

INDUSTRIAL REVOLUTION

at pppst.com

A stylized illustration of an industrial scene. In the background, there are several smokestacks emitting white and grey smoke. In the foreground, there is a red steam locomotive pulling a train. To the left, there are various mechanical parts and tools, including a large gear and a smaller machine. The overall style is cartoonish and colorful.

Ch 19 & 21

**Economic, Social &
Industrial Revolution**



OVERVIEW:

Industrial Revolution

1. improvements in farming
 - A. =population increase
2. =Changes in:
 - A. Social Classes
 - B. People's roles
 - C. Working conditions
 - D. Rise of cities



I. THE AGRARIAN REVOLUTION

A. Increased Food Production due to Agrarian (Farming) Revolution*

1. Technology

a. Dikes—to protect farms from floods

b. Fertilizer (man-made)

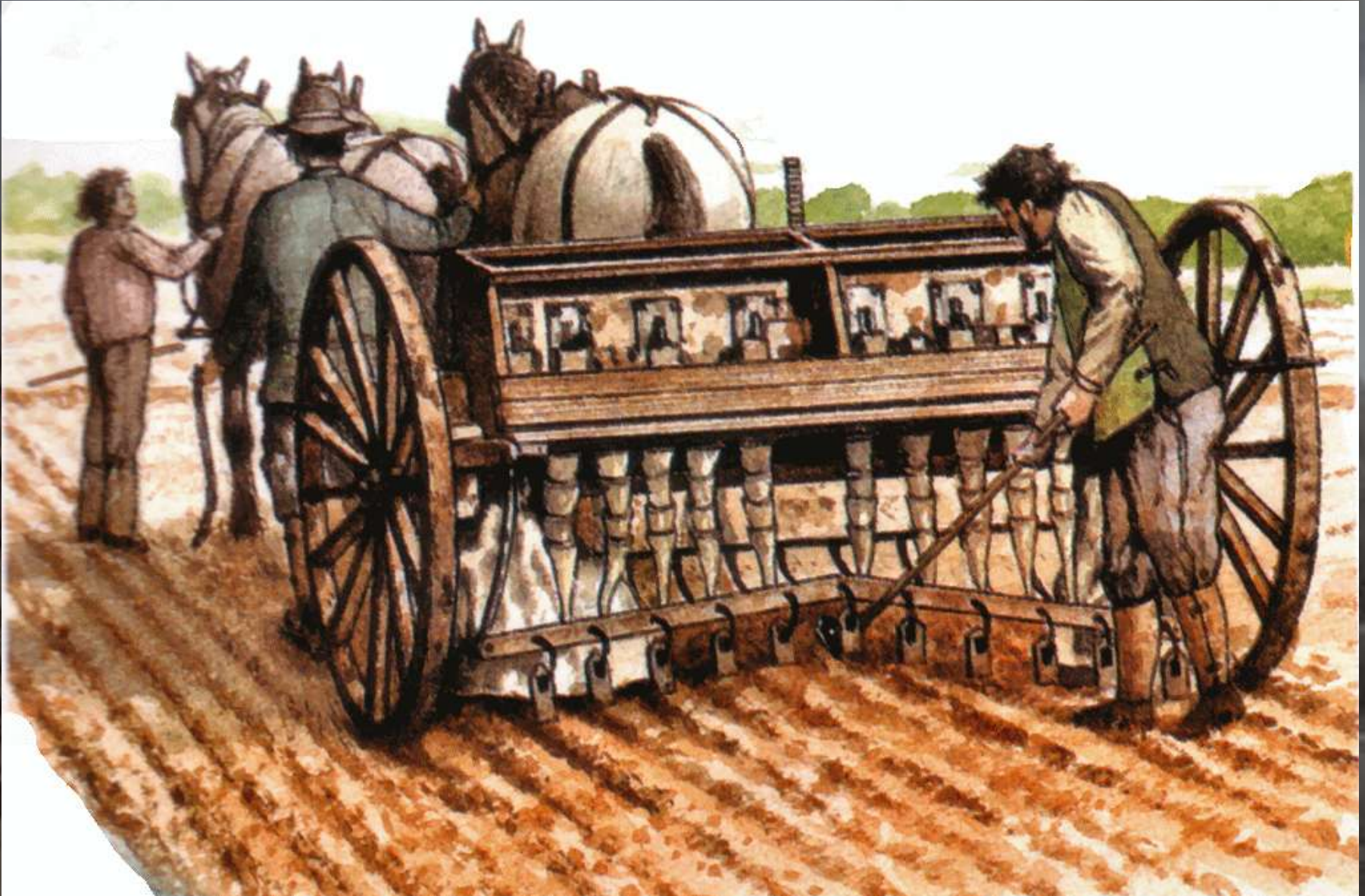
c. Seed Drill=planted seeds in rows



Dikes to hold out water



The Seed Drill



2. Enclosure Movement*

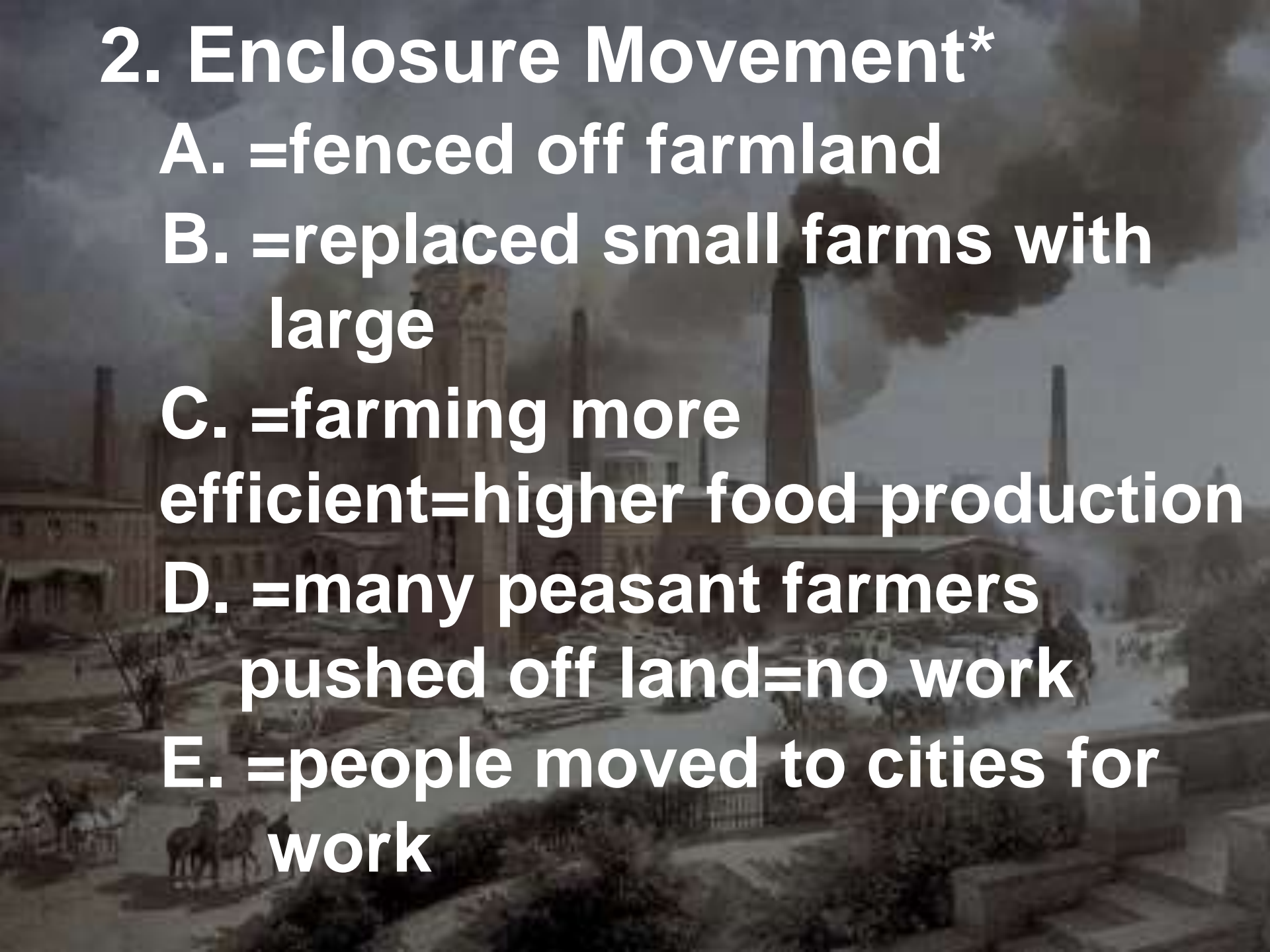
A. =fenced off farmland

B. =replaced small farms with large

C. =farming more efficient=higher food production

D. =many peasant farmers pushed off land=no work

E. =people moved to cities for work



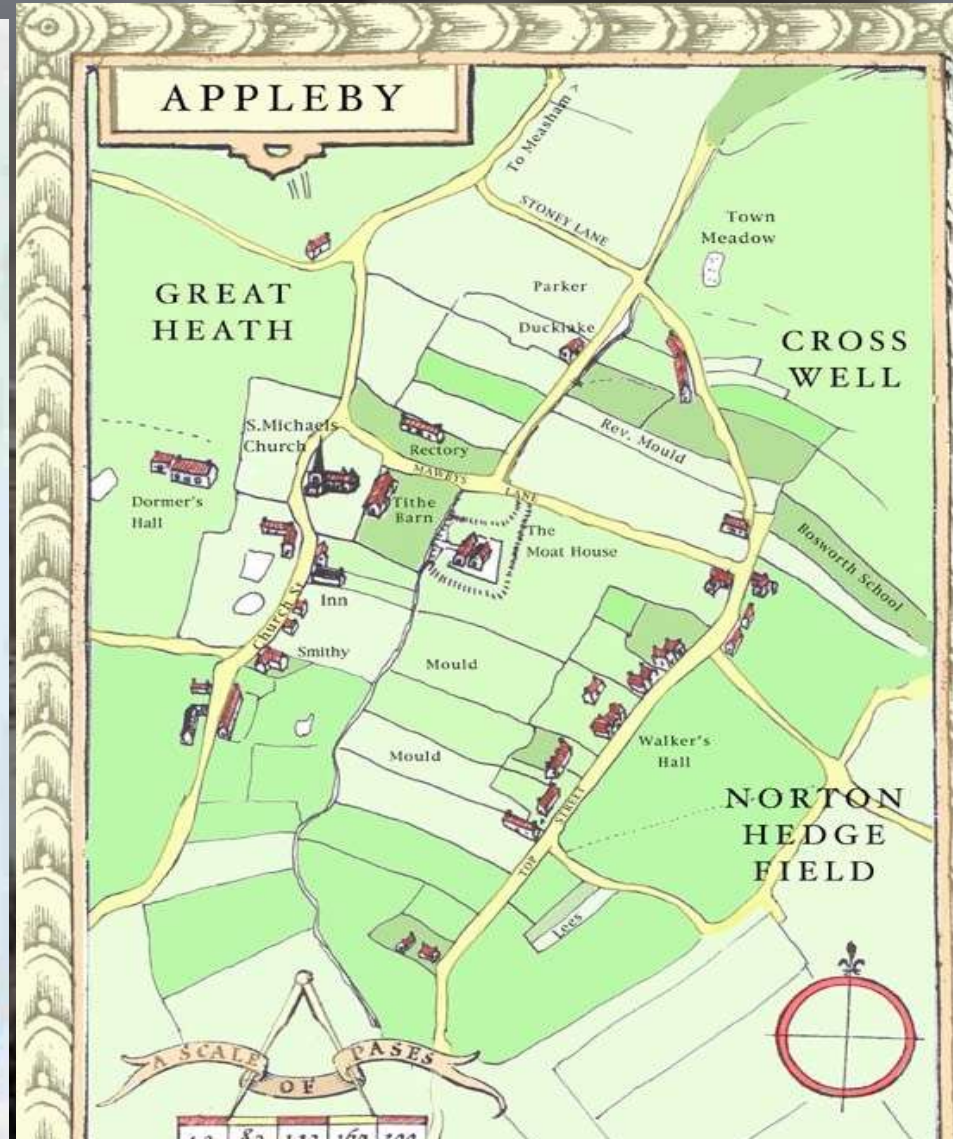
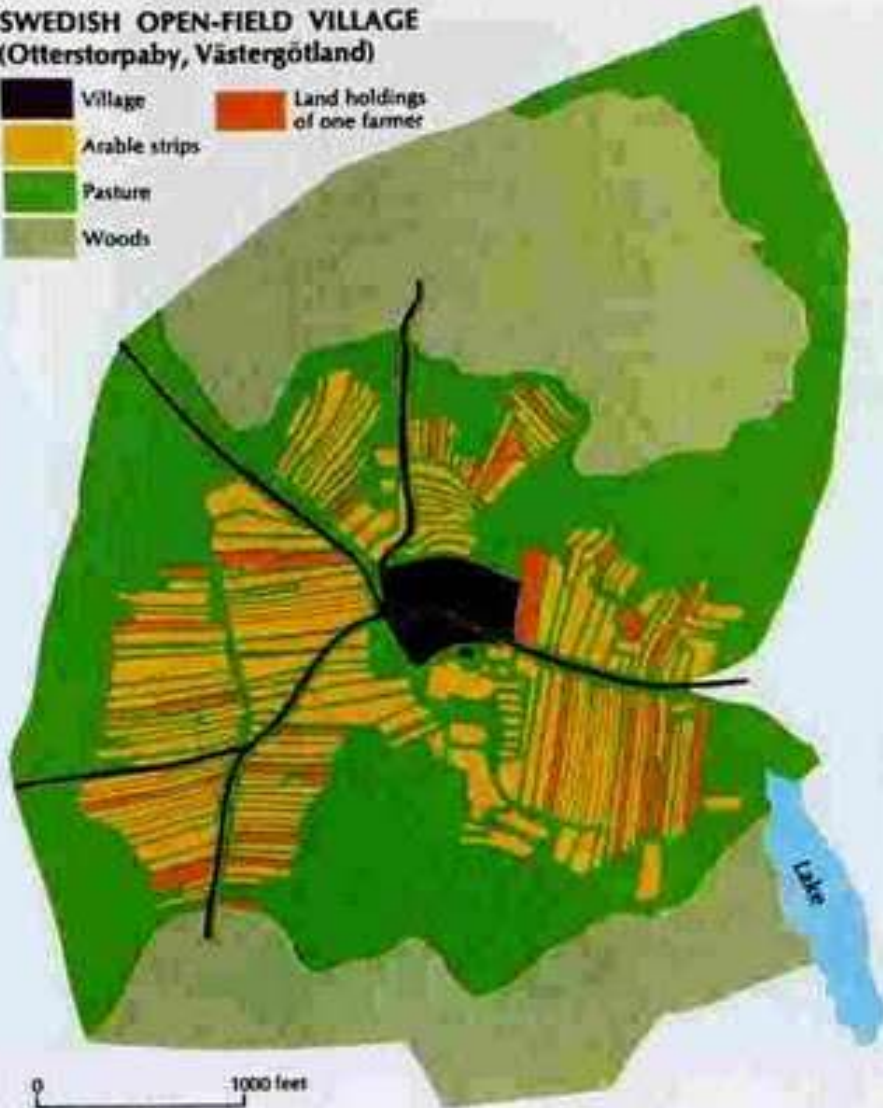
Enclosure Movement

Before (many plots)

After (fewer plots)

SWEDISH OPEN-FIELD VILLAGE
(Otterstorpaby, Västergötland)

-  Village
-  Land holdings of one farmer
-  Arable strips
-  Pasture
-  Woods





B. Population Explosion

1. Due to higher food production



2. Better diets:

a. =healthier babies (more lived)

