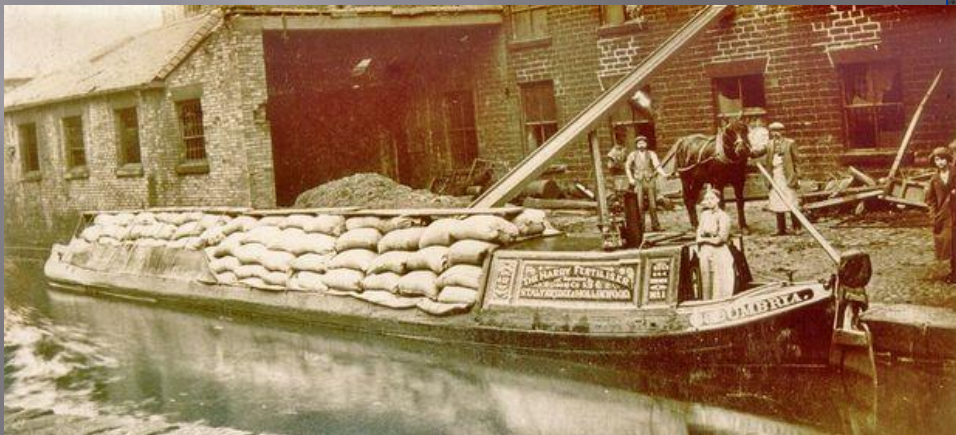
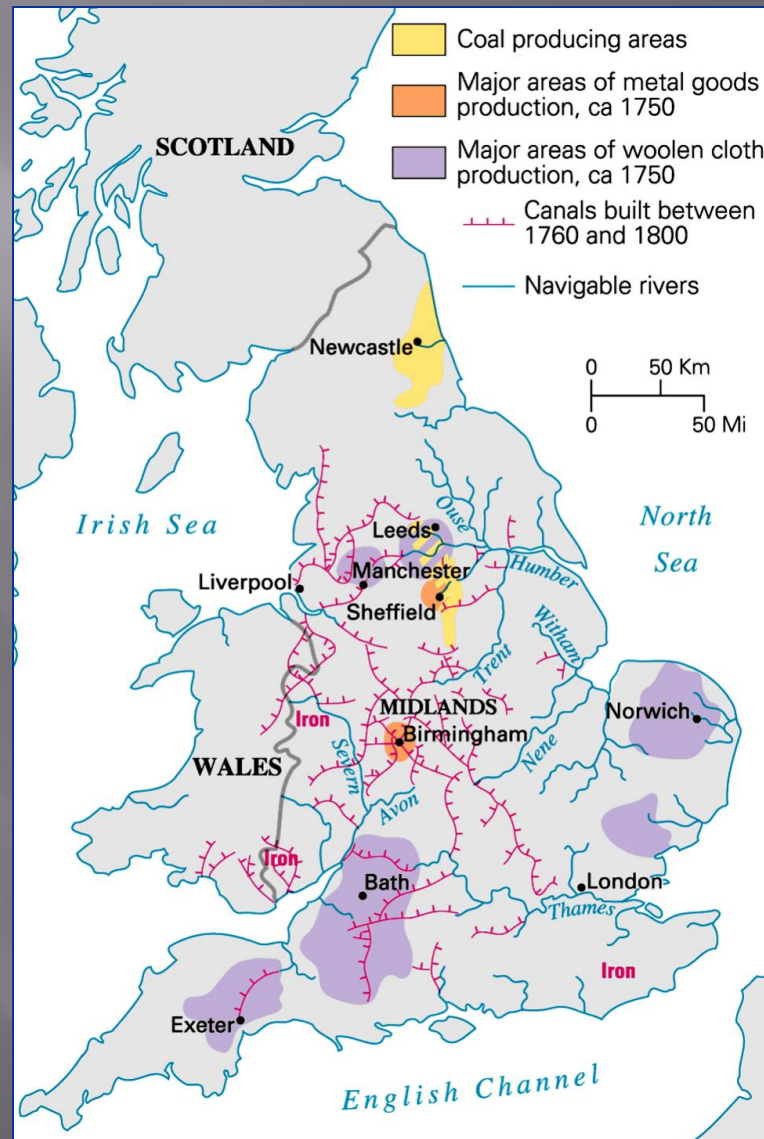


