

# INDUSTRIAL ARCHAEOLOGY NEWS

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# INDUSTRIAL ARCHAEOLOGY NEWS 113 Summer 2000

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## Industry in the National Museums of Scotland

*This article describes in particular the industrial collection displayed in the galleries of the new National Museums of Scotland, opened officially by HM The Queen in November 1999. The author is Curator of Engineering and Industry, National Museums of Scotland.*

John Crompton

The National Museums of Scotland (NMS) were formed in 1985 by Act of Parliament which amalgamated two long established museums, the National Museum of Antiquities dating from 1780, and the Royal Museum of Scotland, itself the successor to the Industrial Museum of Edinburgh which was one of three museums established in 1854 with surplus funds from the Great Exhibition of 1851.

Intended to attract and educate the working man (with late-evening opening and a bar!), the Industrial Museum was quick to acquire collections showing manufactured objects from raw materials to finished product. It acquired the university's natural history collections, and other distinct disciplines emerged as specialised collections were built up in archaeology, applied art and geology. A model-making workshop was established in the 1860s and for many years the Technology Department of the Royal Museum was famous for the quality of its motorised models of locomotives and marine engines. Over the decades the Department of Science and Technology built up important collections of telegraph and radio equipment, scientific instruments, lighthouse equipment, ship models, cycles, and domestic and office technology. From 1973 a collection of aircraft was developed at East Fortune, now the Museum of Flight, and in the late 1970s the department joined with the Historic Buildings Division of the Scottish Office (now Historic Scotland) to conserve and interpret the small gas works at Biggar.

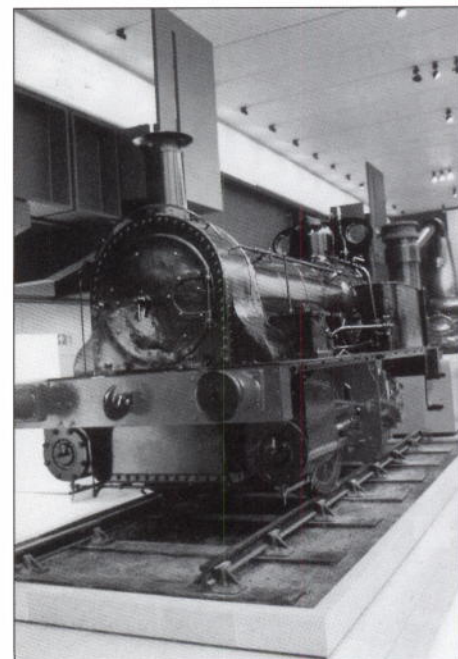
The 1985 amalgamation brought many changes, one of which was to be the building of a new home for the Antiquities collections. But finance was not immediately available, and only in 1993 did building work begin on the Museum of Scotland, next door to the Royal Museum in Chambers Street. The familiar technology galleries were cleared to allow building work and still, in 2000, await funding for the development of new exhibitions. The Museum of Scotland tells the nation's story from earliest geological times to the twentieth century, as depicted by objects in the collections of every department. For the industrial collections the project was an opportunity, therefore, to interpret objects for their historical, economic and social impact as well as their technological significance.

Writing history with objects presents several challenges, especially when the spaces and display case sizes have been largely determined in advance. For example, the collections contain a late atmospheric colliery pumping engine made and used in Scotland, and an early Boulton & Watt

rotative engine used in London; there was room only for one, and a decision had to be made on their relative significance in terms of Scotland's history. The colliery engine won - in terms of technological achievement the decision might have been different.

The Museum of Scotland's seven exhibition levels tell the nation's story period by period, beginning at basement level with Scotland's ancient geology and the development of flora and fauna. This level also displays more than 13,000 archaeological objects, from dugout canoes and carved stones to treasure hoards and domestic implements, the tangible record of Scotland's early peoples. The ground and first floor levels cover the turbulent times from 1100AD to 1707, the Union under the English crown.

