

## Canals and Railways in the Industrial Revolution Tour | Tours for Seniors in Britain

### Reading List

#### **Iron, Steam & Money: The Making of the Industrial Revolution**

by Roger Osborne

In late eighteenth-century Britain a handful of men brought about the greatest transformation in human history. Inventors, industrialists and entrepreneurs ushered in the age of powered machinery and the factory, and thereby changed the whole of human society, bringing into being new methods of social and economic organisation, new social classes, and new political forces. The Industrial Revolution also dramatically altered humanity's relation to the natural world and embedded the belief that change, not stasis, is the necessary backdrop for human existence.

Iron, Steam and Money tells the thrilling story of those few decades, the moments of inspiration, the rivalries, skulduggery and death threats, and the tireless perseverance of the visionaries who made it all happen. Richard Arkwright, James Watt, Richard Trevithick and Josiah Wedgwood are among the giants whose achievements and tragedies fill these pages. In this authoritative study Roger Osborne also shows how and why the revolution happened, revealing pre-industrial Britain as a surprisingly affluent society, with wealth spread widely through the population, and with craft industries in every town, village and front parlour. The combination of disposable income, widespread demand for industrial goods, and a generation of time-served artisans created the unique conditions that propelled humanity into the modern world.

The industrial revolution was arguably the most important episode in modern human history; Iron, Steam and Money reminds us of its central role, while showing the extraordinary excitement of those tumultuous decades.

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#### **Man of Iron: Thomas Telford and the Building of Britain**

by Julian Glover

The enthralling biography of the shepherd boy who changed the world with his revolutionary engineering and whose genius we still benefit from today.

Thomas Telford's name is familiar, his story less so. Thomas was born in 1757 in the Scottish Borders; his father died in Thomas' infancy, plunging the family into poverty. Telford's life soared to

span almost eight decades of gloriously obsessive, prodigiously productive energy. Few people have done more to shape our nation.

Thomas Telford invented the modern road. A stonemason turned architect turned engineer, he built churches, harbours, canals, docks and the famously vertiginous Pontcysyllte aqueduct in Wales. He created the backbone of our national road network. His bridges are some of the most dramatic and beautiful ever built, most of all the Menai Bridge, a wonder then and now, which spans the dangerous channel between the mainland and Anglesey. His constructions were the most stupendous in Europe for a thousand years, and - astonishingly - almost everything he ever built remains in use today.

Telford was a complex man: a shepherd's boy who loved the countryside but helped industrialise it, an ambitious man who cared little for accolades, highly sociable and charming but peculiarly private about his personal life, and an engineer who was also a poet. He cherished a vision of a country connected to transform mobility and commerce: his radical politics lay not in ideas but the creation of useful, solid things.

In an age in which economics, engineering and national identity came together, Thomas Telford's life was model of what can be achieved by persistence, skill and ambition. Drawing on contemporary accounts, this, the first full modern biography of Telford, at once intimate and expansive, is an utterly original portrait. It is an audiobook of roads and landscapes, of waterways and bridges, but above all of how one man transformed himself into the greatest engineer Britain has ever produced.

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## **Brunel: The Man Who Built the World (Phoenix Press)**

by Steven Brindle

A celebration of the life and engineering achievements of Isambard Kingdom Brunel by two of the world's foremost authorities.

In his lifetime, Isambard Kingdom Brunel towered over his profession. Today, he remains the most famous engineer in history, the epitome of the volcanic creative forces which brought about the Industrial Revolution - and brought modern society into being.

Brunel's extraordinary talents were drawn out by some remarkable opportunities - above all his appointment as engineer to the new Great Western Railway at the age of 26 - but it was his nature to take nothing for granted, and to look at every project, whether it was the longest railway yet planned, or the largest ship ever imagined, from first principles. A hard taskmaster to those who served him, he ultimately sacrificed his own life to his work in his tragically early death at the age of 53. His legacy, though, is all around us, in the railways and bridges that he personally designed, and in his wider influence.

This fascinating new book draws on Brunel's own diaries, letters and sketchbooks to understand his life, times, and work.

**Canals: The Making of a Nation**

by Liz McIvor

Canals hold a unique place in British culture, with associations of lazy summer afternoons, journeying through lush green countryside. But as Liz McIvor explains in the book to accompany her BBC series, the story of our canals is also the story of how modern Britain was born. It was the canals that helped open up the trade of the Industrial Revolution, furthered the new science of geology, and even ushered in a new form of architecture. The legacy of our canals is all around us. In *Canals: The Making of a Nation*, McIvor takes us on a journey across the network of English canals to tell a deeper story of how our waterways changed our lives. It's a very modern tale, full of high finance and greedy investors, cheap labour and the struggle for workers' rights, and new frontiers in family and child welfare. It's a unique and compelling exploration of Britain's golden age.

