

First Biographies

John Harrison of Yorkshire and his Clocks (1693-1776)



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Retold by Christina Eastwood

John Harrison of Yorkshire and his Clocks

John Harrison was the world's most famous clock-maker. He lived at the time of Walpole, the first prime minister England has ever had. Harrison made clocks with works that did not rust or need to be oiled.

Harrison's father was a carpenter and Harrison was a carpenter too. In his spare time, he made clocks and mended them for other people. He taught himself how to do this. Harrison had very few books to help him learn. He studied those few books with great care. He made his own notes. He drew pictures to help him understand.

Before he was twenty he had made his first grandfather clock. Have you ever seen a grandfather clock? These clocks are very tall. They have a swinging pendulum inside a tall case. The whole of Harrison's grandfather clock was made of wood – even

the works! He made another wooden clock for the stables at a grand house. It is still going today.

Changes in temperature spoil the way a grandfather clock runs. In hot weather the clock runs slower. In cold weather the clock will speed up. Harrison invented a part called a “grid-iron” that stopped this happening in his clocks. He and his brother made and tested these better clocks. They made sure they were always correct by checking them by the movements of the stars. As a guide to the stars' places in the sky they used the frame of their own window and a nearby chimney stack. Their clocks were very good time-keepers. They were much better than the clocks of the best London clock makers.

Sailors needed good clocks. They needed them to help work out where they were at sea. The waves and wind that rocked the ships at sea rocked the clocks on board

too. Then the clocks did not work well. Parliament offered a prize for a clock that would stay correct even on a ship at sea. A Longitude Board was set up to look at any plans handed in for the prize. No one handed in any good plans at first. Things changed, however, in 1730.

Far away from London in his Yorkshire home, Harrison heard about the prize. He knew his clocks were good time-keepers. “I can make them work at sea, too,” he thought. He set to work to make plans. In 1730 he set off on the 200 mile journey to London. He took his idea to Dr Edmond Halley (1656-1742) at the Royal Observatory at Greenwich.

Halley sent him to clock maker, George Graham. Harrison was worried. Would Mr Graham just steal his idea? But the Quaker George Graham was honest. People even called him “Honest George Graham”. He was very surprised at what

Harrison had thought out. He lent him some money so that he could carry on with his idea and make a clock for the prize.

Harrison's first clock was not ready for another five years. It was a wonderful clock. It is still going today and is at the Greenwich Observatory where you can go to see it.

“Honest George” Graham was still helping Harrison. He took the clock to the Royal Society. They in turn spoke to the Longitude Board. A test was set up on a naval ship to Lisbon. Harrison and his clock set off. On the outward voyage the clock did not work as well as Harrison had hoped. But on the return journey it worked very well. Harrison was able to tell where the ship would land better than the master of the ship himself. The master was sixty miles wrong but Harrison was correct because the clock kept good time.

This is not the end of the story. Harrison

went on to make more clocks that were even better. He was never awarded all the prize money. He thought he should have had it and so did many other people. The Board wanted plenty of good clocks on the ships. They wanted to make sure that other clock makers, not just Harrison, would be able to make his clock. They held back half the prize money because of this. Harrison was angry. This was not in the rules for the prize. In the end he made a watch. This was tested by King George III himself. The king thought it was wonderful. “You should have the prize,” the king said.

In the end, Harrison got a lot of money for his clocks. Captain Cook¹ used one of them on his voyages. It worked very well and helped him find his way. One was lent to Captain Bligh of the *Bounty*. It was carried off to Pitcairn Island by the mutineers.² This clock is also at Greenwich today after many adventures. It is in the Maritime

Museum. Do look out for it if you ever go there on a visit.

Harrison's clocks were – and still are – remarkable. They went on working for a very long time. But even he could not make a clock that would carry on for ever!³ His clocks were not eternal. Eternal life is something Christians have. It is the gift God gives when we tell him we are truly sorry for our sins. Christians are able to face death without being afraid because at death the Christian goes on to a life where everything is perfect. Do you have eternal life? If not, you can pray and ask God to give you the gift of sorrow for sin and of eternal life.

1. Read more about him in the lesson for 25th June.
2. We learned all about this last month in the lessons for 29th and 30th March.