

Why in England

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PEAS 2022-2023

Robert Allen's argument: Outline

Why did the Industrial Revolution take place in eighteenth century Britain and not elsewhere in Europe or Asia?

A huge variety of possible answers had been given.

Allen's approach: The Industrial Revolution was Britain's creative response to the challenges and opportunities created by the global economy that emerged after 1500.

Why in England

This was a two step process.

In the late sixteenth a European-wide market emerged. England took a commanding position as her wool textile industry out competed the established producers in Italy and the Low Countries.

England extended its lead in the late seventeenth and eighteenth centuries by creating an intercontinental trading network including the Americas and India.

Intercontinental trade expansion depended on the acquisition of colonies, mercantilist trade promotion, and naval power.

Why in England

The upshot of Britain's success in the global economy was the expansion of rural manufacturing industries and rapid urbanization.

East Anglia was the centre of the woollen cloth industry, and its products were exported through London where a quarter of the jobs depended on the port.

As a result, the population of London exploded from 50,000 in 1500 to 200,000 in 1600 and half a million in 1700.

In the eighteenth century, the expansion of trade with the American colonies and India doubled London's population again and led to even more rapid growth in provincial and Scottish cities.

This expansion depended on vigorous imperialism, which expanded British possessions abroad.

Why in England

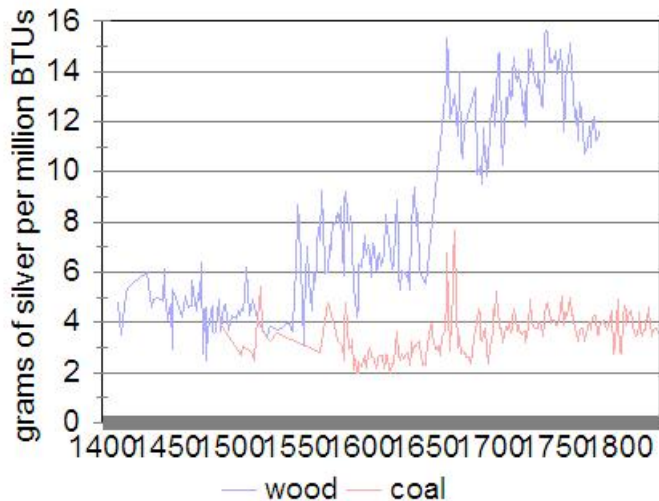
The growth of British commerce had three important consequences.

FIRST:

- the growth of London created a shortage of wood fuel that was only relieved by the exploitation of coal.
- in the fifteenth century, the two fuels sold at the same price per million BTU's
- as London grew after 1500, the price of wood fuels rose and by the end of the sixteenth century, charcoal and firewood were twice the price of coal per unit of energy.
- with that premium, consumers began to substitute coal for wood.
- it then paid to mine coal in Northumberland and ship it down the coast to London. The coal trade began. On the coal fields Britain had the cheapest energy in the world. Energy was more expensive on the European continent and particularly expensive in China.

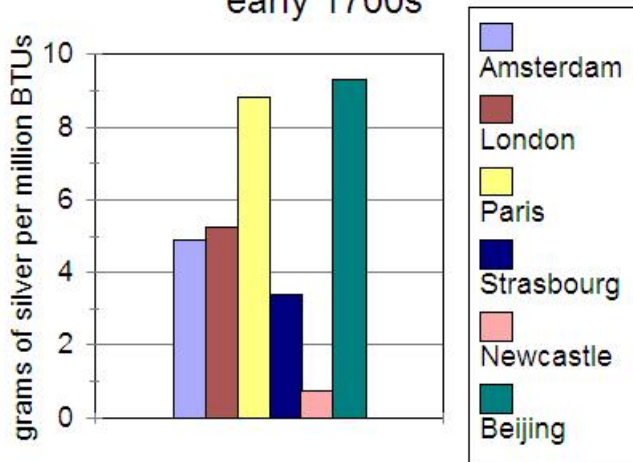
Coal and Wood

Real Prices of Wood & Coal in London



Energy Price

Price of Energy early 1700s



Why in England

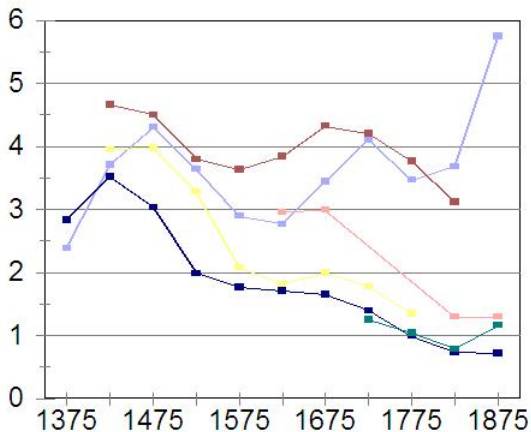
The growth of British commerce had three important consequences.