b. =people living longer = more tax \$ coming in for govts

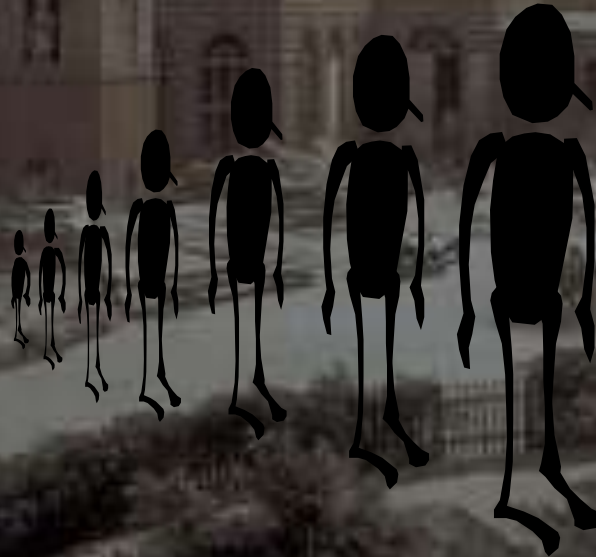
c. Potato=cheap carbs



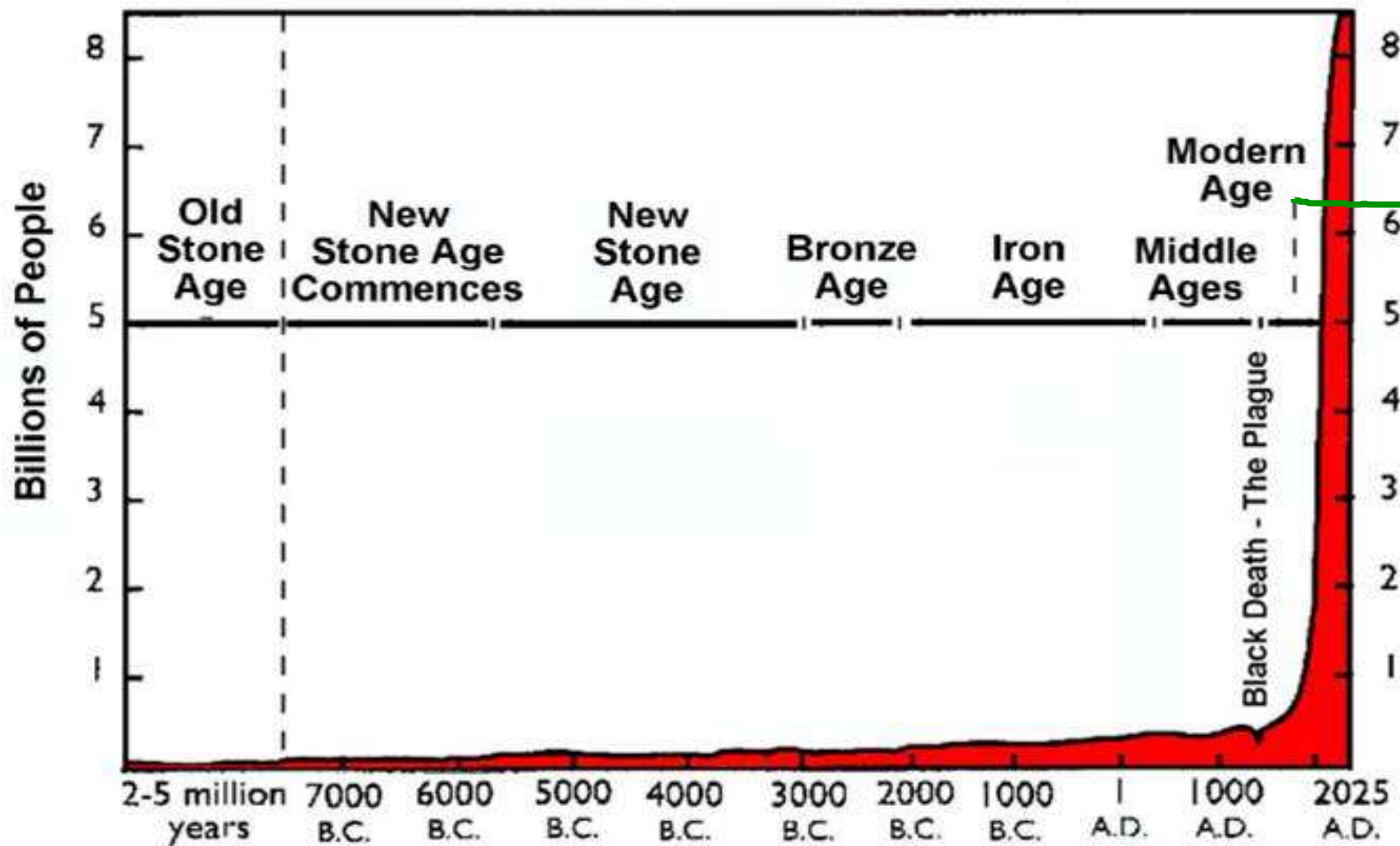
3. Improved medical care & sanitation



=Europe from 120 million people to 190 million in 100 years during the 1700s!



World Population Growth Through History



From "World Population: Toward the Next Century," copyright 1994 by the Population Reference Bureau

II. THE INDUSTRIAL REVOLUTION*

A. Causes of the Industrial (factories) Revolution

1. Geography → happened 1st in Britain:

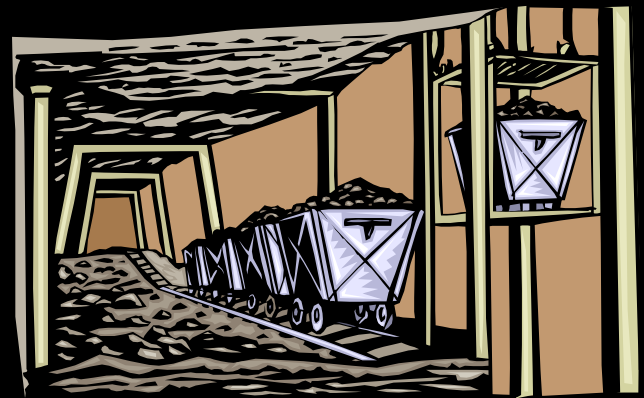
a. Plenty of coal & iron ore

b. Island=natural harbors for trade

c. Rivers=for transport & power

The Power of COAL

- High temperature when burned=STEAM produced to run the STEAM ENGINES
- Injecting air into Molten Iron Ore (heated by coal)=STEEL (Bessemer Process)



2. Population Growth & Change

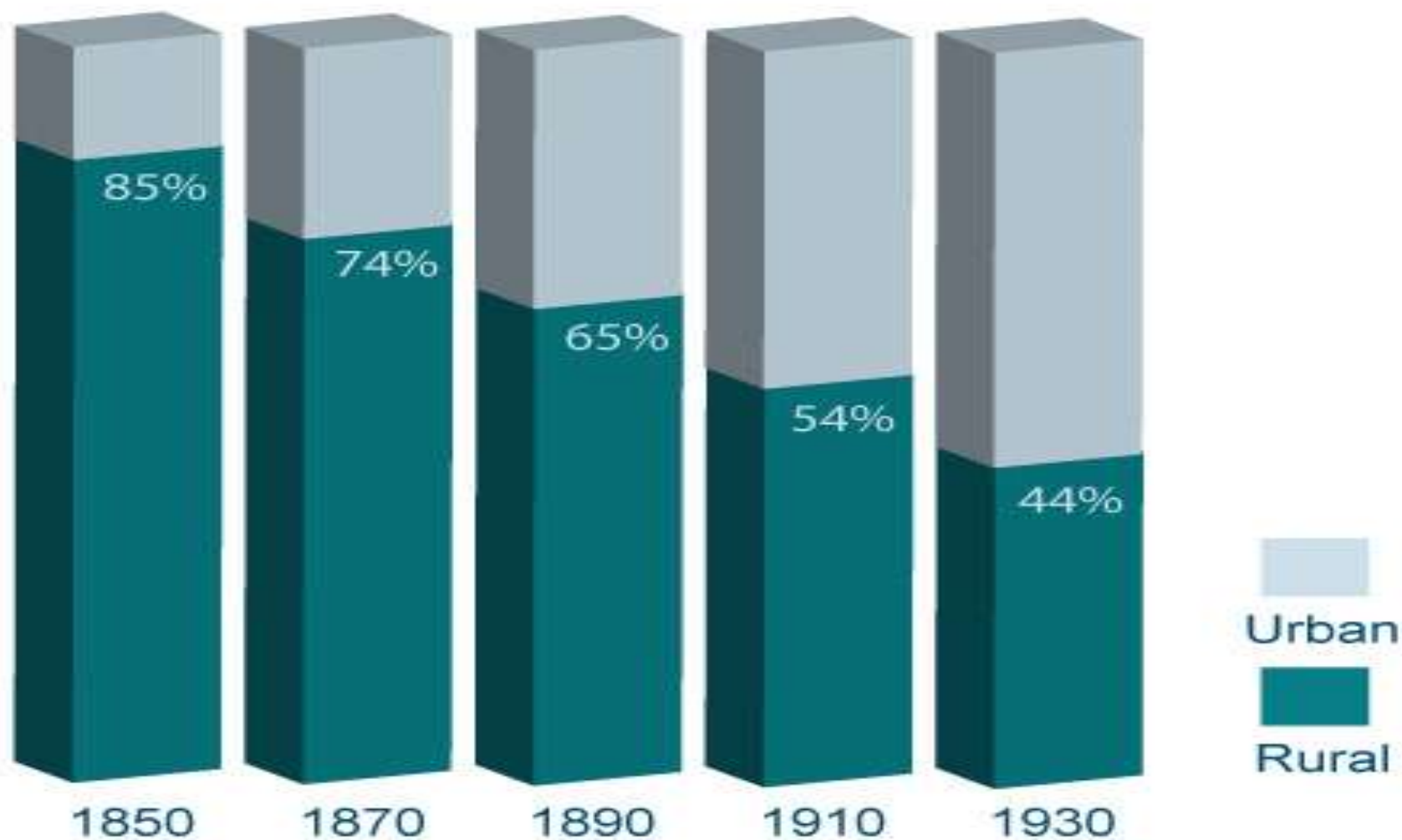
a. =more available workers due to enclosure movement (fewer farm workers needed due to improved technology)

