THE HISTORY OF MOIRA FURNACE

Who built the furnace and why?

Sir Francis Rawdon Hastings

Sir Francis Rawdon Hastings, the second Earl of Moira, built the furnace in 1804. It was built to produce iron which was used to make machine parts, tram tracks and cannonballs amongst other things.

The story of Moira begins in the late 1700s when Sir Francis took over the estates left to him by his father. He took samples of coal, iron ore and limestone from the local area which at the time was just fields and wasteland. He found that the quality of these materials was ideal for making iron. By 1800 the Earl had sunk his first coal mine and in 1802 he was planning a blast furnace, fuelled with coke made from his own coal.

The result was Moira Furnace. It was built in 1806, at a cost of £30,000, beside the newly opened Ashby Canal which was to bring raw materials to the furnace and carry the finished iron to be sold in other parts of the country. From the Earl of Moira's industries grew the village of Moira (named after the Earl's estate in Ireland) with churches, schools, shops, pubs and a railway station.

The 'Stone Rows' in Moira, built by the Earl in 1811 to house the workers for his furnace, foundry and coal mines. Each cottage had a parlour, kitchen, large front room, coalhouse, two large bedrooms and a good-sized garden.

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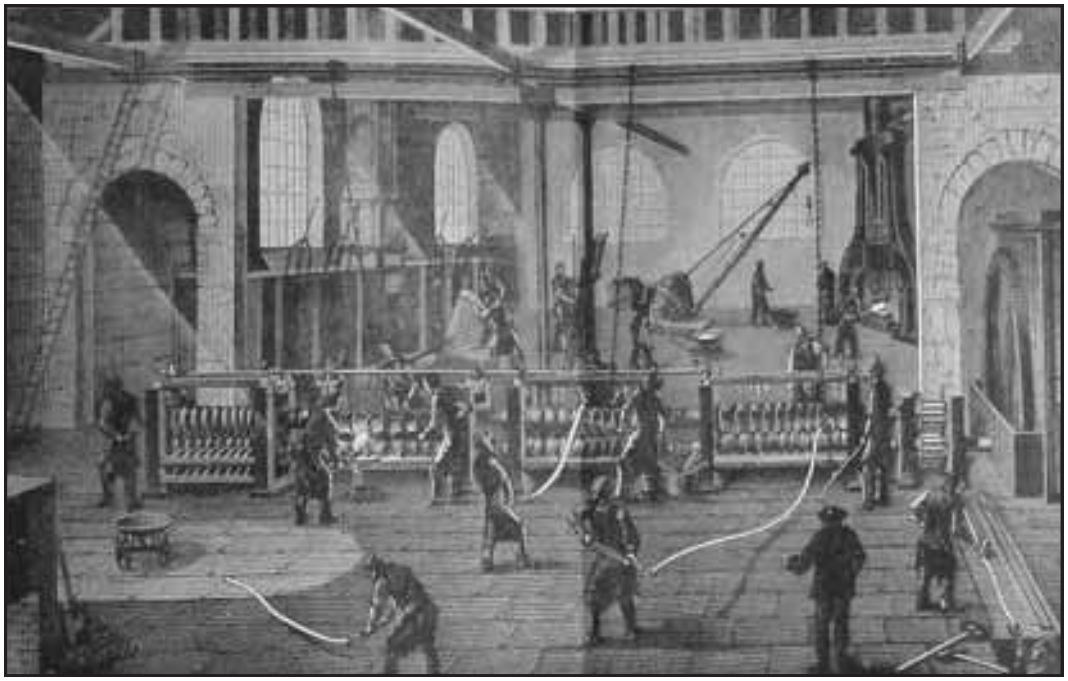
Making iron

Iron has been used in Britain since before Roman times. It is abundant naturally but is hard to smelt, as its melting point is very high and it can easily be spoilt by impurities. The late 18th and early 19th centuries saw many developments in technology which improved iron making techniques. One was to use coal in the form of coke for smelting, to reduce contamination of the iron, and another was to use a steam engine to power a blowing cylinder to produce an air blast.

The expansion of the iron industry in Britain was a major factor in the development of the Industrial Revolution.



Iron making in Victorian times

What is different from factories today?

Where is the power for the machinery coming from?

Where is the light coming from for the workers to see what they are doing?

Why did the furnace stop working?

From the very beginning there were problems with the management of the furnace. The quality of the limestone was not good enough and the local coal was not suitable for turning into coke. Twice as much coal was needed to produce a ton of iron in Moira than in other places.

The furnace worked from 1806-1807 and again in 1810 until 1811 when it was blown out. Despite plans to restart operations later in 1811, and even to build a second furnace to operate alongside the first, it appears that no further iron smelting took place. When restoration took place on the furnace in 1981 it still contained a working charge (the last lot of rocks ever poured in to the top).

Something went wrong during smelting that damaged the furnace beyond repair. It seems that the top of the furnace (rather than the bottom) became much too hot causing the chimney lining to melt and fall into the furnace. After this, the furnace was shut down though the foundry attached to the furnace carried on working for another 40 years or so using iron made elsewhere.

Moira's future lay with coal not iron. The furnace building survived because it was used as cottages, some of which were lived in until the 1970s.

Moira Furnace after it was turned into cottages.

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TEACHERS' NOTES

This section gives brief background information about the history of Moira Furnace, its location and purpose, and how it has come to survive. It is designed to be read with pupils and could be used as a standalone activity, perhaps as preparation for a visit to the furnace.

The old photographs of the 'Stone Rows' and of the furnace buildings could be used to prompt an investigation of living spaces. Children may want to draw a plan of their own house and compare it with the Moira cottages and the furnace itself. They could identify differences in chimney, roof and window styles and in how rooms are arranged within a home.

There are more old photographs of the furnace throughout the pack and further activities relating to living conditions in Section 5 'Living at Moira Furnace'. There is much more detailed information about Sir Francis Rawdon Hastings and activities relating to heraldry, family trees and aristocracy in Section 2 'Moira people'.