# Early Canals



Britain's Earliest  
Transportation  
Infrastructure

# Metals, Woolens, & Canals



# Transportation Revolution

Robert Fulton  
(American)

- Steamboat (1807)
- Sped water transportation

Thomas Telford and  
John McAdam  
(British)

- Macadamized roads (1810-1830)
- Improved roads

George Stephenson  
(English)

- Locomotive (1825)
- Fast land transport of people and goods

Gottlieb Daimler  
(German)

- Gasoline engine (1885)
- Led to the invention of the automobile

Rudolf Diesel  
(German)

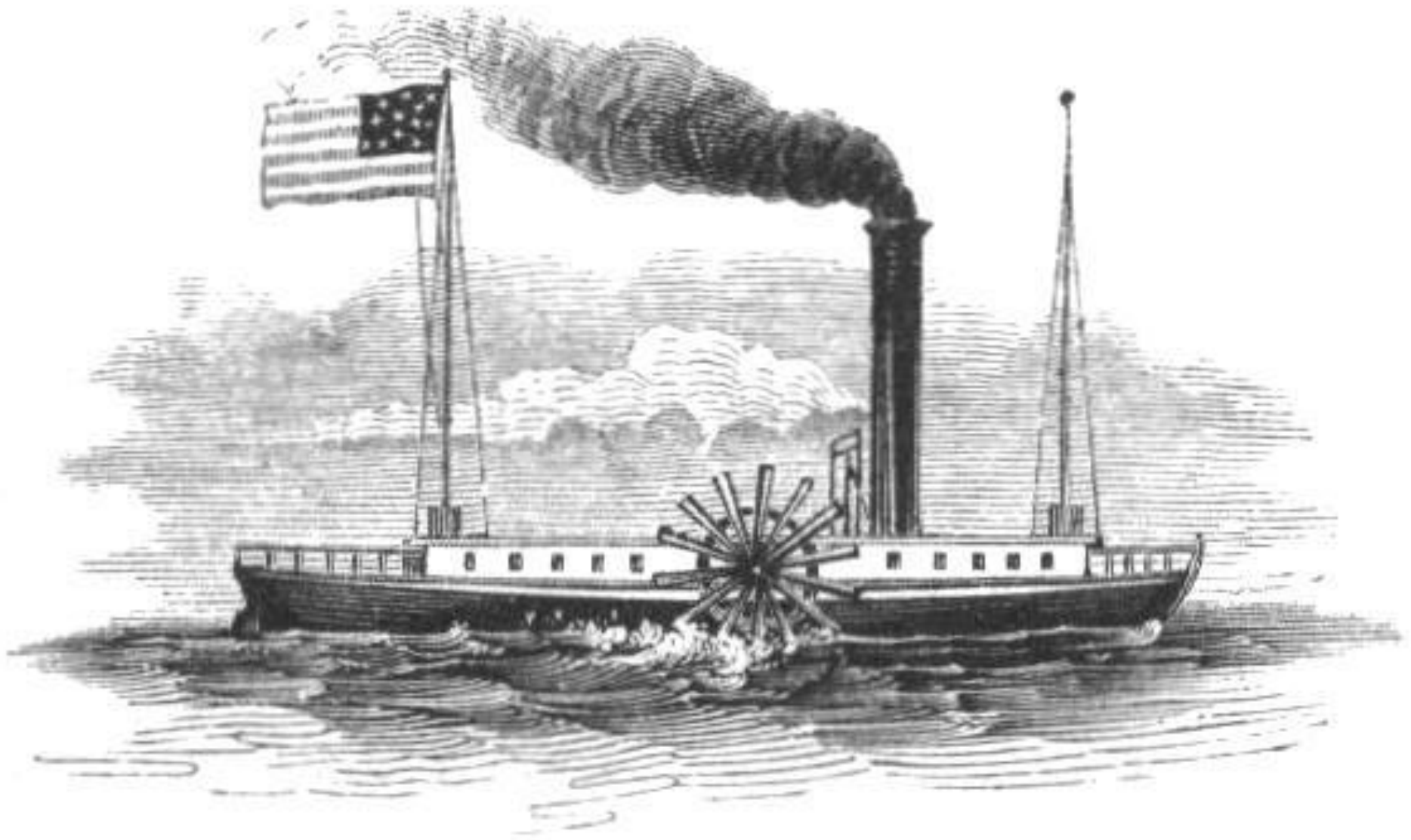
- Diesel engine (1892)
- Cheaper fuel

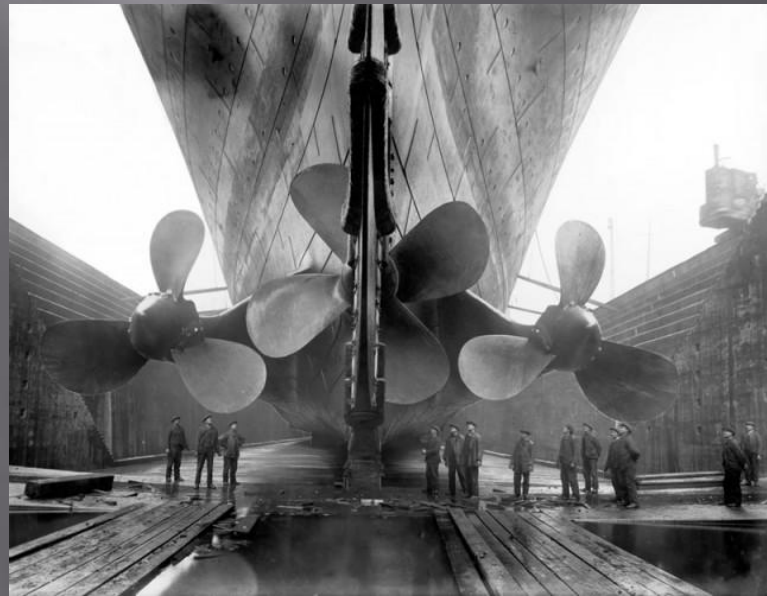
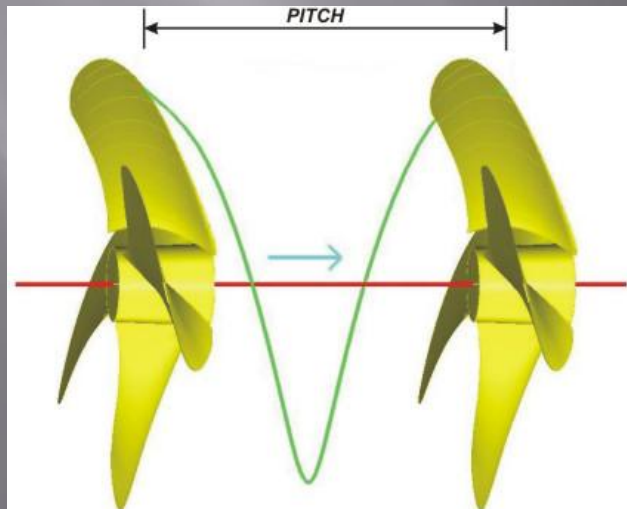
Orville and Wilbur  
Wright (American)