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**The King Of Sunlight: How William Lever Cleaned Up The World**

by Adam Macqueen

William Hesketh Lever - soap-boiler, social reformer, MP, tribal chieftain, multi-millionaire and Lord of the Western Isles - was one of the most extraordinary men ever to leave his mark on Britain.

Beliefs far ahead of their times - the welfare state, votes for women, workers' rights - jostled in his mind with ideas that were fantastically bonkers - the world's problems could be solved by moving populations from country to country, ballroom dancing could save the soul and the only healthy way to sleep was outdoors in the wind and the rain.

Adam Macqueen traces Lever's footsteps from his humble Bolton boyhood to a business empire that straddled the world, visiting the homes and model towns from the Mersey to the Congo that still bear the mark - and often the name - of William Lever.

It is a hilarious and touching journey that shines a spotlight on a world and a set of beliefs long gone, and asks several vital questions: where does philanthropy stop and social engineering begin? Is it right for an employer to dictate how his workers spend their weekends and hire private detectives to make sure they are doing it properly? Are the length of a lawn and the curve of a bannister of vital importance to the great scheme of things? And why would a multi-millionaire with half a dozen homes and property on four continents chose to sleep on the roof?

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**The Birth of the Chocolate City: Life in Georgian York**

by Summer Strevens

One of the great names in chocolate history, Rowntree's, evolved from the humble retail beginnings of Mary Tuke, eighteenth-century mother of York's chocolate industry. This book explores how she was formative in shaping modern York as a city of confectionery manufacture, a city with a broader history in this industry than any other city in the UK. York emerged as the epicentre of an empire of competing chocolate kings. Strevens also insightfully reveals the impact that the development of York's confectionery production had on the lives of the rich, the poor and 'the middling sort', exploring growing social trends in the social capital of the North, such as chocolate and coffee houses, and the evolution of York as a destination for the 'polite and elegant'. This is an accessible and at times wry exploration of eighteenth-century York, vividly bringing to life the sumptuous splendours and profound murkiness of the city at the time of its commercial emergence as the 'Chocolate City'. Each chapter develops the detailed picture of what it must have been like to live in this city at the inception of York's most scrumptious of trades.

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## **Energy and the English Industrial Revolution**

by E. A. Wrigley

The industrial revolution transformed the productive power of societies. It did so by vastly increasing the individual productivity, thus delivering whole populations from poverty. In this new account by one of the world's acknowledged authorities the central issue is not simply how the revolution began but still more why it did not quickly end. The answer lay in the use of a new source of energy. Pre-industrial societies had access only to very limited energy supplies. As long as mechanical energy came principally from human or animal muscle and heat energy from wood, the maximum attainable level of productivity was bound to be low. Exploitation of a new source of energy in the form of coal provided an escape route from the constraints of an organic economy but also brought novel dangers. Since this happened first in England, its experience has a special fascination, though other countries rapidly followed suit.

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## **The Railway - British Track Since 1804**

by Andrew Dow

Never before has a comprehensive history been written of the track used by railways of all gauges, tramways, and cliff railways, in Great Britain. And yet it was the development of track, every bit as much as the development of the locomotive, that has allowed our railways to provide an extraordinarily wide range of services. Without the track of today, with its laser-guided maintenance

machines, the TGV and the Eurostar could not cruise smoothly at 272 feet per second, nor could 2,000-ton freight trains carry a wide range of materials, or suburban railways, over and under the ground, serve our great cities in a way that roads never could. Andrew Dow's account of the development of track, involving deep research in the papers of professional institutions as well as rare books, company records and personal accounts, paints a vivid picture of development from primitive beginnings to modernity. The book contains nearly 200 specially-commissioned drawings as well as many photographs of track in its very many forms since the appearance of the steam locomotive in 1804. Included are chapters on electrified railways, and on the development of mechanised maintenance, which revolutionised the world of the platelayer.

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### **Bread for all**

by Chris Renwick

Today, everybody seems to agree that something has gone badly wrong with the British welfare state. In the midst of economic crisis, politicians and commentators talk about benefits as a lifestyle choice, and of 'skivers' living off hard-working 'strivers' as they debate what a welfare state fit for the twenty-first century might look like.