The Union provoked enormous changes in Scotland's economic development as well as in political reaction. Government attempts at improvement came after the rebellions, under Commissions for Fisheries, Roads and Bridges, and the Board of Manufactures. The gradual conquest of hand-powered tools by powered machines is shown by the juxtaposition of hand looms (for silk and tartan) and a water-powered beetling engine from Dundee, where it was used to polish linen in the hank for weaving heavy fabrics like sails. A small waterwheel which once drained a Dumfriesshire limestone mine sits close to the Caprington colliery atmospheric pumping engine in its reconstructed engine house, now demonstrated by hydraulic power. Parts for the engine were supplied by the Carron Company in 1811 and the engine worked until 1901. The technological advances of the coal, iron and steel industries are represented by models and product samples. The application of machinery to the textile

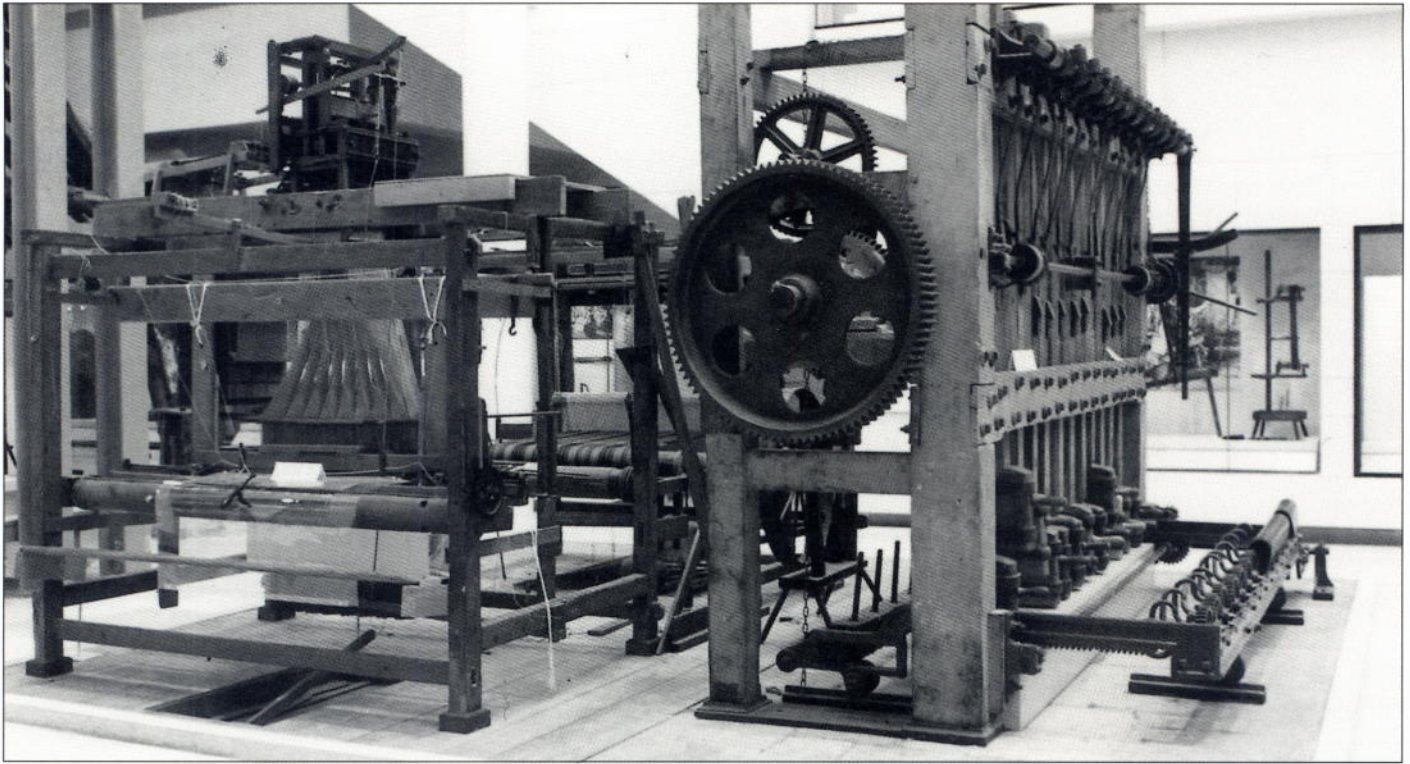


Locomotive 'Ellesmere', built 1861 by Hawthorns of Leith  
Photo: John Crompton

#### COVER PICTURE

*The Newcomen-type pumping engine from Caprington Colliery, Ayrshire, reconstructed inside the Museum of Scotland*

*Photo: by kind permission of the Trustees of the National Museums of Scotland*



Handlooms and a beetling engine for yarn in the hank, installed second-hand in a Dundee bleachworks in 1948

Photo: John Crompton

industry is illustrated by a series of models and a power loom, and a single cylinder horizontal mill engine by Douglas & Grant of Dundee now works on compressed air. At the west end of this level a small gallery shows the regional varieties of Scottish textiles, with examples of products, costumes and tartans.