b. =workers moved to cities

i. Factory jobs

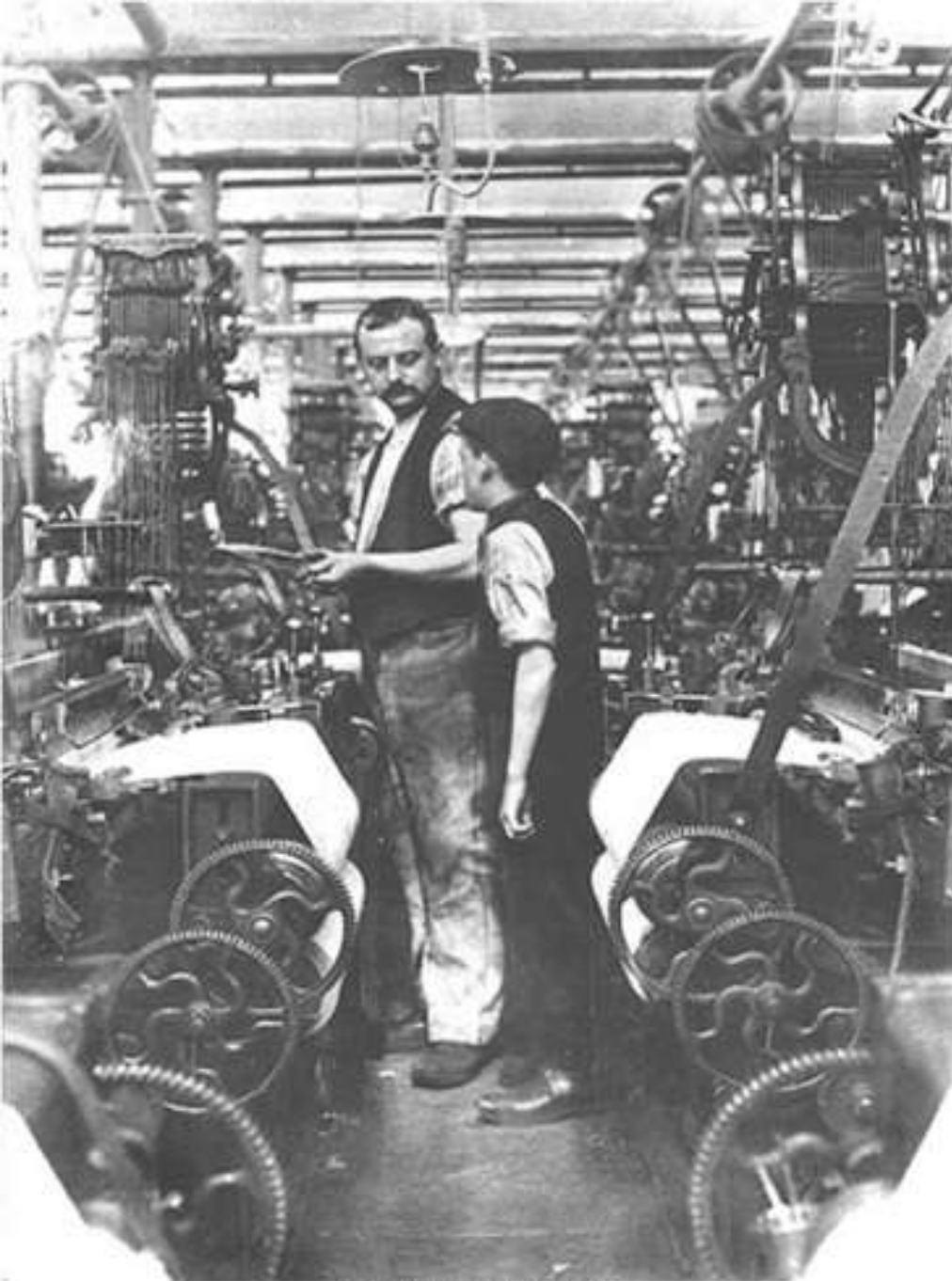


% of Population Living in Urban and Rural Areas 1850 to 1930



Source: US Dept of Commerce: Historical Statistics of the United States, Colonial Times to 1970





FACTORY WORKERS

SOURCE: [HTTP://WWW.LEARNINGCURVE.GOV.UK](http://www.learningcurve.gov.uk)



Winding Large Bobbins and Stationary Armatures



B. Effects of the Industrial Revolution (economically & socially)

→ "Hands off"

1. Laissez-faire* Economics— from the Enlightenment

a. =business should operate w/
little or no govt. interference



i. **Adam Smith*** - his book "Wealth of Nations"-outlined laissez-faire economics

+ (positive)

worker safety & benefits
competition
safe products
low prices



- (negative)

abuse
price fixing
worker safety & benefits
quality, safety of products
child labor



2. Rise of Big Business

a. New Technology=needed large amount of \$

i.=sold stocks or shares in company

=\$ now to owners to invest

=profit to investors later

b. =more people owning shares in businesses



3. New Class Structure:

Upper Class: factory owners, nobles

Middle Class:

Upper: business people, merchants, Drs,
lawyers

Lower: teachers, shop owners, clerks, office
workers

Lower Class: Factory workers,
peasants, former farmers

=Benefited the least from the industrial
revolution

4. Urbanization* (Cause, too)

a. Move from farms to cities for jobs

b. Conditions in cities:

i. Overcrowding

ii. Unsanitary=disease

iii. Crime





London Slums

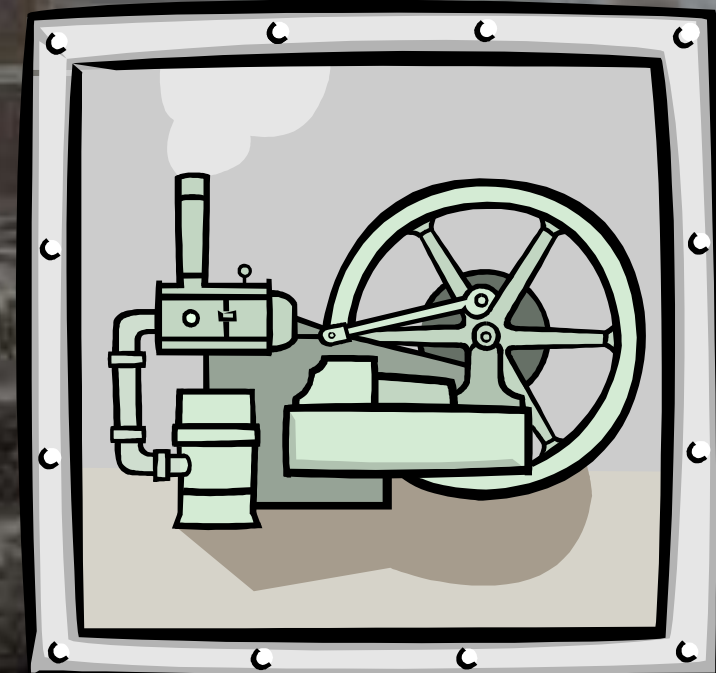


5. Capital for Investment (cause, too)

- a. Due to British colonies, *Navy too*
- b. =strong middle class w/ \$ to invest in mines, RRs, factories

6. Energy & Technology (cause, too)

- a. Water wheels
- b. Coal:
 - i. Steam engines



Water Wheel (=1st factories)



