

Chapter 25

The Industrial Evolution

Voices from the Past

In 1844, a factory in Berlin posted the following rules for its workers:

“The normal working day begins at all seasons at 6 A.M. precisely and ends, after the usual break of half an hour for breakfast, an hour for dinner and half an hour for tea, at 7 P.M. . . . Workers arriving 2 minutes late shall lose half an hour’s wages; whoever is more than 2 minutes late may not start work until after the next break, or at least shall lose his wages until then. . . . No worker may leave his place of work otherwise than for reasons connected with his work. . . . All conversation with fellow-workers is prohibited . . .”

—*Documents of European Economic History*, Sidney Pollard and Colin Holmes, 1968

The new factories of the Industrial Revolution demanded a rigorous discipline to force employees to become accustomed to a new kind of work life.

- 25-1 Beginnings
 - Agriculture
 - Enclosures
 - Crop rotation
 - Industry
 - Power
 - Water
 - Factors of production
 - Land
 - Labor
 - capital

A great number of streams . . . furnish water-power adequate to turn many hundred mills: they afford the element of water, indispensable for scouring, bleaching, printing, dyeing, and other processes of manufacture: and when collected in their larger channels, or employed to feed canals, they supply a superior inland navigation, so important for the transit of raw materials and merchandise.

EDWARD BAINS, *The History of Cotton Manufacture in Great Britain (1835)*

- Textiles

- New inventions

- Flying shuttles
 - Spinning jenny
 - Water frame
 - Power loom
 - Cotton gin



- Transportation
 - Steam engine
 - Power
 - Boats
 - Railroads
 - Rocket
 - Roads
 - Macadamized
 - turnpikes



Voices from the Past

On December 12, 1901, Guglielmo Marconi reported a remarkable discovery:

“Shortly before mid-day I placed the single earphone to my ear and started listening. . . . I was at last on the point of putting . . . my beliefs to test. The answer came at 12:30 when I heard, faintly but distinctly, *pip-pip-pip*. I handed the phone to Kemp: ‘Can you hear anything?’ I asked. ‘Yes,’ he said, ‘the letter S’—he could hear it. . . . The electric waves sent out into space from Britain had traversed the Atlantic—the distance, enormous as it seemed then, of 1,700 miles [2,735 km] — It was an epoch in history. I now felt for the first time absolutely certain the day would come when mankind would be able to send messages without wires . . . between the farthestmost ends of the earth.”

—*Eyewitness to History*, John Carey, ed., 1987

Marconi’s discovery of radio waves was one of the many advances of the Second Industrial Revolution.

- 25-2 Industrialization in Britain
- Cities & Urbanization
 - Problems
 - Crowded
 - Illnesses
 - Slums
 - Urban pollution
 - classes
 - Working
 - Unskilled labor
 - Luddites
 - Middle
 - Managers
 - Skilled labor
 - Rising standard of living
 - Diet
 - Improved Education

Steam boilers discharge into it their seething contents, and drains and sewers their fetid impurities; till at length it rolls on here between tall dingy walls, there under precipices of red sandstone considerably less a river than a flood of liquid manure.
---Hugh Miller

- Manchester, England
 - Water power
 - Labor source
 - Men
 - Women
 - children
 - Port city
 - Created wealth
- Factory Act 1819
 - Worker's age
 - Pollution restrictions

You went down one step even from the foul area into the cellar in which a family of human beings lived. It was very dark inside. The window-panes many of them were broken and stuffed with rags the smell was so fetid [foul] as almost to knock the two men down. . . . they began to penetrate the thick darkness of the place, and to see three or four little children rolling on the damp, nay wet brick floor, through which the stagnant, filthy moisture of the street oozed up.

ELIZABETH GASKELL, *Mary Barton*

- 25-3 Industrialization in the U.S.
 - Slater and Brown 1800s
 - Pawtucket, R.I.
 - British defectors
 - Lowell 1820s
 - Massachusetts Textile Mill Town
 - Mill girls
 - Post Civil War
 - Inventions, Natural resources, Labor
 - Consumers
 - Steel, Railroads
 - Corporations
 - Standard Oil (Rockefeller)
 - Carnegie Steel
 - Stock market
 - Entrepreneurs

Country girls were naturally independent, and the feeling that at this new work the few hours they had of everyday leisure were entirely their own was a satisfaction to them. They preferred it to going out as “hired help.” It was like a young man’s pleasure in entering upon business for himself. Girls had never tried that experiment before, and they liked it.
---Lucy Larcom

- Continental Europe
- British defectors
 - Textiles
 - Belgium
 - Cockerhill
 - Bohemia
 - Spain
 - Northern Italy
 - France
 - Germany
 - political issues
 - Steel
 - Ruhr Valley
 - Iron
 - Coal



- 25-4 Impact of Industrialization
 - Global inequality
 - Imperialism
 - Resources
 - Markets
- Rise of European Power



- Reforming the industrial World
 - Philosophy
 - Laissez faire Capitalism
 - Adam Smith
 - Invisible hand
 - Self interest
 - Competition
 - Supply and demand



- Rise of Socialism
 - Utilitarianism
 - Utopia
 - New Harmony, Ind.
- Socialism
 - Progress
 - Social justice
 - Planned economy
 - End poverty
 - Promote equality
- Radical Socialism
 - Marx & Engels
 - Communism
 - Proletariat (workers)
 - Government owns all means of production
 - All will be equally shared!

***Consider what is happening among the working classes. . . . Do you not see spreading among them, little by little, opinions and ideas that aim not to overturn such and such a ministry, or such laws, or such a government, but society itself, to shake it to the foundations upon which it now rests?
ALEXIS DE TOCQUEVILLE, 1848 speech***

- Labor Unions
 - Workers vs. owners
 - Collective bargaining
 - Strikes
 - Trade unions
 - American Federation of Labor (AFL)
- Labor Laws
 - Factory Act
 - Mines Act
 - National Child Labor Committee



- Reform Movement Spread

- Abolition of Slavery

- Wilberforce
- Emancipation Proclamation

- Women's Rights

- Safety inspectors
- Elizabeth Cady Stanton
- Jane Addams
- International Council for Women

- Other areas

- Public education
 - Mann in Mass.
- Prison
 - Tocqueville

I gradually became convinced that it would be a good thing to rent a house in a part of the city where many primitive and actual needs are found, in which young women who had been given over too exclusively to study, might...learn of life from life itself.