*, with her heavier displacement and long keel, was not so nimble nor as fortunate. "Wee clapt the helme hard a wether and boare up round and brought the ship upon the other tackt," wrote Collins. But as her bow crept slowly up into the wind and the flapping sails began to fill on a new tack, the swell lifted the ship and then set her down hard on a submerged reef. The *Speedwell* stopped dead. With her sails set and drawing, the masts creaked loudly under the sudden strain. They let fly the sheets and fired off cannons to alert their consort, last seen disappearing into the fog, but she was gone. The *Speedwell* was not going anywhere. It was a couple of hours before high water, but the tidal range was only a few feet, so there was little chance she would be lifted off. The wind was increasing.

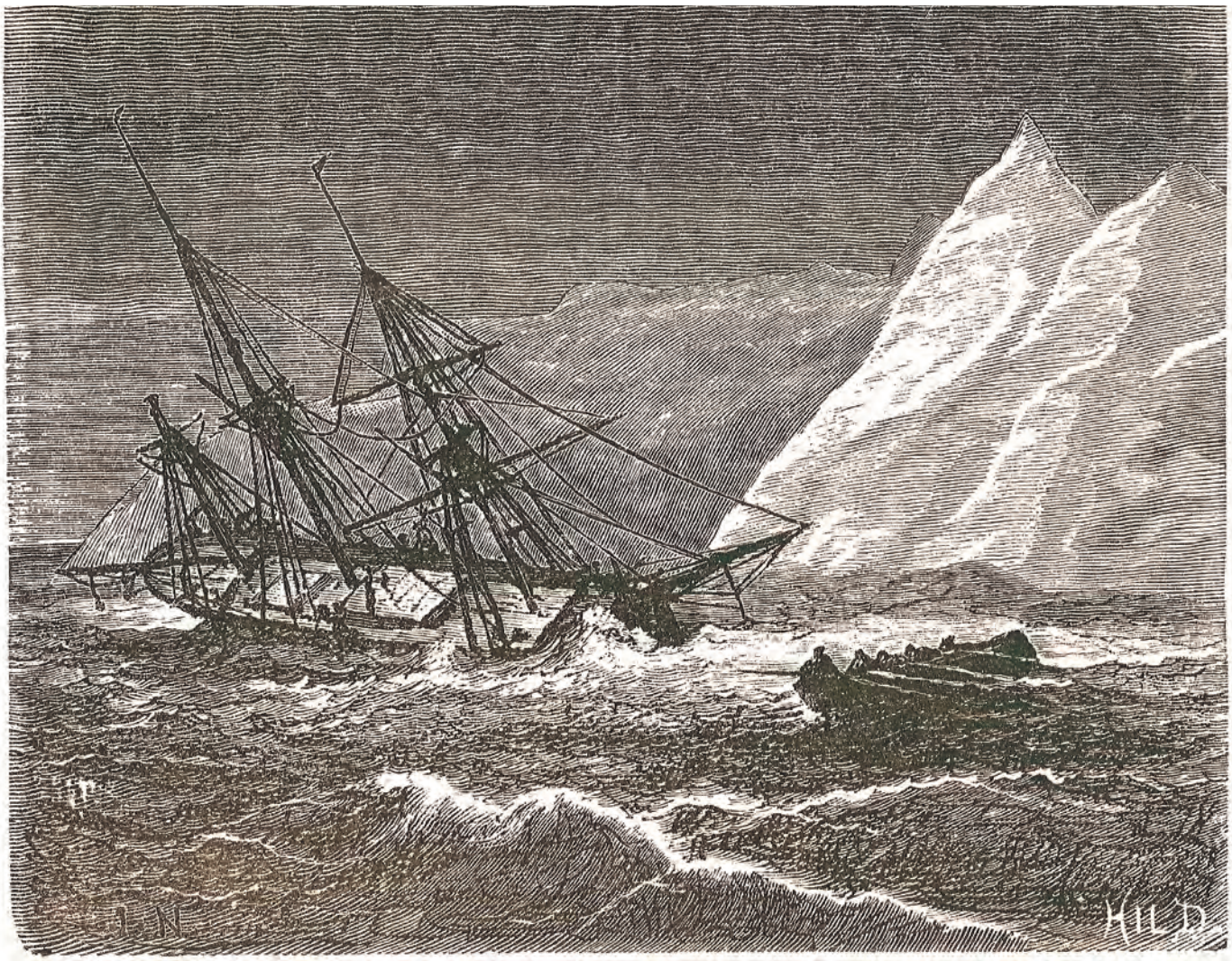
The crew launched the longboat and began taking soundings all around the ship. They found deeper water—five fathoms—just a cable to seaward, and there were hopes that they might be able to kedge her off by rowing their best bower anchor out on a length of hawser and dropping it in deeper water. But the waves were now four feet high and building. With the ship held fast on the rocks, it was too dangerous to lower the huge iron anchor and lash it to the longboat. The seas rose still further, lifting the hull and setting it back down with a regular, sickening crunch. Captain Wood ordered the masts cut away to try to ease her motion, but by then the water in the hold was rising faster than they could pump it out. The ship was breaking apart.