C. Factory System → Mass Production

1. Textile Industry (cotton & wool)

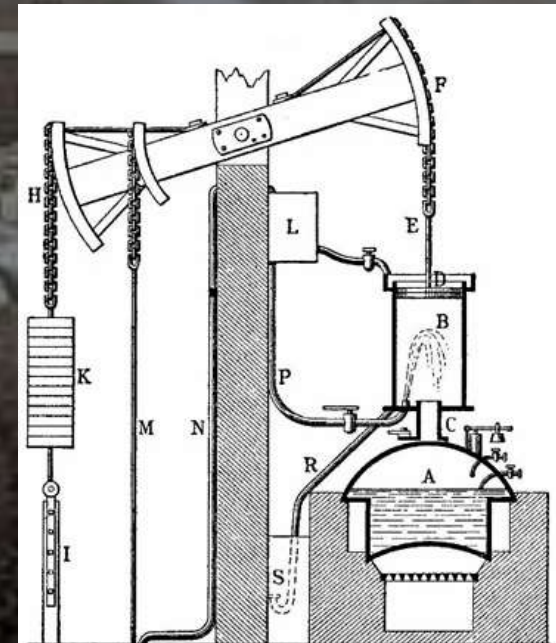
a. Cottage industry → factories*

i. Wool

b. Located near rivers

i. For power (water wheels)

c. Later = steam engines



Watt Steam Engine



Cotton

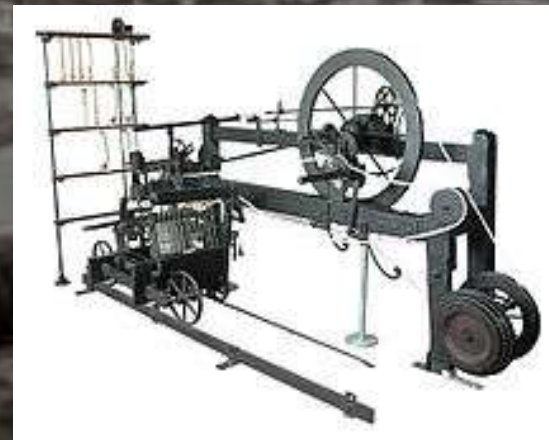


Old Cottage Industry



Spinning Jenny

=Textile Factory



Spinning Mule





2. =Mass Production*

a. Huge amount of goods

→ Supply + Demand

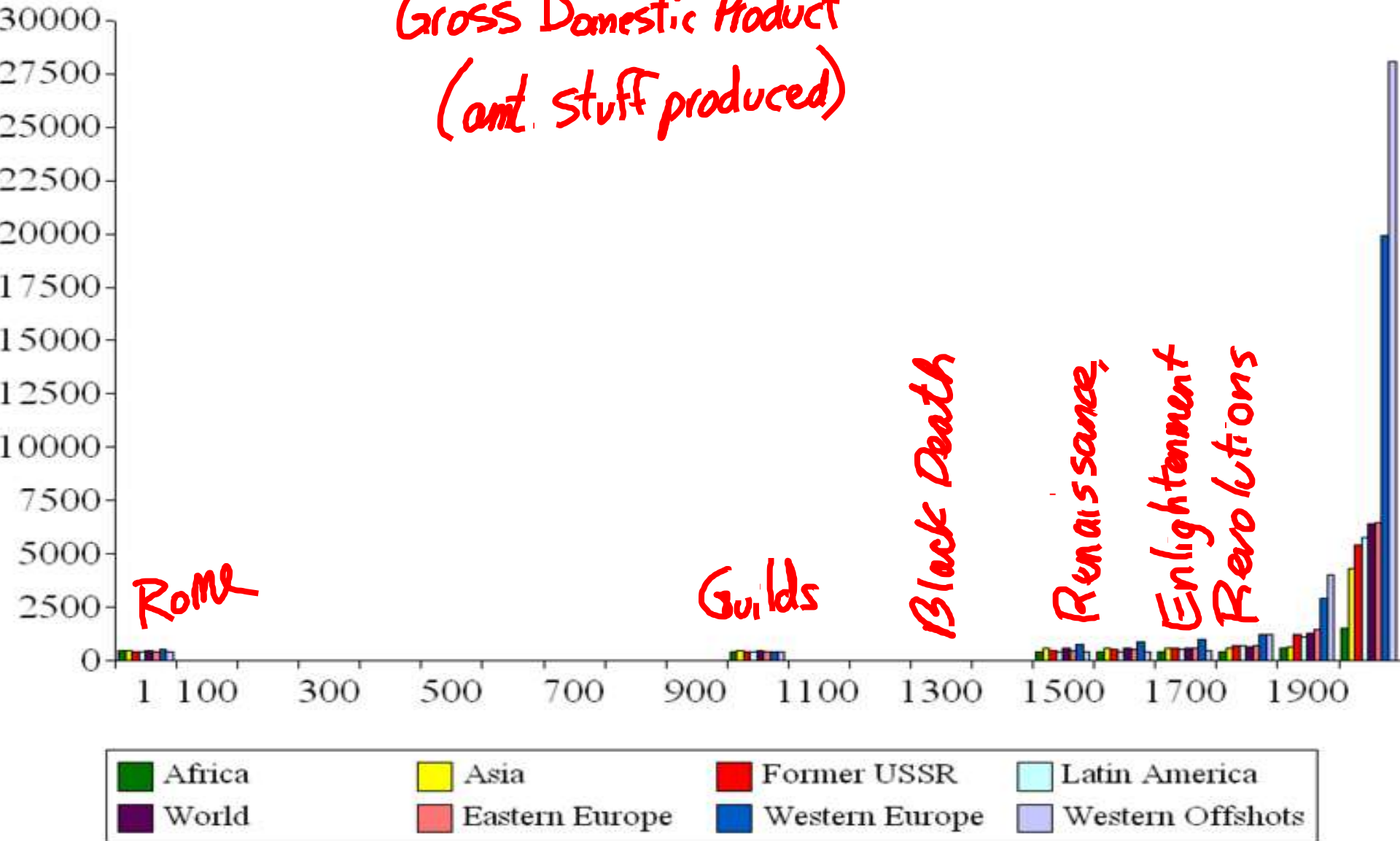
produced=cheaper products due to supply & demand

i. Class labor (poor) required due to work machines → more produced =cheaper products



World GDP/capita 1-2003 A.D.

Gross Domestic Product
(amt. stuff produced)



Regional GDP per capita changed very little for most of human history before the Industrial Revolution. (The empty areas mean no data, not very low levels. There is data for the years 1, 1000, 1500, 1600, 1700, 1820, 1900, and 2003)

3. Working Conditions

- a. Long hours (12-18 hour days, 7 days week)
- b. Dangerous → no govt regulation
- c. Child Labor & lower class women=no education
- d. Repetitive work



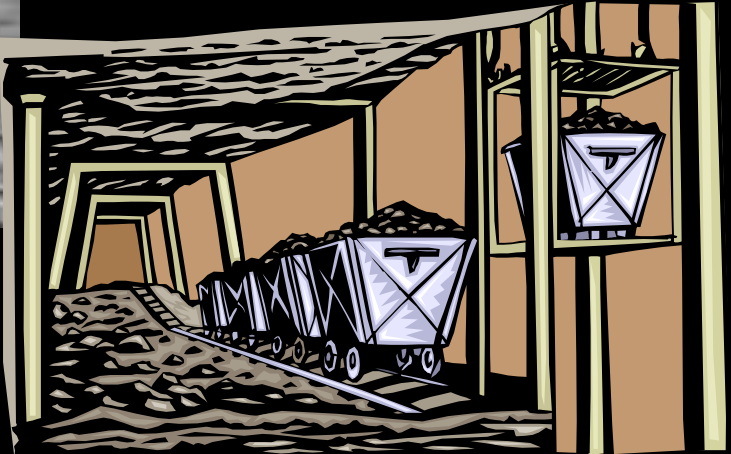
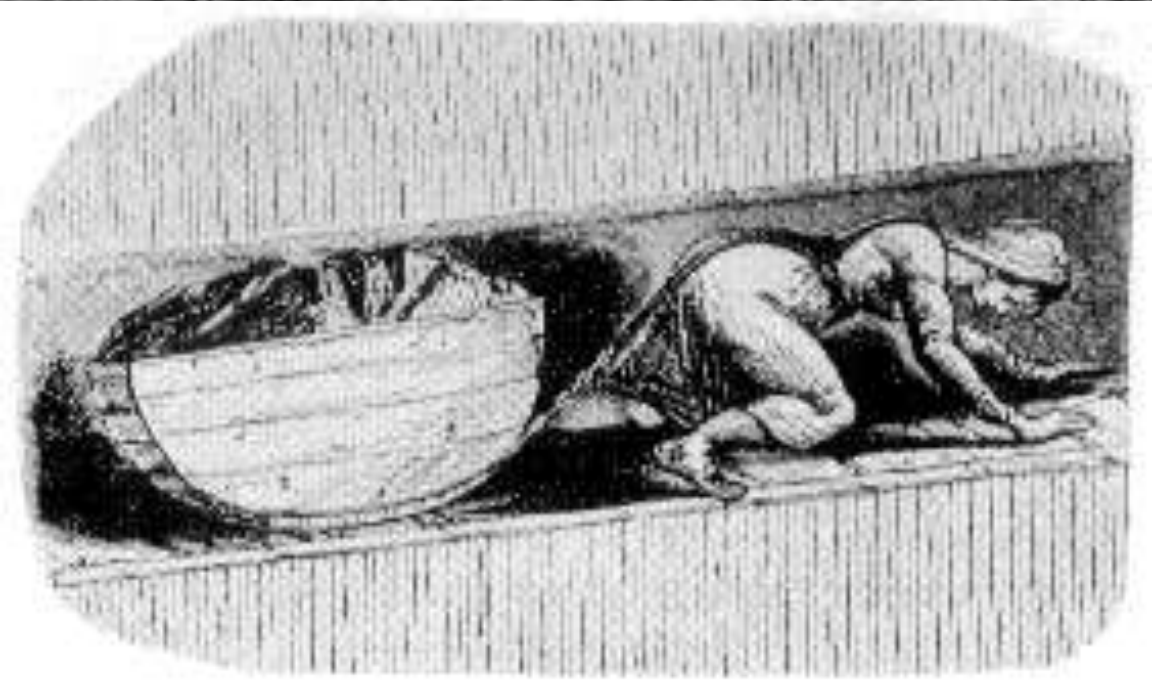
MANCHESTER, ENGLAND="known as Cottonopolis"



