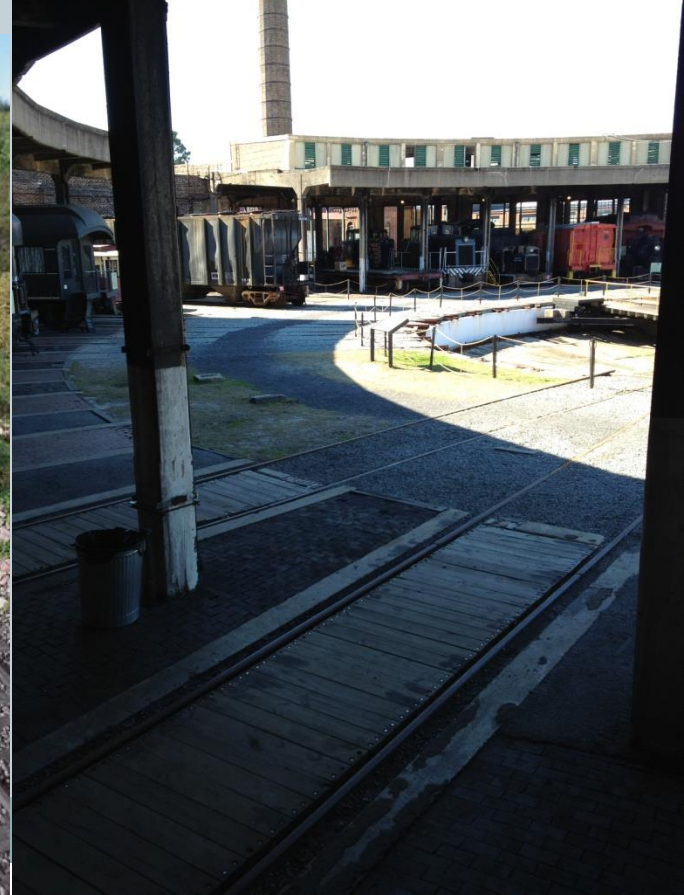
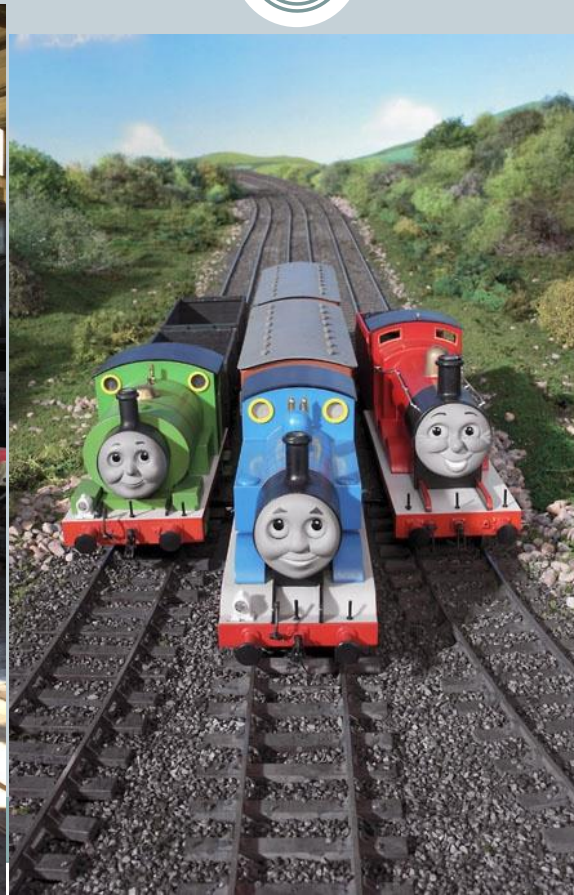


Railways and Entrepreneurs

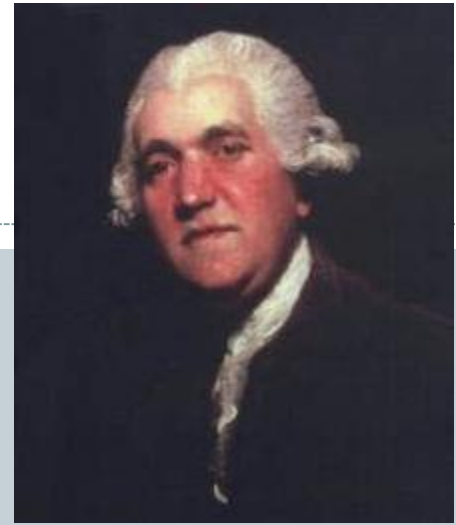


Trains & Railways



- Railways were around long before trains
- George Stephenson, “father of the modern railroad”
 - Grooved wheels
 - Modern train chimney
 - ✦ “The Rocket”
- The Liverpool and Manchester Railway (1830)
- By early 1850s = over 7000 miles of railway in Britain
- Encouraged urbanization
- Changed people’s perceptions of time and space
 - Trains had to be made affordable – Third Class seating