This major new history tells the story of one the greatest transformations in British intellectual, social and political life: the creation of the welfare state, from the Victorian workhouse, where you had to be destitute to receive help, to a moment just after the Second World War, when government embraced responsibilities for people's housing, education, health and family life, a commitment that was unimaginable just a century earlier. Though these changes were driven by developments in different and sometimes unexpected currents in British life, they were linked by one over-arching idea: that through rational and purposeful intervention, government can remake society. It was an idea that, during the early twentieth century, came to inspire people across the political spectrum.

In exploring this extraordinary transformation, *Bread for All* explores and challenges our assumptions about what the welfare state was originally for, and the kinds of people who were involved in creating it. In doing so, it asks what the idea continues to mean for us today.

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### **The story of Wales**

by Jon Gower

*The Story of Wales* is a vibrant portrait of 30,000 years of power, identity and politics. Revisiting major turning points in Welsh history, from its earliest settlements to the present day, Jon Gower re-examines the myths and misconceptions about this glorious country, revealing a people who have

reacted with energy and invention to changing times and opportunities. It's a story of political and industrial power, economic and cultural renewal- and a nation of seemingly limitless potential.

*The Story of Wales* is an epic account of Welsh history for a new generation.

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## **The Last Wolf: The Hidden Springs of Englishness**

by Robert Winder

What sort of a place is England? And who are the English? As the United Kingdom turns away from its European neighbours, and begins to look increasingly disunited at home, it is becoming necessary to ask what England has that is singular and its own.

It is often assumed that the national identity must be a matter of values and ideas. But in Robert Winder's brilliantly-written account it is a land built on a lucky set of natural ingredients: the island setting that made it maritime; the rain that fed the grass that nourished the sheep that provided the wool, and the wheat fields that provided its cakes and ale. Then came the seams of iron and coal that made it an industrial giant.

In *Bloody Foreigners* Robert Winder told the rich story of immigration to Britain. Now, in *The Last Wolf*, he spins an English tale. Travelling the country, he looks for its hidden springs not in royal pageantry or politics, but in landscape and history.

Medieval monks with their flocks of sheep . . . cathedrals built by wool . . . the first shipment of coal to leave Newcastle . . . marital contests on a village green . . . mock-Tudor supermarkets - the story is studded with these and other English things.

And it starts by looking at a very important thing England did not have: wolves.

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## **Fire and Steam: How the Railways Transformed Britain**

by Christian Wolmer

The opening of the pioneering Liverpool & Manchester Railway in 1830 marked the beginning of the railway network's vital role in changing the face of Britain. *Fire & Steam* celebrates the vision of the ambitious Victorian pioneers who developed this revolutionary transport system and the navvies who cut through the land to enable a country-wide railway to emerge.

From the early days of steam to electrification, via the railways' magnificent contribution in two world wars, the chequered history of British Rail and the buoyant future of the train, *Fire & Steam* examines the importance of the railway and how it helped to form the Britain of today.

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## **The Industrial Revolution Explained: Steam, Sparks & Massive Wheels**

by Stan Yorke

The English Industrial Revolution was a triumph of ingenuity and invention. New sources of power, better manufacturing methods and expanding transport systems brought fantastic changes affecting every walk of life. Man and machine worked side by side to produce iron, coal and cotton cloth on a scale never before imagined.

In this easy-to-follow and carefully researched book, Stan Yorke explains the machines and processes that helped to create our industrial world, using drawings and diagrams by his son, Trevor. Four major industrial areas are examined: the waterwheel as a source of power in mills and foundries; the steam engine which made power available to a variety of manufacturing industries; the mechanisation of textile production making cloth for all a reality; and iron, which revolutionised bridge construction and made the railways possible.

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### **Britain's Industrial Revolution: The Making of a Manufacturing People, 1700 - 1870**

by Barrie Trinder

Barrie Trinder has been a leading expert on industrial history for many years and this is perhaps his most important book to date: a general overview of the industrial revolution across the British Isles. The industrial revolution was one of the defining changes of human history, and it happened in Britain first. It changed radically the way in which goods were made: for the first time large factories were built to house the machines and power systems that had been invented. It led to new ways of working, and living: it concentrated workers in large workplaces, often in the rapidly growing towns and cities. Along with spectacular profits and economic benefits, it brought danger, pollution and increasing inequality between rich and poor. Alongside industry arrived canals, railways, cast-iron bridges and iron ships. The industrial revolution created the country and the society we recognise today.

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