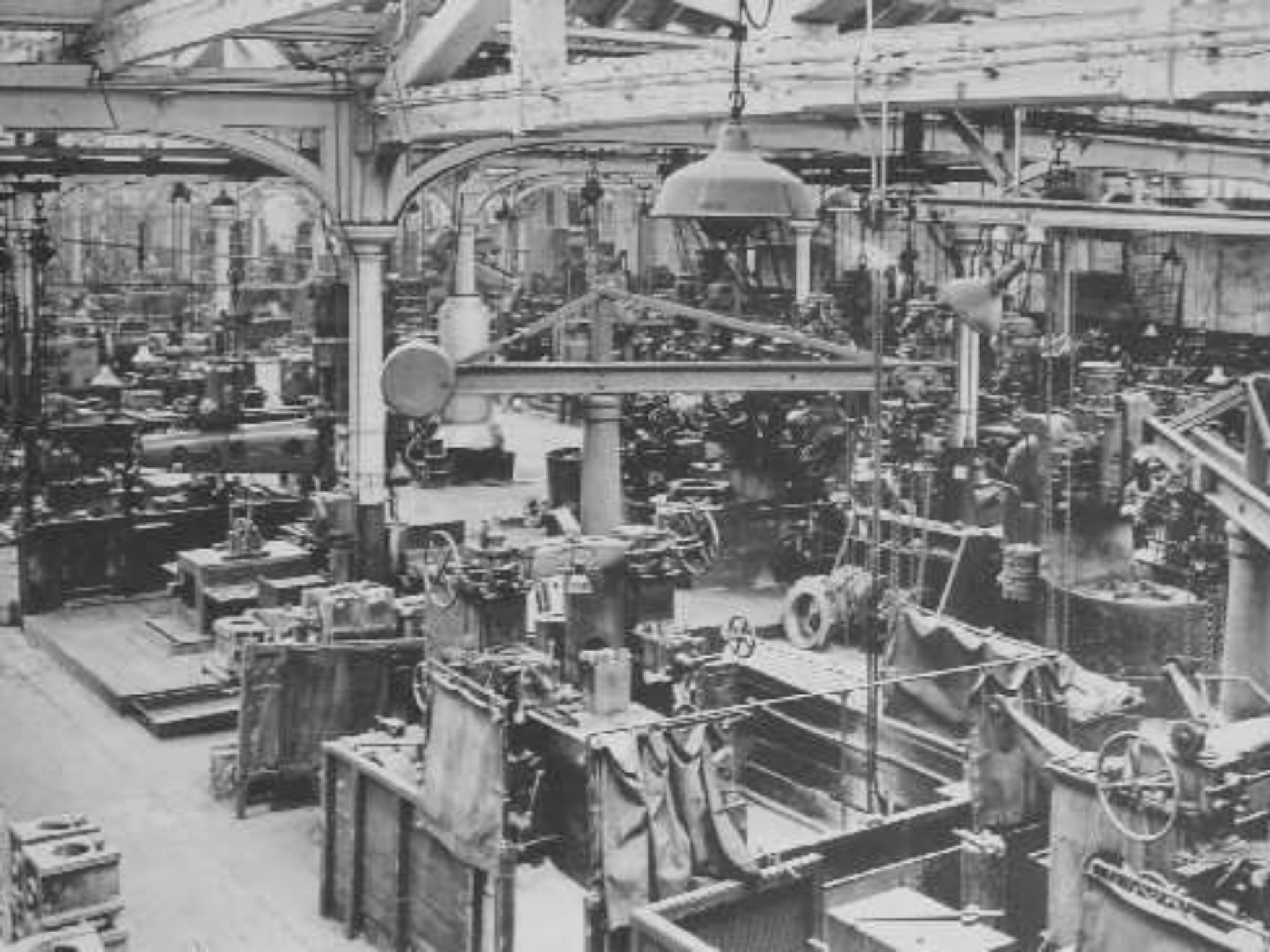




Coal was the fuel of the factories & machinery













**What does
this cartoon
say about the
Industrial
Revolution?**



A historical illustration of a factory during the Industrial Revolution. The scene is dominated by large, multi-story brick buildings with numerous windows. Several tall, dark chimneys are visible, each emitting thick, dark plumes of smoke that rise into a cloudy sky. In the foreground, a dirt road or street is shown, with several figures on horseback and a few people walking. The overall atmosphere is one of industrial activity and environmental impact.

INDUSTRIAL REVOLUTION: DAY 2



4. Changing Social Roles:

<u>Men</u>	&	<u>Women of Middle Class</u>
Business		Stayed at home
Govt Jobs		Child-raising
Sole income		

Lower Class (poor)

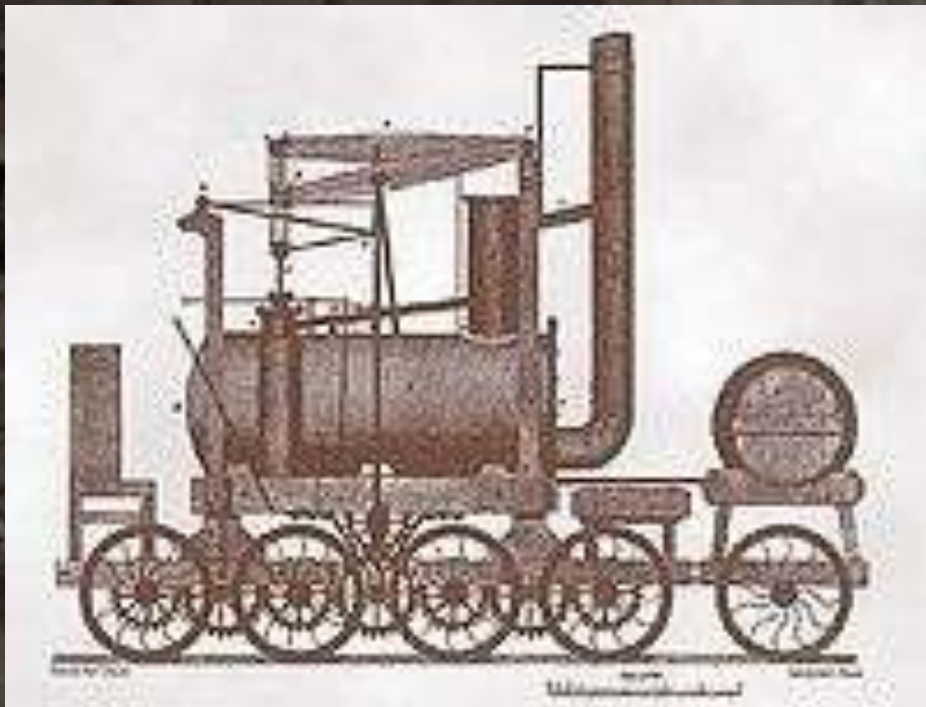
- ALL went to work (even children)=
=no education=cycle of poverty

