

James Horsburgh

In the 18th century, a trading ship was on a passage in the Bay of Bengal. There were 250 people on board the sailing ship. The sea through which they traversed was mostly uncharted. The ship unfortunately strayed many miles from her path and was wrecked on a remote islet in the middle of the Indian Ocean. The story might have ended there, but for one of the survivors James Horsburgh it had just begun. He resolved to dedicate his life to "making accurate charts". It was a promise which he kept for the next fifty years. He did not seek glory but was lucky. The emerging empires of that era needed people like him.

In May 1786, an East India Company (EIC) ship *Atlas* was on a passage from Batavia (present day Djakarta) to Ceylon (Sri Lanka), a distance of 1868 miles to the northwest. James Horsburgh was on the vessel as a recently promoted first mate.

Navigation was a difficult task in those days. Still, it is hard to believe that the ship had drifted more than one thousand miles from its path to the Chagos Archipelago on the West. Navigators used the imprecise lunar method to determine longitude. Chronometers had not yet become a standard accessory on ships.

With the onset of monsoon, perhaps the ship did not have clear skies for astro-navigation. Another important factor which could have aggravated the ship's navigation was the effect of monsoon currents and wind. From May to September, the easterly currents in the Bay of Bengal change to southwesterly, attaining a peak of 3 knots. A westerly current coupled with strong following winds speedily carried the ship across the sea. It was wrecked upon Diego Garcia, an islet named by early Portuguese sailors located at 7°23' S, 72°30' E. This point is now known to the world as the Horsburgh point.

Horsburgh later wrote:

'The charts on board were very erroneous in the delineation of the Chagos Islands and Banks, and the commander, trusting too much to dead reckoning, was steering with confidence to make the non-existent Adu or Candu for a new departure, being their longitude nearby, by account, and bound for Ceylon; but, unfortunately a cloud over Diego Garcia prevented the helmsman from discerning it, (the officer of the watch being asleep), till we were on the reef close to the shore. The masts, rudder, and everything above the deck went with the first surge; the second lifted the vessel over the outer rocks and threw her in towards the beach.'

The survivors of *Atlas* were fortunate to find a British settlement there. They lived on meagre supplies for the next 6 months until they were picked up by a British ship and brought back to mainland.

The shipwreck of *Atlas* was a momentous event for Horsburgh. He saw the necessity for accurate charts of the Indian Ocean. He resolved to devote himself to this task, by making and recording nautical observations. This resolution was put into practice from that day, and he began to accumulate a store of nautical knowledge that served as the materials of his future productions in hydrography.

Early Life

James Horsburgh was born into a humble Scottish family in 1762. He was destined to follow Dalrymple and James Cook, the two other Scottish hydrographers who had achieved eminence before him. From the beginning, he was prepared and educated for a sea-faring life. Aged 16, having acquired some knowledge of mathematics, navigation and book-keeping, he joined a coal trading ship as a cabin-boy.

In 1780 he was captured by the French and incarcerated at Dunkirk. After his release, he went back to sea – first to the West Indies and then to India. Calcutta was the seat of power for the British Empire at that time, and was the hub port from where ships used to trade to the Far East. There was a flourishing opium trade between India and China, passing through Calcutta.

Horsburgh was employed in the ships trading between India and the neighbouring islands of East Indies. With his skill and contacts, he soon became a first mate. He might have continued as a skilful and enterprising sailor if the disaster at Diego Garcia had not happened. This incident, however, aroused his ambition and the world was fortunate to have the services of a dedicated hydrographer.

Western Europe at that time was on a quest for explorations and scientific research. The fourth model of Harrison's chronometer had just come out. James Cook used it successfully for his expeditions to the South Pacific. Cook was killed in his third expedition to the Pacific Ocean in 1779, seven years before the Diego Garcia shipwreck.

In 1787, William Bligh sailed from England on the *Bounty* for a scientific expedition to the South Pacific. Other European empires were expanding and the world needed bold hydrographers to produce accurate charts of the new lands being discovered.

For several years, Horsburgh sailed between India and China. Throughout his travels, he took meticulous notes and observations. He learnt drawing and etching on the job. He constructed three charts around this time: the Strait of Macassar, the west side of the Philippine Islands and the tract from Dampier Strait through Pitt's Passage towards Batavia. Practical sailing directions accompanied each of these. Dalrymple, the hydrographer to the EIC, published his work.

Horsburgh had a scientific mind. For two years from 1802 to 1804 he kept a meticulous record of the rise and fall of the mercury taken from two marine barometers. He found that while it regularly ebbed and flowed twice during the 24 hours in the open sea between 26°N

and 26°S, it was diminished and sometimes wholly obstructed in rivers, harbours and straits (due to the proximity of the land). This important discovery was published by England's Royal Society, of which he later became a fellow.

Hydrographic Works

Horsburgh's greatest work which made him famous is the celebrated Directory (the original title was Directions for Sailing to and from the East Indies, China, New Holland, Cape of Good Hope, and the Interjacent Ports). It was compiled from original journals and observations made during 21 years of experience in navigating those seas.

It is interesting to note that this compilation was published by Horsburgh using his own funds. His Directory was the standard work for oriental navigation for the next 50 years, until Robert Moresby's work was published in the 19th century.

It was only after this publication that Horsburgh was acknowledged as an expert in this field. The decades of perseverance and years of toiling under the hot tropical sun had paid off. After Dalrymple died, Horsburgh was appointed as the Hydrographer to EIC in 1810. He remained in this post for 26 years until his death, dedicating himself fully to the field that he had chosen.

In a letter to the explorer Captain Matthew Flinders on 10 Nov 1812, Horsburgh wrote: 'Should you pass the India House at any time, I shall be happy to see you, where I am daily to be found in the Map-room until 2 P.M.'

Apart from re-publishing the charts of his predecessors, Horsburgh published 15 new charts of Indian waters. Whereas Dalrymple was prolific in publishing all charts that came his way, Horsburgh carefully examined the data before publishing the chart. Some of his outstanding works were the charts of Bombay Harbour published in two sheets in 1830 and the general sea charts of the Bay of Bengal, Arabian Sea and the Indian Ocean. The details that he provided were sufficient for the master of a vessel to safely take his ship to its destination. His last labour was the preparation of a new edition of his 'Directory' that was first published in 1809.

In a letter to Sir Charles Forbes, he wrote 'I would have died contented, had it pleased God to allow me to see the book in print.'

Horsburgh was a merchant ship navigator who became a hydrographer. His works had a lot of practical value for the trading community. He was well regarded by the merchants as he had charted map-routes of the eastern seas which proved invaluable to the seafarers of that time.

In 1836 soon after Horsburgh died, a group of British merchants got together in Canton, China. They decided to build a lighthouse as a memorial tribute to him, the funding for which was to be collected from donations. A 109ft tall lighthouse tower with black and white horizontal bands and a white flashing light was erected in 1851 at the eastern entrance to the Malacca Straits.

The Horsburgh Lighthouse, also known as the First Pharos of the Eastern Seas or Lighthouse for All Nations has stood like a sentinel for more than 150 years, a fitting remembrance for one of the greatest hydrographers in history.