The crew took the pinnace and sailed into the fog in the direction of the surf, hoping to find a safe stretch of beach to land on, but they failed to find one along the rocky foreshore. When the fog began to lift, they tried again, with better luck; they located a landing place near a stream, "very joyfull news." Wood gave the order to abandon ship. There was no panic. Both boats were loaded with anything that could help ensure the men's survival: carpenter's tools, powder, shot, and weapons. After as many men as each could carry had clambered down the side of the stricken ship, they set out for the shore. On the second trip, close in and heavily loaded, the pinnace broached on a breaking wave and capsized, spilling her passengers and sinking with her cargo of bread and provisions. Two men drowned in the surf.

There was no more salvaging to be done. Collins wrote: "The ship was ffull



Contemporary drawing of the *Speedwell* by Willem van de Velde the Younger in 1660..



AN ILLUSTRATION IN LES NAUFRAGES CELEBRES BY FREDERIC ZURCHER, 1873 VIA HATHITRUST.ORG

Engraving by Jules Noël depicting the wreck of the *Speedwell* off the coast of Novaya Zemlya.

of water for that wee could not come to noe more bread nor any thing else, But had much trouble to gett safe a shoare." Incredibly, he managed to save his journal and his navigation notes.

In the morning, he took stock of their situation. They were in a bay, with the dismasted remains of the *Speedwell* stranded on rocks some distance offshore. Their landing place, where a meltwater stream emerged from under the ice and formed a beach, was the only accessible point along the shoreline. Sixty yards on either side, cliffs of ice and snow overhung the surf. The longboat had been hauled safely up the beach, along with their little yawl. There was nobody about, but a short distance to the south, a solitary Dutch flag flapped disconsolately from a pole—the forlorn remnant, perhaps, of an earlier shipwreck. Everyone was soaked through, and the air was freezing. There was no wood in sight to make a fire. A polar bear appeared and started sniffing around, but one of the men fired a musket and it ran away. The *Prosperous* was nowhere in sight.

They prayed—not for salvation, but for the remains of their ship to be driven ashore so they could use her timbers and salvage more of her cargo. Remarkably, that very day the wind swung around, and the broken remnants of the hull began drifting ashore, carried by the waves. Barrels of flour, brandy, and oil washed up, along with great masses of timber. They built huge fires and, thankfully, began to dry out.

Collins set out with Wood and the lieutenant to scout the area. The hills behind their encampment were high and inhospitable, covered in rocks and deep snow, offering no obvious way over or around. The going was slow, with heavy snow and ice and areas of bog that sucked their boots off. When they returned, they learned that a bear had attacked the camp. Although the gunner had fired both his muskets, the bear still came at him, and he was

reduced to beating it with the stock of his gun until friends came to his aid. It took several bullets to kill, and then they ate it. "The beares fflesh was very ffatt and good and eate well to our great refreshment," Collins wrote.

As the days wore on, they began to lose hope of ever seeing the *Prosperous* again. Seventy-two men were far too many for the longboat. The pinnace had sunk, and the little yawl was too small to survive a voyage on the open sea. Captain Wood talked to the carpenter about using timbers from the ship to increase the longboat's freeboard by one strake and deck it over, so he could take a small crew to get help. The *Speedwell's* sailors went along with it, but they were beginning to lose faith in their captain. The men began to murmur. Some suspected a plot; Collins saw that many of the crew had armed themselves and were keeping their weapons close. He kept a wary eye on them and helped Wood devise schemes to keep them busy. "The wind at W with great and continuall ffoggs," he

COURTESY RIJKSMUSEUM

Dutch Ships in a Calm, circa 1660, by Willem van de Velde the Younger.