- Airplane (1903)
- Air transport

# Steamboats

- ◉ Robert Fulton invented the steamboat in 1807
- ◉ The *Clermont* operated the first regular steamboat route, running between Albany and New York City
- ◉ 1819 – the *Savannah* used a steam engine as auxiliary power for the first time when it sailed across the Atlantic Ocean
- ◉ 1836 – John Ericsson invented a screw propeller to replace paddle wheels
- ◉ 1838 – the *Great Western* first ship to sail across the Atlantic on steam power alone, completing the trip in 15 days





# Macadamized Roads

- ◉ Strong, hard roads invented by Thomas Telford and John McAdam
- ◉ Improvement over dirt and gravel roads
- ◉ Macadamized roads have a smooth, hard surface that supports heavy loads without requiring a thick roadbed
- ◉ Modern roads are macadamized roads, with tar added to limit the creation of dust



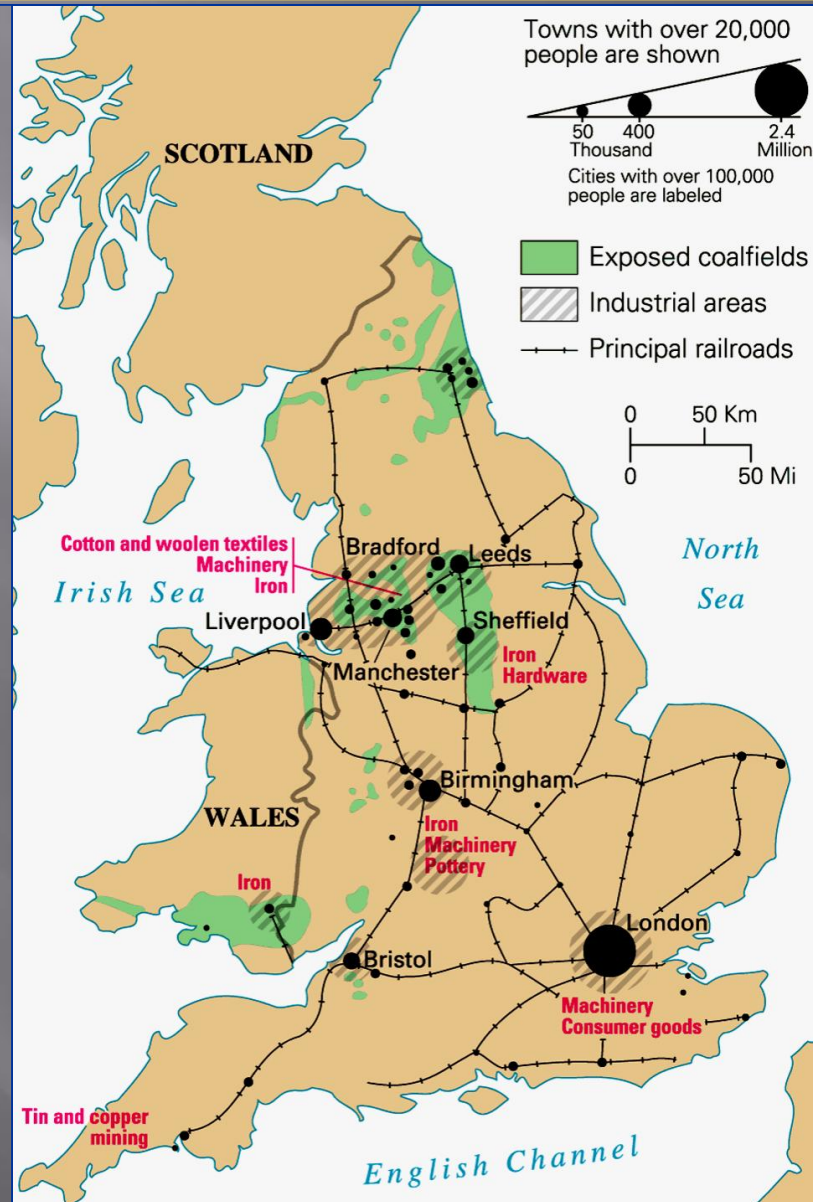
# Railroads

- ◉ 1830 – Stephenson's "Rocket" train traveled the 40 miles between Liverpool and Manchester in 1 ½ hours
- ◉ 1830-1870 – railroad tracks went from 49 miles to over 15,000 miles
- ◉ Steel rails replaced iron rails
- ◉ 1869 – Westinghouse's air brake made train travel safer
- ◉ Greater train traveling comfort – heavier train cars, improved road beds, and sleeping cars

