

The guiding light of Smeaton's Tower

Smeaton's Tower stands on Plymouth Hoe and is a well-known landmark. When it was finished 250 years ago it was 13 miles out to sea as the Eddystone Lighthouse and was a revolutionary construction that saved countless lives.

Lighthouses are not a modern invention: the Pharos lighthouse in Alexandria is probably the most famous ancient light, built about 250BC, but fire beacons were widely used to guide and warn ships at sea. However, while beacons on the coast could keep ships off the shore, there were thousands of ships wrecked on rocks in the open sea.

One of the most dangerous rocks in the English Channel is the Eddystone Rock, which is 13 miles (21km) away from Plymouth. The rock is small, which made it difficult for ships to see it, and many boats hit the rock by mistake which killed lots of sailors.

Henry Winstanley was a merchant who lost two ships on the Eddystone Rocks, and he decided to do something about it. In 1696 he began building a wooden tower to hold a lamp of candles. It took two years to build, and only lasted five years – but while the lamp shone not a single ship was wrecked on the Eddystone Rock.

So successful was this experiment that a second lighthouse was started almost straight away. This lasted rather longer – 45 years in the stormy seas; until one night a spark from a candle set the tower on fire.

A light ship (a floating lighthouse) was placed at Eddystone as a temporary safeguard, but the hunt was on for a permanent replacement.

In 1756 a Yorkshireman called John Smeaton travelled to Devon to begin the task of rebuilding the light. This time he decided to build a lighthouse out of stone. This would be strong enough to stand up in the ferocious waves of the Channel and would not be in danger of burning down.

No-one had successfully built a stone lighthouse on a rock in the sea before. No-one was sure that a tower would stand up to really big waves. No-one knew what would be the best materials. John Smeaton had to start from scratch.

Smeaton based his design on an English oak tree. They have to stand up in high winds, and Smeaton reckoned that a shape that had evolved in nature to take massive horizontal force could be used by man to do the same. He planned his tower to be thick at the base and have curving sides that



Level

B1

Intermediate



got narrower nearer the top. He chose granite as his stone – the hard rock that is found on Dartmoor and which is very strong, but difficult to cut – and decided that he would ‘lock’ the stones together by using special joints, plus he invented a new type of quick-drying cement to glue the stones together. He also invented a type of crane to lift the huge, heavy, granite stones from ships onto the tower.

It was an astonishing achievement and finished amazingly quickly. In just three years the tower was built and the lamp lit in 1759.

Smeaton’s tower proved a remarkable success. The tower held up in violent storms and the lamp burned for 120 years before any problem was found; and that problem wasn’t with the lighthouse but the Eddystone Rock itself, which had begun to crack under the tower!

Between 1877 and 1882 a new lighthouse was built next to Smeaton’s tower, and this lighthouse still stands today. Its shape and basic design are very similar to Smeaton’s radical design – as are all Britain’s offshore lighthouses.

Smeaton’s remarkable tower was considered so important in the history of lighthouse design and the safety of Britain’s seas that the people of Plymouth paid to have the tower dismantled and brought to Plymouth. The tower still stands on Plymouth Hoe, and you can visit this remarkable structure throughout the year. 🗺️ TG

» Smeaton’s Tower is on Plymouth Hoe and is open Tuesday to Saturday from 10.00 to 12.00 and 13.00 to 15.00. Admission is £2. You can get to Plymouth by bus (X80, £6.05 return, see www.firstwesternnational.co.uk) or by train (from £6 return, see www.nationalrail.co.uk).



The current Eddystone light, with the stump of Smeaton’s Tower

Looe harbour looking from West Looe to East Looe



Winstanley's lighthouse

While Smeaton’s tower was the first lasting Eddystone tower, Henry Winstanley’s lighthouse was the first lighthouse in the world to be built on a rock in the open sea.

Winstanley didn’t know anything about lighthouses, but he liked a challenge. He started building his tower in stone and timber – but the next year he was captured by the French, with whom the British were at war. Astonishingly King Louis XIV ordered that Winstanley should be sent back to Britain, saying that his work on the lighthouse was too important. “France is at war with England not with humanity”, he declared.

Winstanley started to build the tower again, and in 1698 the tower was finished. Winstanley was alarmed to find that it creaked in the first storm, so he took it down and built it again.

Winstanley’s tower looked nothing like a lighthouse today. It had

eight sides, was eighty feet (24m) high and featured elaborate decoration outside, including inspiring Latin inscriptions, and a lavish state room inside. It was lit by candles.

Winstanley was proud of his lighthouse and it certainly stopped ships being wrecked. So sure was Winstanley that his tower was the perfect design that he declared that he wished to be in the tower to experience the greatest storm in history.

It must have been with excitement, then, that Winstanley found himself trapped on an inspection visit to the lighthouse by a storm on 26th November 1703. The wind rose, the waves crashed against the lighthouse, and soon it was clear that this was indeed the greatest storm that had yet hit the Eddystone Rock – it’s still the worst storm on record.

Winstanley’s wish had come true. But when the storm died down on 2nd December the lighthouse had disappeared along with its creator. 🗺️ TG