The *Prosperous* is believed to have been a Dutch pink, a double-ended, flat-bottomed sailing craft designed for maneuvering in coastal waters. A sturdy vessel, pinks were typically used in coastal fishing and, as in the case of the *Prosperous*, by the Royal Navy in the second half of the 17th century as escort vessels for military expeditions. The vessel in the foreground is a typical example of a square-rigged pink from this time period.

wrote on the 5th of July. "All our company now imploying them selves in bakeing cakes for the voyage and the carpenters hard att work about the Long boat."

Unbeknownst to the captain, one of his Dutch charts had washed up on the beach, which showed a town at the southern end of Novaya Zemlya. The men seized on this hope, and 40 of them had resolved to walk there. It was a mad proposal. Collins could see that the town, if it existed, was at least a couple of hundred miles away, over positively hostile terrain. Collins and Wood also knew how optimistic Dutch engravers could be about such things, with their habit of placing onion-domed churches where there might be nothing more than a couple of abandoned crofts. Anyone who survived the ordeal of getting there might find they had exchanged one desolation for another. Wood persuaded them to wait. The

The opening spread of Greenvile Collins's Arctic journal (shown 90°) with his hand-drawn polar map and a chart of the ship's tracks along the ice sheet.

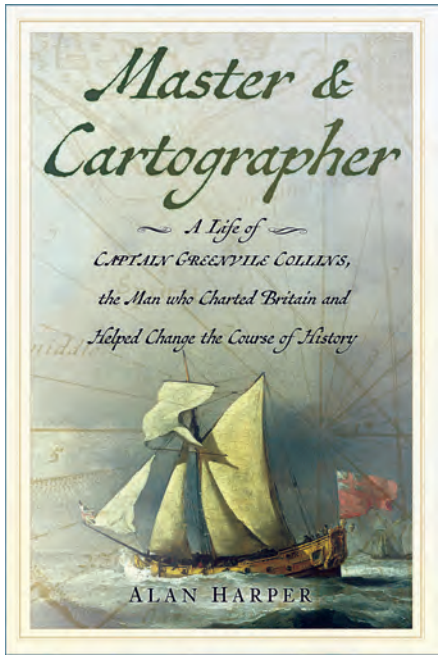
COURTESY ARADER GALLERIES

weather might clear, and Flawes would be looking for them. They should stay together and keep a good lookout. Grumbling, they agreed.

"The wind att SW and the morning cleare," Collins noted the very next day. And there, in the offing, was a sail. It was Saturday, 8 July 1676, ten days since the shipwreck. Flawes had spotted the smoke and bore down toward the beach, to the rejoicing shouts of the men. The carpenters stripped off the partially completed new planks from the longboat, and the men launched it into the surf. At the same time, Flawes launched his ship's boat and sent it in. "About noone wee gott all on board Capn Flawes."

Somehow, the captain found room to accommodate the *Speedwell's* surviving crew aboard his diminutive pink, the *Prosperous*. The pink may have been of shallow draft, but she had a voluminous hold for her size and ample provisions. It was a long, cramped voyage back across the Arctic Ocean and down the North Sea, beset by storms, calms, and contrary winds, not to mention the ever-present fogs that seemed to follow them. Finally, after three months away, they picked up a mooring off the Deptford Royal Dockyard on the 25th of August.

Shipwreck in the Arctic did nothing to dampen Greenvile Collins's enthusiasm for maritime adventure. The king was mightily impressed by his journal, and within weeks Collins had been hand-picked to serve aboard another ship, bound for the Mediterranean. But that's a story for another day. ⚓



Alan Harper is a British writer and journalist. This article draws on aspects of his new book, *Master & Cartographer—A Life of Greenvile Collins, the Man Who Charted Britain and Helped Change the Course of History,* published by The History Press. For more information, visit www.alanharper.co.uk