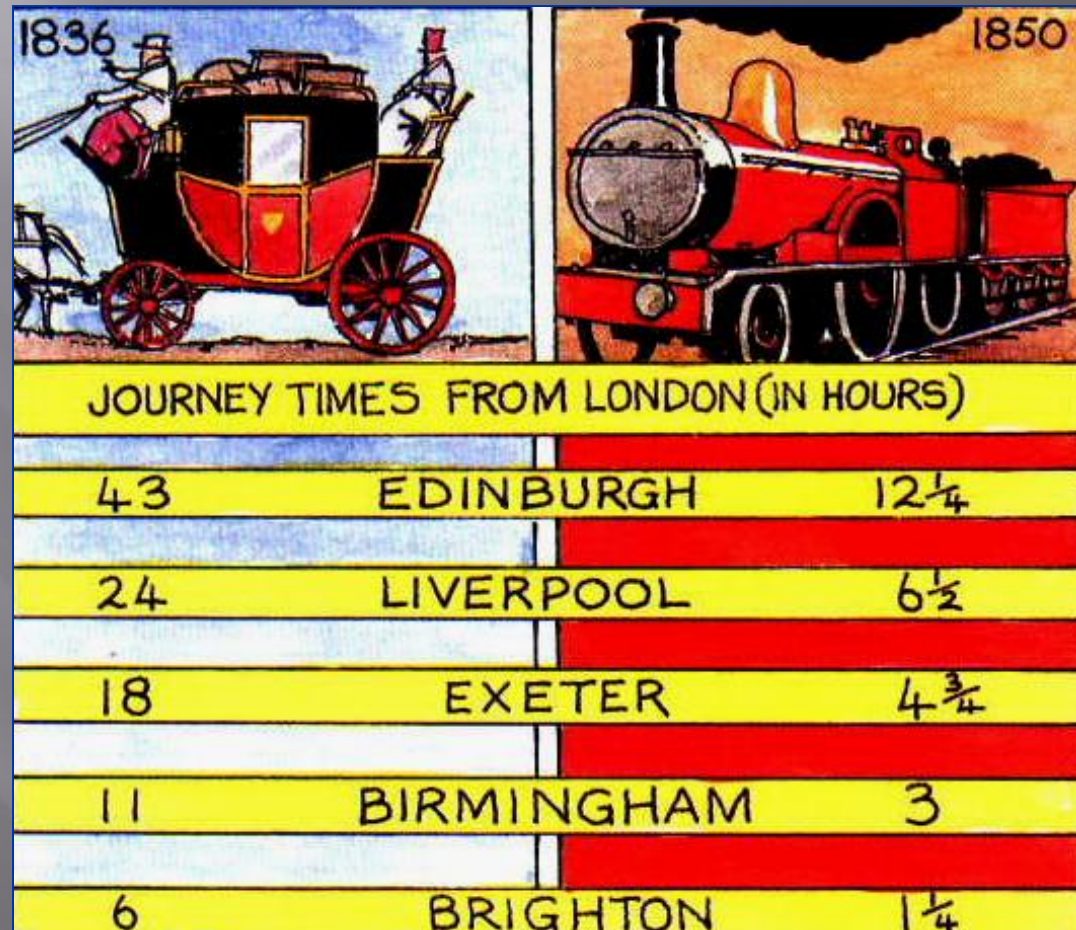
# Railroads on the Continent

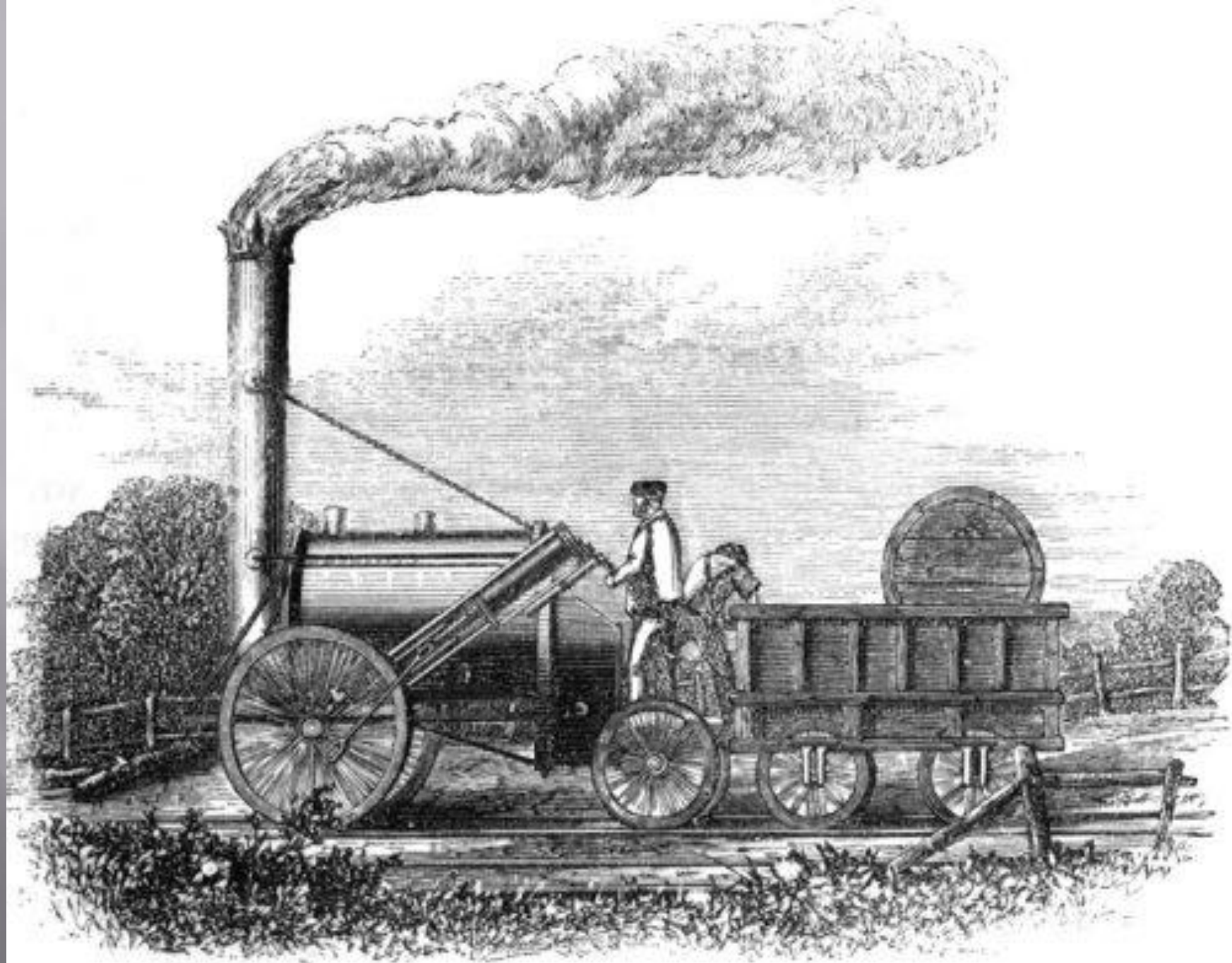


