



Women in Science

Mary Anning

PRESENTER

One of Britain's most remarkable early female scientists was Mary Anning - the great fossil hunter - born in Lyme Regis in 1799. Lucy Greenwood, is a PHD Student in Geology.

Lucy Greenwood

From the age of 11 she found fossils on the beach at Lyme Regis where she lived. She sold the fossils as curiosities to middle class people on a stall on the sea front to try and generate enough money for her family to live but actually ended up finding so many amazing fossils that really influenced the understanding of how the Earth was borne. She wasn't educated in a particularly formal way. She was a working class woman and she taught herself geology and anatomy. The first major fossil that she found, along with her brother, Richard, was what they thought was a crocodile. She then spent months finding more of this fossil under the rock as the cliffs were falling down around her and the sea was eroding away at these cliffs. The more they uncovered the more they realised that it was really quite big and had a different anatomy and that went later on to be named as an ichthyosaur as it got taken to London and part of a much bigger collection that was put on public display.

This was the first time that her work had become wider known and that really started a whole cascade of new fossils that she found and also elevated what people thought of her as a geologist. Even though she only taught herself anatomy and geology, she was quite good at doing sketches and writing really detailed descriptions of the fossils that she found. Some of the notable fossils that Mary Anning found included plesiosaur and pterodactyls. Some of the really common fossils she found were belemnites as well as coprolites, fossilised faeces and she became very much an expert in those. Eminent geologists would come down to Lyme Regis for her to escort them on a fossil finding trip so that they could uncover fossils and see her work. The sketches and descriptions Mary made about the fossils that she found were later used by other male scientists and geologists of the time and then published so a lot of her work was actually published but never attributed to her.

Most of the fossils she sold for a small amount of money on the seashore while she had a stall there although a kind friend of hers, Thomas Birch, he had bought a lot of fossils from her for not very much money but decided to auction off all those fossils and made a lot of money, £400, which helped her to set herself up. She actually had enough money where she could have a shop at Lyme and carry on making these amazing finds. At the time when Mary Anning lived, many people believed that the Bible was literally true. The Earth was made in seven days but actually the fossils that Mary found were very useful in understanding the geological history of our planet. Other fossils had been found in Europe and other places but these provided a really interesting look into evolution that these other massive reptiles had lived on the Earth at millions of years ago and that actually the Bible could not be taken literally any more. This was really quite dramatic at the time.

She never married and she never had any children but she was friends with people of a higher class than her. They were amazed by her intellect and her knowledge of these fossils. Mary rarely left Lyme Regis. In fact, when you think that there was only one short trip she made to London and the rest of the time she spent in Lyme Regis. So Mary being female but also being of a lower class struggled in terms of getting herself known but actually she did in her lifetime gain recognition not only from those who lived and worked around her but also the scientific community itself. She was awarded an annual payment, or a pension, by the British Association of Advancement of Science and the Geological Society of London.

The work that Mary did was really quite dangerous. She was working alongside the Cliffside where it was constantly eroding and this on the plus side meant that you constantly had new material being exposed so that you could actually find new fossils. The Blue Lias was the rock type in which she found all of these fossils, which is a really organic rich material rock where a lot of animals died and created a very black, dark layer and a lot of fossils were found in this point within the geological record.

Being brought up in Dorset I've obviously been down there and I know the landscape quite well. One of my first memories of my geological career was finding a rock which just looked like a normal grey rock although when I hit it open with a hammer I found an ammonite inside which was absolutely stunning, a fossil snail like structure.

She would have had to climb all over the cliffs and the mudslides and wait for the rocks to be eroded by the sea in order for them to get out enough of the materials. She had a really good eye for a fossil and knew exactly where to look and so a lot of hammering out of the rocks was required, working over months or years even, sometimes, to get out fossils in a pristine state. To keep the fossil entire is a very delicate art.