Great Entrepreneurs



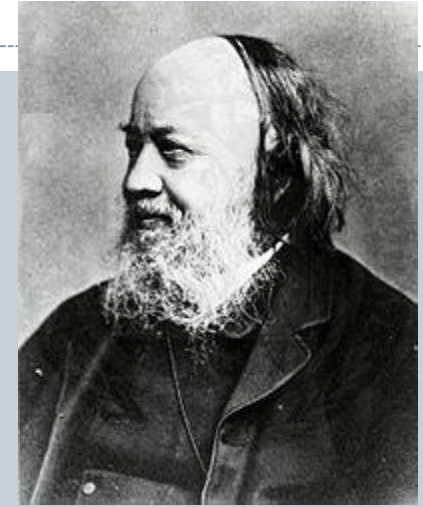
- Efficient management of industry
- Josiah Wedgwood (1730-1795)
 - Born poor and deformed as a child by smallpox
 - Created assembly line for pottery production
 - Created the Wedgwood company
- Robert Owen (1771-1858)
 - Born middle class
 - At 19, was managing over 500 employees
 - Social reformer

Labor & Social Reform



- **Factory Act (1833)**
 - Children under 9 were not allowed to work
 - Set work-hour limits on child labor
 - Children 9-13 had to be educated for two hours a day
- **Factory Act (1847) = women/children can only work 10 hours a day or less**
- **Mines Act (1842) = no children under 10 or women can work underground**
- **New interest in public health**

Public Health & Sanitation



- **Public Health Act of 1848**
 - Creation of local health boards
- **Vaccination Act (1853)**
 - Vaccination was made compulsory in Britain
- **Contagious Diseases Act (1864)**
 - Required VD checks of prostitutes
- **Importance of sewers**
 - Especially in preventing cholera and other disease



Benefits?



- Progress made in infrastructure and transportation
- 1801-1851 = English population doubled
- Average English resident is making 75% more income
- BUT, what about the differences between agrarian and urban life?
 - The tyranny of the clock?
 - Great Hunger of the 1840s?



The New Urban Masses



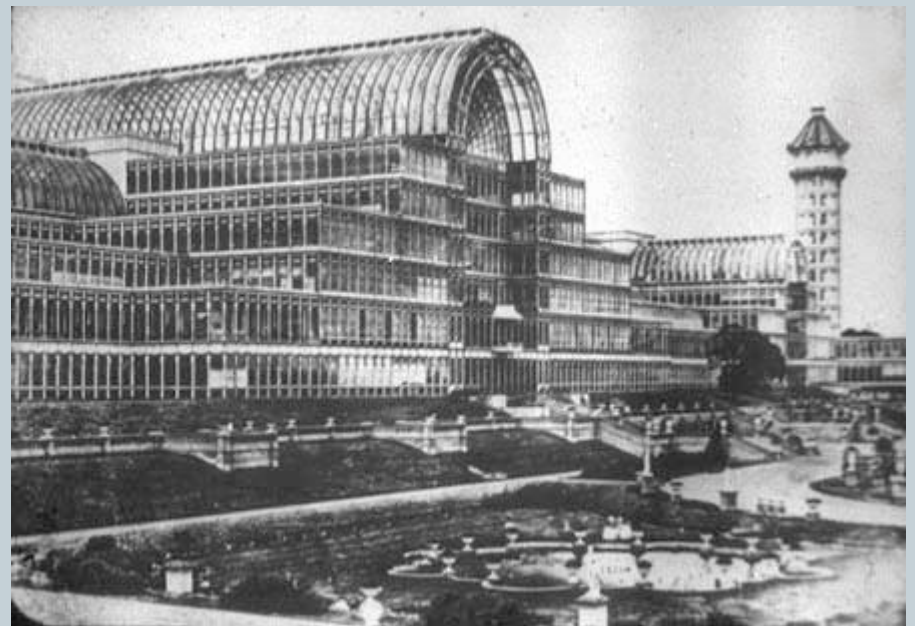
- Decline of the laboring family
- Higher and higher male unemployment
- Normalization of a cash economy
 - Importance of budgeting
- New ways to hurt one's self on the job
- Feudalism is officially dead – capitalism killed it



Britain First, but Europe Close Behind



- The Crystal Palace Exhibition (May – October 1851)
- Uniqueness of Britain's Industrialization
 - Not really spurred on by the government
 - A long and volatile process



Case Study: France



- Slow and steady, rather than fast and explosive
- French culture
 - Valued high quality and good taste; love of fashion
- Very slow urbanization
 - 1860s = over 50% of French workers were still employed on farms
 - Less incentive for peasants to give up their land
- Mid-19th century = industrialization takes off
 - Largely due to the government funding of a railway network
- Slow population growth

Case Study: Germany



- German hyper-localism
 - Made railways initially difficult to build
 - Domestic trade heavily favored
- Intra-German Agricultural Problems
 - Prussian Junkers
 - Lack of mobility
- Late to adopt technological change
- The Zollverein (1834) = German customs union
- Late bloomer, but a huge economy . . .



The Rest of Europe: Economic Problems



- Lack of Resources
 - Poland & Naples
- Geographic Obstacles
 - Austria & Spain
- Perpetual Poverty
 - Russia, Italian States, Spain, and Hungary
- Illiteracy & Lack of Education
 - The exceptions of Sweden, Britain, France, and Prussia
 - Problems in Spain, the Italian States, and Russia