# Coalfields & Industrial Areas



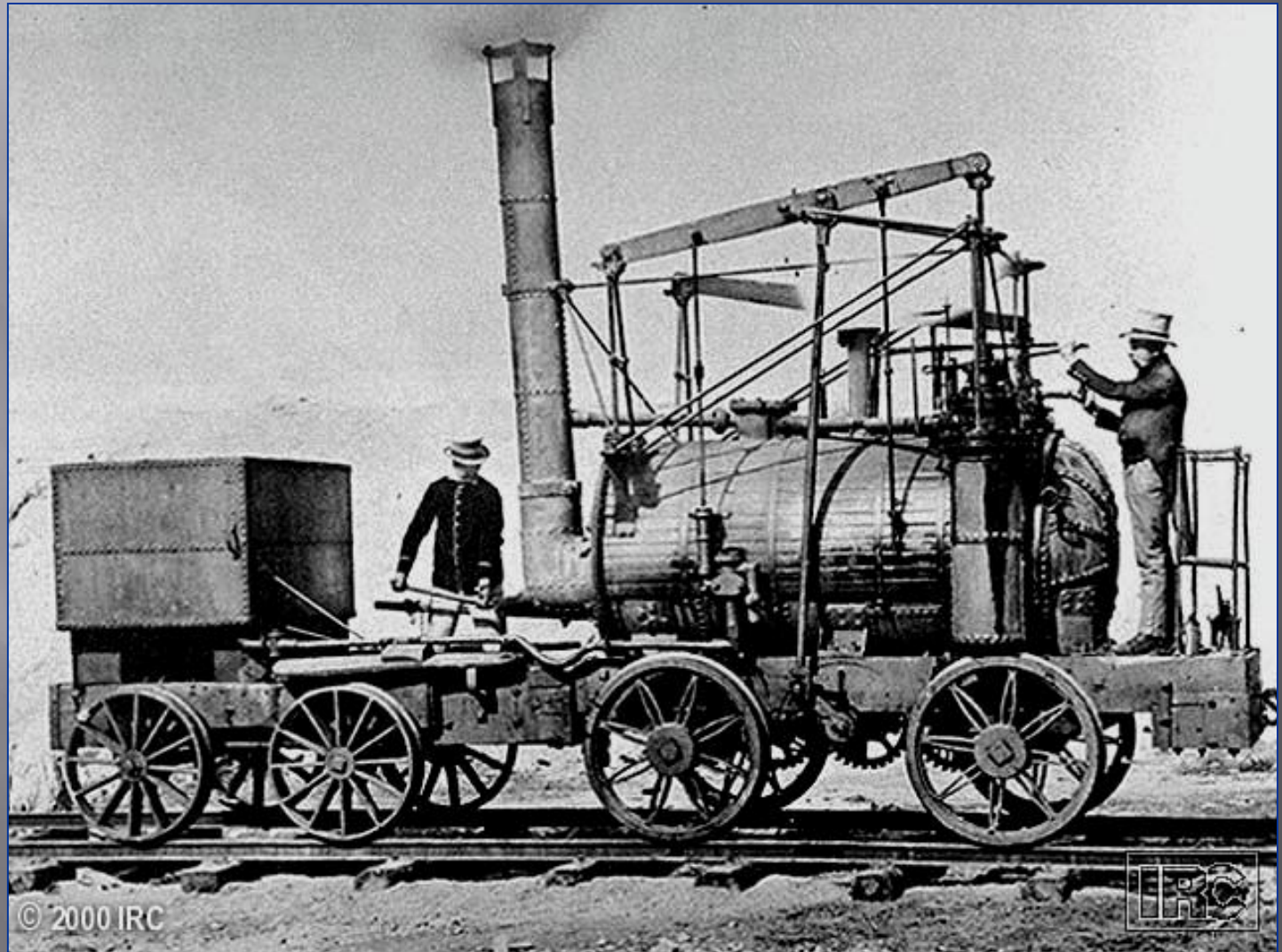
# The Impact of the Railroad





The "Rocket."

# An Early Steam Locomotive



# Steam Tractor