5.Improved Transportation:

a. More roads/canals=more transportation routes

b. Steam locomotive=RRs

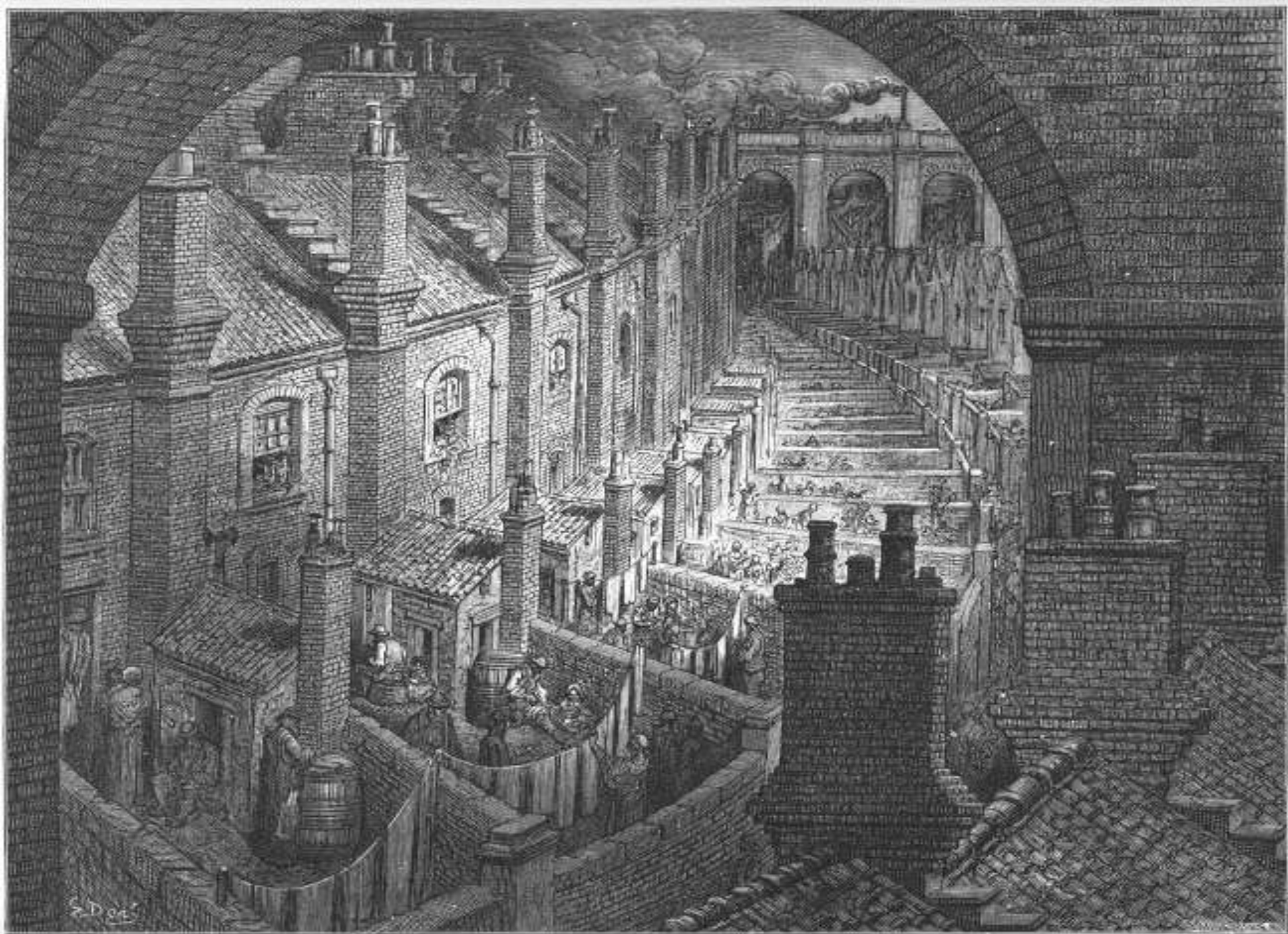
c. Steam engines in ships at sea
=Fresh Food



6. Rising Standards of Living

- a. Middle/Upper Classes → edges of cities (suburbs)
- b. Lower Class → stuck in city slums
- c. Diets improved
- d. Advances in medicine (penicillin)



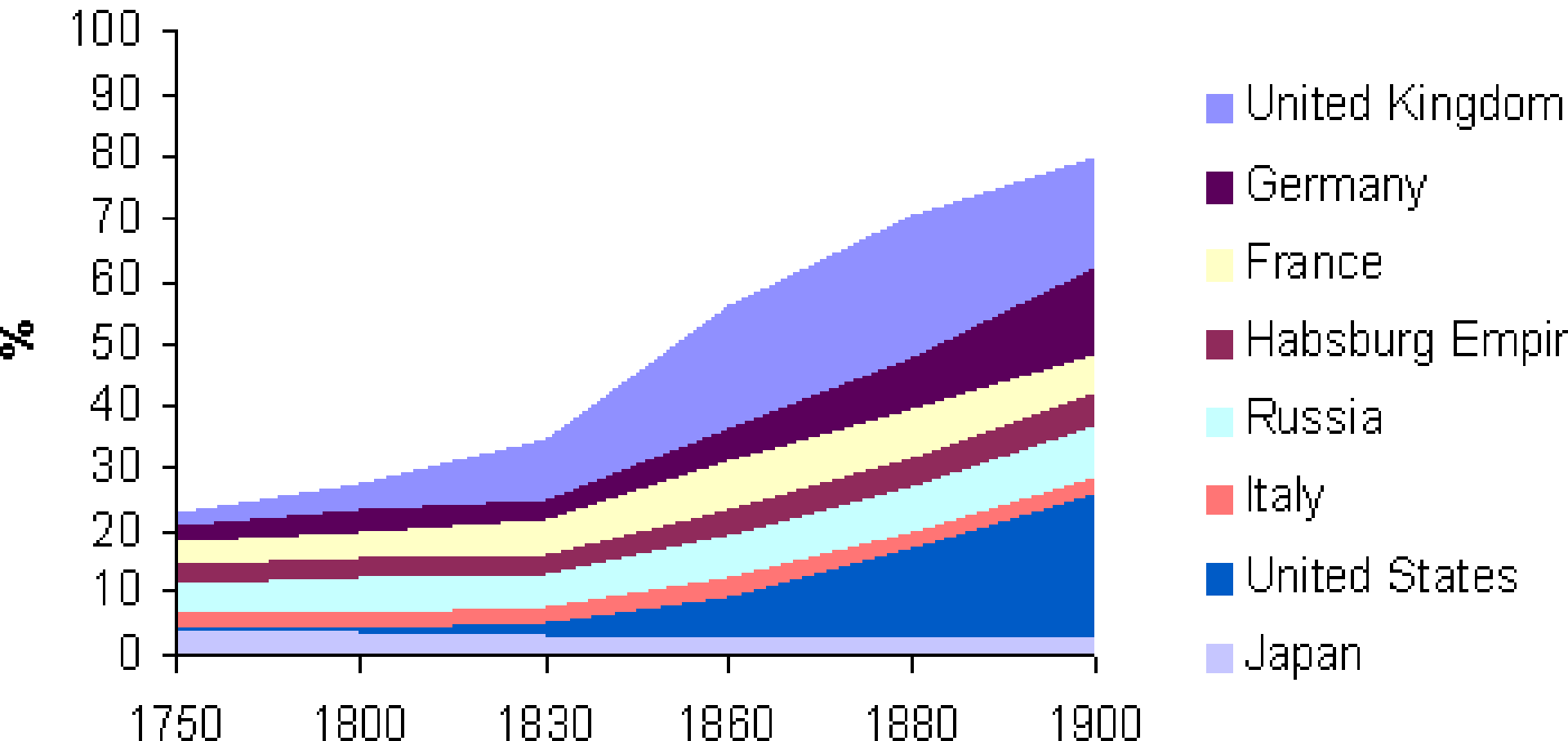


OVER LONDON BY RAIL.