SECOND:

- the growth of cities and manufacturing increased the demand for labour with the result that British wages and living standards were the highest in the world.

Wages

Subsistence Ratio for Labourers
income/cost of subsistence basket



London

Amsterdam

Vienna

Florence

Delhi

Beijing

Why in England

The growth of British commerce had three important consequences.

THIRD:

- the growth of cities and the high wage economy stimulated agriculture;
- strong demand for food and particularly meat, butter, and cheese led to the conversion of arable to pasture and the production of fodder crops (beans, clover, turnips), most of which raised soil nitrogen levels and pushed up the yields of wheat and barley;
- urban demand for labour led to the amalgamation of small holdings into large farms, which employed fewer people per acre.

Why in England

High wages and cheap energy created a demand for technology that substituted capital and energy for labour.

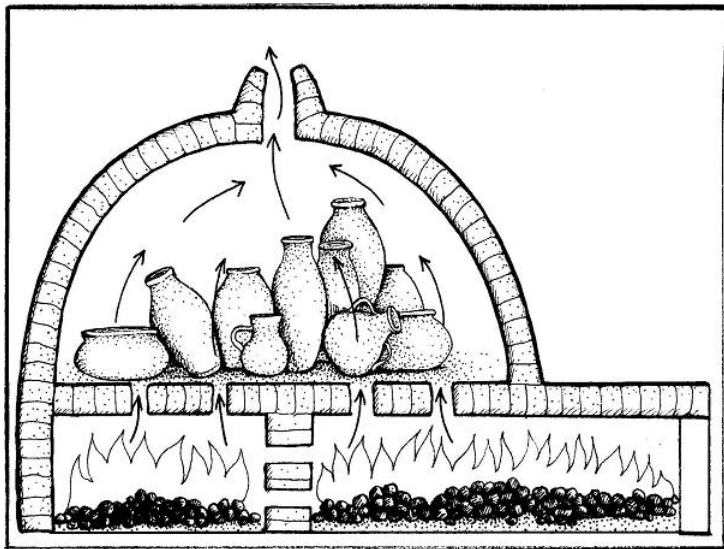
This is of such a capital relevance that it is worth repeating:

High wages and cheap energy created a demand for technology that substituted capital and energy for labour.

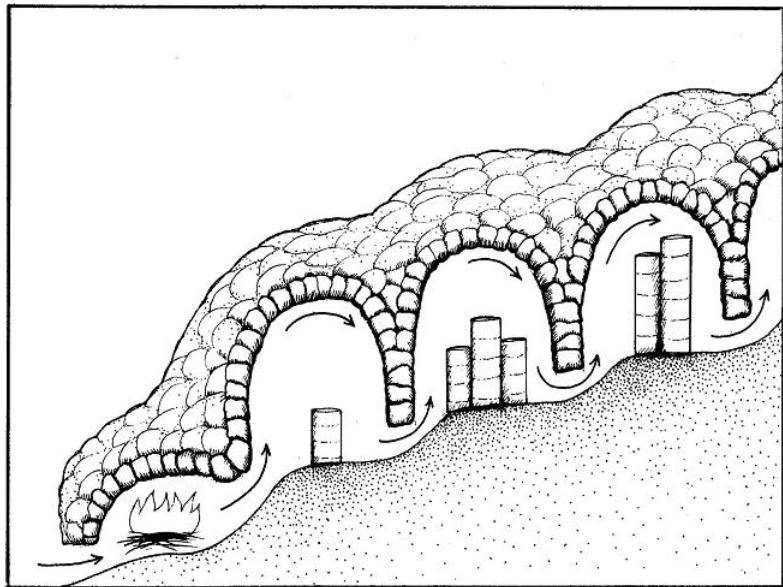
Once more:

High wages and cheap energy created a demand for technology that substituted capital and energy for labour.

Have a look at an english kiln



Have a look at a chinese kiln



Why in England, then? It's the economy!

The inventions of the Industrial Revolution were responses to the high wages and cheap energy of the British economy.

These inventions substituted capital and energy for labour. The steam engine increased the use of capital and coal to raise output per worker.

These technologies eventually revolutionized the world, but at the outset they were barely profitable in Britain, and their commercial success depended on increasing the use of inputs that were relatively cheap in Britain.

In other countries, where wages were lower and energy more expensive, it did not pay to use technology that reduced employment and increased the consumption of fuel.

Since the technologies of the Industrial Revolution were only profitable to adopt in Britain, that was also the only country where it paid to invent them.

Why in England

In the seventeenth and eighteenth centuries, the growth of a manufacturing, commercial economy increased the demand for literacy, numeracy and trade skills.

These were acquired through privately purchased education and apprenticeships.

The high wage economy not only created a demand for these skills, but also gave parents the income to purchase them.

As a result, the British population was highly skilled (by international standards), and those skills were necessary for the high tech revolution to unfold.