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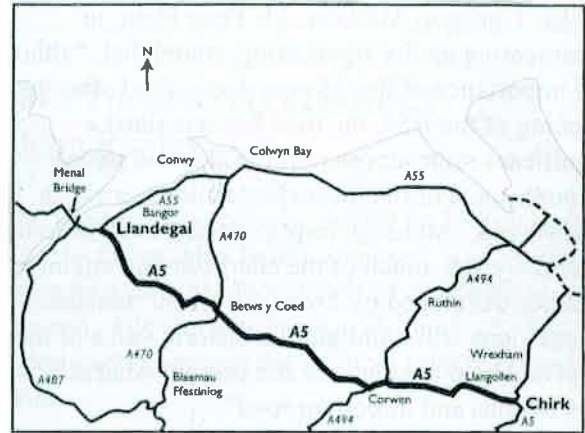
PHEW NEWSLETTER

Panel for Historical Engineering Works

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CONTENTS

Signposting of Telford's Holyhead Road
Public Access to England's Industrial Heritage
The Chairman's Column
James Thomson (1822-1892)
George Burn (died circa 1820)
HEWs in the News
Editor's Note
(insert) List of Panel Members



Courtesy of the Welsh Office

SIGNPOSTING OF TELFORD'S HOLYHEAD ROAD

by The Editor

On Tuesday 24 March 1998, Panel Chairman, Professor Roland Paxton, was invited to unveil one of twenty signposts placed along the A5 between Chirk and Llandegai as a monument to Telford's historic Holyhead Road. Professor Paxton was joined by Mr Keith Thomas, Director of Highways, the Welsh Office and representatives of other interested groups.

to be congratulated on this most welcome initiative. Similar designations of historic roads in England and Scotland will be encouraged. The historical engineering importance of this route in its day cannot be overstated". The occasion also included a visit to the Nant Ffrancon Pass where Telford's retaining walls were being secured and conserved by means of soil nailing from their faces into the virgin rock.



Professor Roland Paxton (centre) with Mr Keith Thomas, Director of Highways, the Welsh Office and other organisations
Courtesy of The Welsh Office



Mr Keith Thomas, Director of Highways, the Welsh Office and the Chairman at a Telford Bridge on the A5 in the Nant Ffrancon Valley

Professor Paxton commented that, "the Panel was truly delighted to be involved in the information signing of Telford's historic road across North Wales (now A5) and the Welsh Office Roads Directorate is

Telford was commissioned to build the road in 1815 after the 1800 Act of Union between Britain and Ireland resulted in the need for a strategic transport route between London and Dublin. The Holyhead

Road, as it has become known, was well engineered with longitudinal gradients limited to 1:20 which ensured efficient horse drawn travel at speeds of the order of 10mph. The time taken by the Irish Mail coaches to travel from Holyhead to London was reduced to 13 hours and products of north Wales were able to be more efficiently transported.

Welsh Transport Minister, Mr Peter Hain, in commenting on the signposting, stated that, "although the importance of the A5 was diminished after the opening of the A55, the road has remained a significant route across north Wales and passes through some of the most spectacular scenery in Snowdonia. Although improvements have been made over the years, much of the character and engineering features developed by Thomas Telford remains. These signs will highlight the historic value of the road and help to conserve and present what survives of this famous and important road".

In addition to the signposts, an attractive bi-lingual information leaflet has been published, summarising the background, history and key engineering aspects of the route. The leaflet is available from trust information centres.



Securing Telford's retaining walls on A5 in Nant Ffrancon Pass

PUBLIC ACCESS TO ENGLAND'S INDUSTRIAL HERITAGE from English Heritage's Press Release

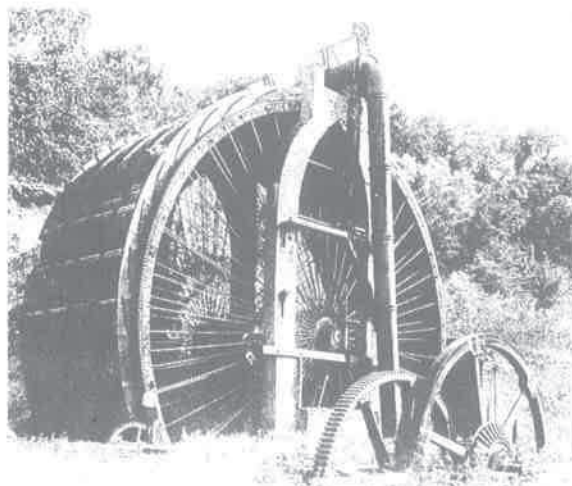
Britain is uniquely important as the birthplace of the Industrial Revolution. But how much access does the public have to historic industrial sites and what

opportunities are there for extending public awareness of the industrial heritage? To answer these important questions, English Heritage has commissioned a study of more than five hundred preserved and publicly accessible sites across the country ranging from textile mills to steam engines.

