

# Transport Revolution - Canals

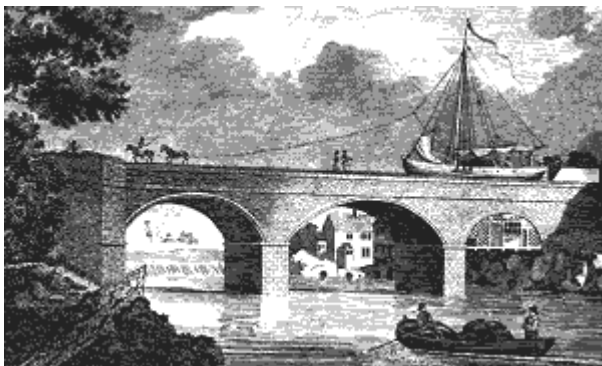
Rivers had not always routed themselves through the most economically significant areas. Once the demands of industry became pressing after the mid-18th century, the obvious solution was to dig artificial ones. Two men were responsible for igniting 'canal mania'.

## Francis Egerton, Duke of Bridgewater ( 1736-1803)

Rich, enterprising and (according to rumour) recently dumped by his girlfriend, he turned to maximising the yield of his estates. At Worsley, 8 miles from the growing city of Manchester, he owned rich deposits of coal. But the cost of carrying it to Manchester to meet the demands of the rapidly increasing population made it too expensive. Knowing that a horse could pull about 60 times more on water than on a road, he hit on the plan of creating a waterway between his coal mine and his potential customers. In 1759 he persuaded Parliament to authorise him to build a canal and hired James Brindley as his engineer. The Bridgewater canal was the starting point of a systematic network linking Britain's main industrial areas.

## James Brindley (1716-72)

He trained as a wheelwright and never learnt to read and write. But he had a genius for large-scale construction work and ranks as Britain's first civil engineer. Totally unable to work out anything on paper, when he hit a problem he retired to bed and stayed there until he thought of a solution. All the details were held in his head. In this way he hit on the idea of carrying the Bridgewater canal on an aqueduct forty feet above the river Irwell, which it had somehow to cross. Everyone said the water would leak out but Brindley lined his aqueduct with clay and proved them wrong. The cost of coal in Manchester fell by half and demand greatly increased. The canal became a tourist attraction and others spotted the economic potential. Brindley's reputation was made and his order book was soon full.



*Brindley's aqueduct over the Irwell at Barton, Manchester*

By 1767 he had built another canal to link Manchester with Runcorn on the Mersey and planned a network of canals to link the Mersey, Trent, Thames and Severn - and hence connect England's main ports, Liverpool, Hull, London and Bristol, with new manufacturing towns like Manchester and Birmingham ('the canal metropolis'). By his death he had started the Trent and Mersey canal, the Staffordshire & Worcestershire canal and the Oxford canal. He and the Duke had built 365 miles of canals and pioneered the use of 'navvies' (navigators - usually Irish) to dig them and the construction of flights of locks to get them over hills.

By 1830 Britain had 4000 miles of canals. They were the arteries of industrial Britain, which made it possible to supply the required volume of raw materials like coal and iron and distribute the manufactured products around the country. But the arrival of railways exposed their limitations. Canal barges were very slow, especially in hilly country. A heavy frost or long drought could bring them to a halt. Canals were in any case mainly confined to the West and Midlands and by the 1840s railways were slowly strangling them.

### **The Impact of Turnpikes and Canals**

1. linked areas and regions previously remote and separate
2. cheapened the transportation of raw materials and manufactured goods
3. encouraged agriculture, trade and industry
4. speeded up the transmission of news and information