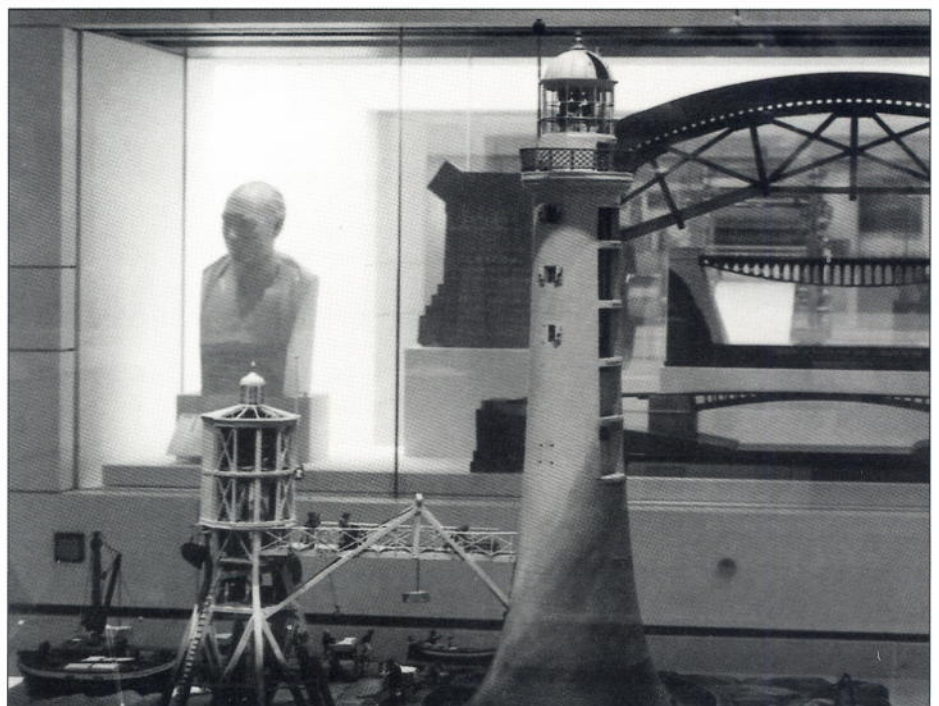
Level 5 looks at industry in the nineteenth century when Scotland's central belt was one of the industrial powerhouses of the British empire. It features three products which made Scotland's name famous across the world: shipbuilding, railway engineering and whisky. 'Ellesmere', a railway locomotive built by Hawthorns of Leith in 1861, and a whisky spirit still from Glenfiddich were amongst the large objects craned into the building before completion of the roof. They are joined by some fine ship and locomotive models representing design development in Scotland, including a superb one-sixth scale Mexican Fairlie double bogie locomotive on loan from the National Railway Museum, and commissioned by Neilson Reid & Co for the Glasgow International Exhibition in 1901. A short section on civil engineering as seen in the development of transport routes, bridges and lighthouses, includes a macabre object, a broken wrought iron girder from the ill-fated Tay Bridge. Finally on this floor, the West Gallery features more of Scotland's significant industries, general engineering, paper making and printing (the world's first rotary press developed in Edinburgh and demonstrated at the 1851 Great Exhibition), the oil shale and heavy ceramics industries.

To complete the story, Level 6 has galleries devoted to Scottish innovators, emigration, and the commercial world of the nineteenth century. For Level 7, the Twentieth Century Gallery, the people of Scotland were invited to choose and explain objects which were significant to them, and which

they saw as formative influences on their own lives.

The opening by HM The Queen on 30 November 1999 marked the conclusion of many years' planning and execution of the new museum, and development is now concentrated on replacing the former themed technology galleries in the Royal Museum. Some progress has been achieved as part of a Heritage Lottery funded refurbishment of the largest gallery; a cast-iron lighthouse lantern first used at Girdleness (Aberdeen) in 1833, and a revolving lighthouse optic from Inchkeith (Firth of Forth) have been built up at high level. Most notably the Boulton & Watt engine, supplied to

Barclay, Perkins & Co's Southwark brewery in 1786, has been entirely reconstructed. The surviving parts were acquired in 1886 and have now been erected, with a new cast flywheel, oak beam and parallel motion in an open-sided house copied from the original drawings. The engine is one of the world's two pre-1800 large rotative engines, and is now powered by a compressed air cylinder driving the extended piston rod through a false cylinder bottom. The completed engine will form the centrepiece of galleries charting the inspiration and technological inventiveness of Scots over the last 250 years.



Homage to Robert Stevenson: models of the Bell Rock lighthouse and some of his bridge designs Photo: John Crompton