Dr Anthony Streeten, Secretary of the English Heritage Industrial Archaeology Advisory Panel, said: "**The study of Public Access to England's Industrial Heritage** will be ready in mid-1998. It will provide a national overview of the ways in which historic industrial buildings and monuments are currently maintained, managed and presented and it will explore ways in which we and other agencies might open more doors to the public appreciation of these places in the future". Examples included in the survey range from an 18th century blast furnace managed by a National Park Authority to a former mill engine operated by a preservation trust.

THE CHAIRMAN'S COLUMN by Professor Roland Paxton

On this occasion I am writing from 29,000ft in transit from Hartford, Connecticut to Washington, DC to lecture to the Montgomery C Meigs Society for Industrial Archaeology, ASCE National Capital Section and the Historical American Engineering Record (HAER) of the National Parks Service. The subject of the lecture is the Panel initiated Laigh Milton Viaduct Conservation Project which, after a resurgence of interest to improve public accessibility since March, is expected to be wound up by the end of this year. The lecture, which has been arranged by Mr Eric Delony, Chief of HAER, is to be held at the National Building Museum 1882-1887 of eminent architect-engineer Meigs and Civil War veterans' fame.



The Mill Wheel
Courtesy of Rensselaer Polytechnic Institute Library

The previous weekend, accompanied with *eggs over easy* breakfasts, hazelnut coffees and blueberry muffins I visited historical engineering works sites at Troy and Cohoes in New York State under the enthusiastic and expert guidance of Dr Tom Carroll. Dr Carroll, as Executive Director of the Hudson Mohawk Industrial Gateway is responsible for the Burdon Ironworks Museum. Restoration of the formerly dilapidated office building of the ironworks built in 1881-1882 into an impressive museum is now well underway. Many products of the ironworks had a civil engineering connection, for example, immense numbers of railway spikes and horseshoes. Even more fascinating was that from 1851 the ironworks was served by the most powerful vertical waterwheel in history. It was of overshot construction, 60ft diameter and provided an astonishing 1,200hp. Sadly only the pit and end of the supply conduit still exist.

A few miles further north, on the Mohawk River, I was shown the Cohoes waterfall, which is over 1,000ft wide and is about 86ft high. A head race above the falls, provides power to the huge mill complex which has developed from 1837. It includes what is believed to be the largest complete cotton mill in the United States, Harmony Mill No.3, built from 1866-1872. The mill is popularly known as Mastodon Mill because of a skeleton found there during its construction. The building's facade includes a statue of Thomas Gardner (proprietor). Interestingly the mill's two turbines, with 15ft diameter tubes and developing 800hp each, are believed to be the largest cast iron turbines ever made.



Part of Harmony Mill, No.3, Cohoes, USA
Courtesy of Professor Roland Paxton

Two matters nearer to home are deserving of a mention. Our newly inaugurated historic bridges competition to encourage excellence in conservation has attracted no less than twenty-three entries from

throughout England and Wales, a very good response. These will be assessed throughout the summer. We are delighted that Mr Mike Winney, Editor of *New Civil Engineer* has agreed to join the team of adjudicators and that Mr Roger Sainsbury the Institution's Senior Vice-President has kindly agreed to present the awards in London in November, by which time he will be President.

JAMES THOMSON (1822-1892)

by John Rapley

James Thomson was born in Belfast on 16 February 1822. His father, also James Thomson, was Professor of Mathematics in the Royal Belfast Academical Institution. His younger brother, William, (b.1824) was destined to become the eminent scientist, Lord Kelvin.

Thomas was educated at home by his father, except for attendance for a short time at the writing school at the Belfast Academical Institution. In 1832 James Thomson (snr) was appointed to the Chair of Mathematics at Glasgow University. Thomson had shown an early gift for scientific studies, and at the age of ten he started attending classes at Glasgow University. In 1834 he matriculated, and won a class prize. In 1839 he graduated MA(Hons) in Mathematics and Natural Philosophy at the early age of seventeen.

While still an undergraduate Thomas had shown an inventive streak, and had developed a device for automatically feathering the floats of the paddles of steamers. Shortly after he proposed a scheme for the propulsion of boats against the current by moving legs reaching to the bottom - in effect a mechanical punt.

Throughout his life Thomson was to suffer from bouts of ill health, which affected his work and career. The precise nature of his malady is not recorded, but it is stated that 'he was obliged to confine himself to work that did not involve bodily fatigue.'

Despite his indifferent health Thomson decided on a career in civil engineering. (It is possible that after graduating in the middle of 1839 he entered (Sir) John Macneill's office in Glasgow, but this is not recorded). In the autumn of 1840 he went to Macneill's office in Dublin, but a breakdown in health forced him to return to Glasgow after only three weeks. In the following year his health improved, and he spent six months in the engineering department of the Lancefield Spinning Mill in Glasgow. This was followed by a period at the Horseley Ironworks at Tipton, and after this Thomson