As the Industrial Revolution developed British manufactured output surged ahead of other economies. After the Industrial Revolution, it was overtaken later by the United States

Relative Share of World Manufacturing Output, 1750-1900

Exports



III. COMPETING PHILOSOPHIES

A. Liberalism* → appealed to middle & lower classes

1. belief in individual right to liberty, equality & property

2. purpose of govt: protect individual liberty (Locke)



John Locke

B. Conservatism* → appealed to upper class

1. Wanted to return to old social & political systems = preRevolutions

2. New business aristocracies (*factory owners*)

3. Thomas Malthus* -- urged families to have fewer kids

a. Said people were poor because they had too many kids, lazy

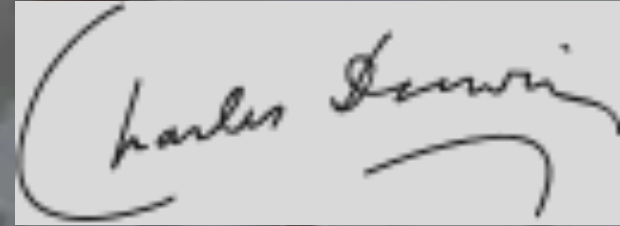


C. Social Darwinism* *, by Conservatism*

1. **Charles Darwin*** → theory of evolution*

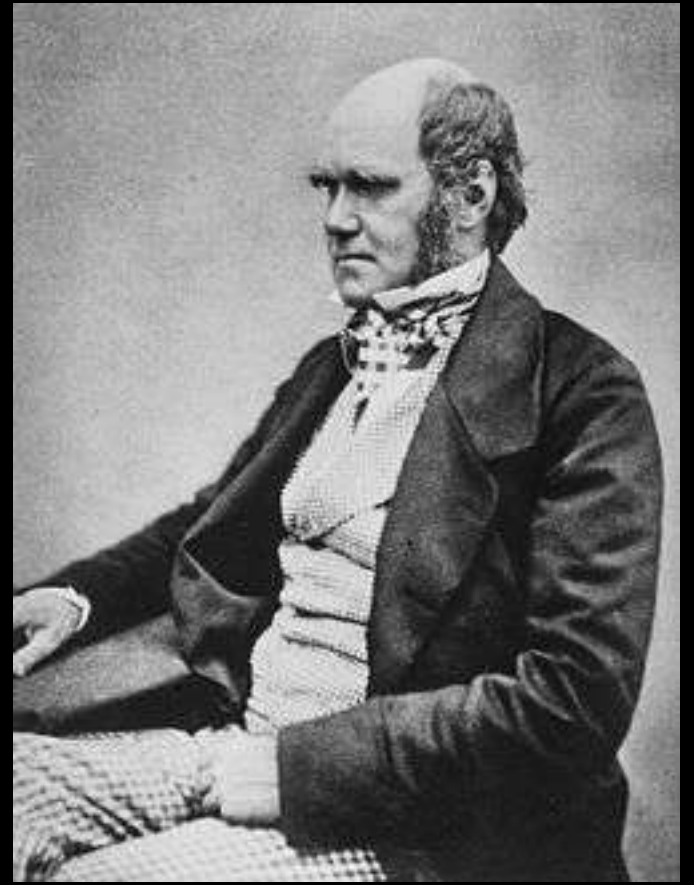
a. Conflict v. religion & science

2. Survival of the fittest in business/work/life

A rectangular inset showing a handwritten signature in cursive that reads "Charles Darwin".

a. =rich worked hard, poor were lazy=natural selection*

3. Led to increased racism, nationalism & imperialism → *Africa*



D. Social Reformism

1. Bentham → goal of society: happiness of its people
2. Mill → govt should help to improve people's lives
3. Wanted reforms in child labor, social welfare
4. Rise of Trade Unions—^{-Guilds} especially in working/lower class

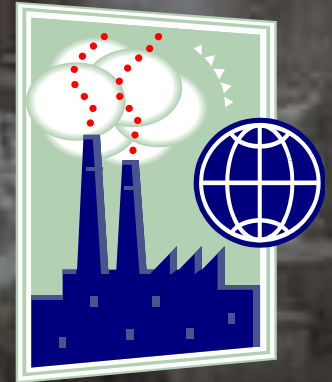
E. Socialism* = farms & business belongs to all people (popular due to large & increasing gap between rich & poor)

1. Utopian Socialism → all property & work shared

a. Believed to end war



*appealed to
Lower + Middle Classes*



Socialist Countries Today:

Standard of Living

Tax Rate

Sweden



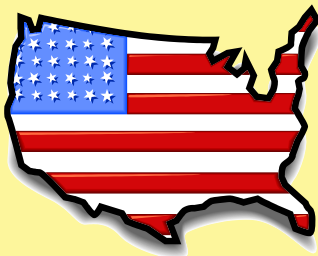
#1

New Zealand



#2

USA



#10



50%

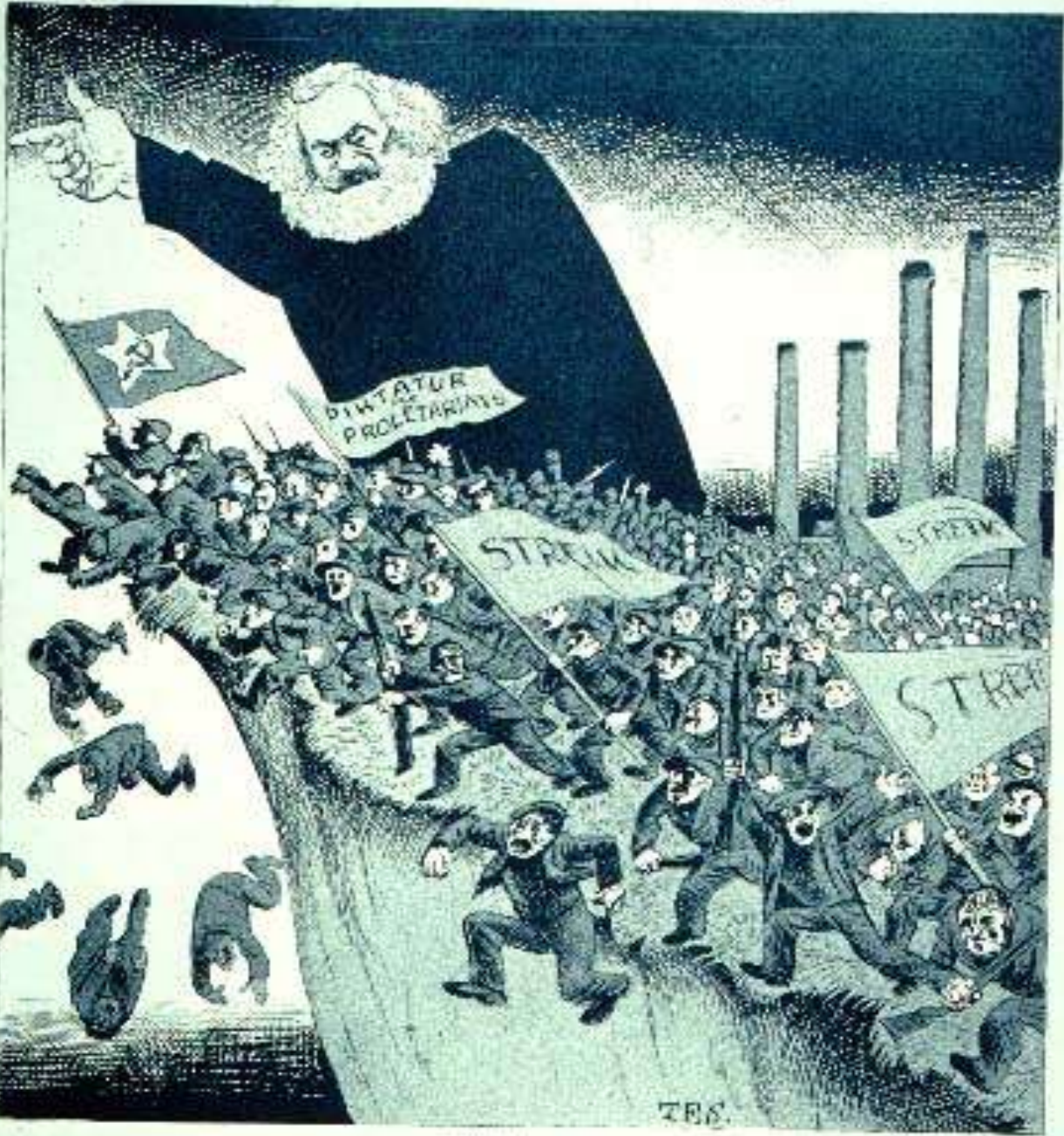
26-33%

2. Marxist Socialism (= Communism)

a. **Karl Marx*** & Engels → "Communist Manifesto"

1. All history = a class struggle between wealthy capitalists & the working class (proletariat) → *Have Notes*
2. Capitalists take advantage of proletariat* = profit
3. Proletariats would eventually revolt = a classless society in which wealth & power would be shared

Bilderbuch der „Guten alten Zeit“



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Karl Marx

Communist Nations left Today:

No private property
= GOVT owns all

Cuba

North Korea

China (Govt but NOT Economy)

=everyone equal, but equally
POOR

IV. GLOBAL IMPACT OF INDUSTRIALIZATION

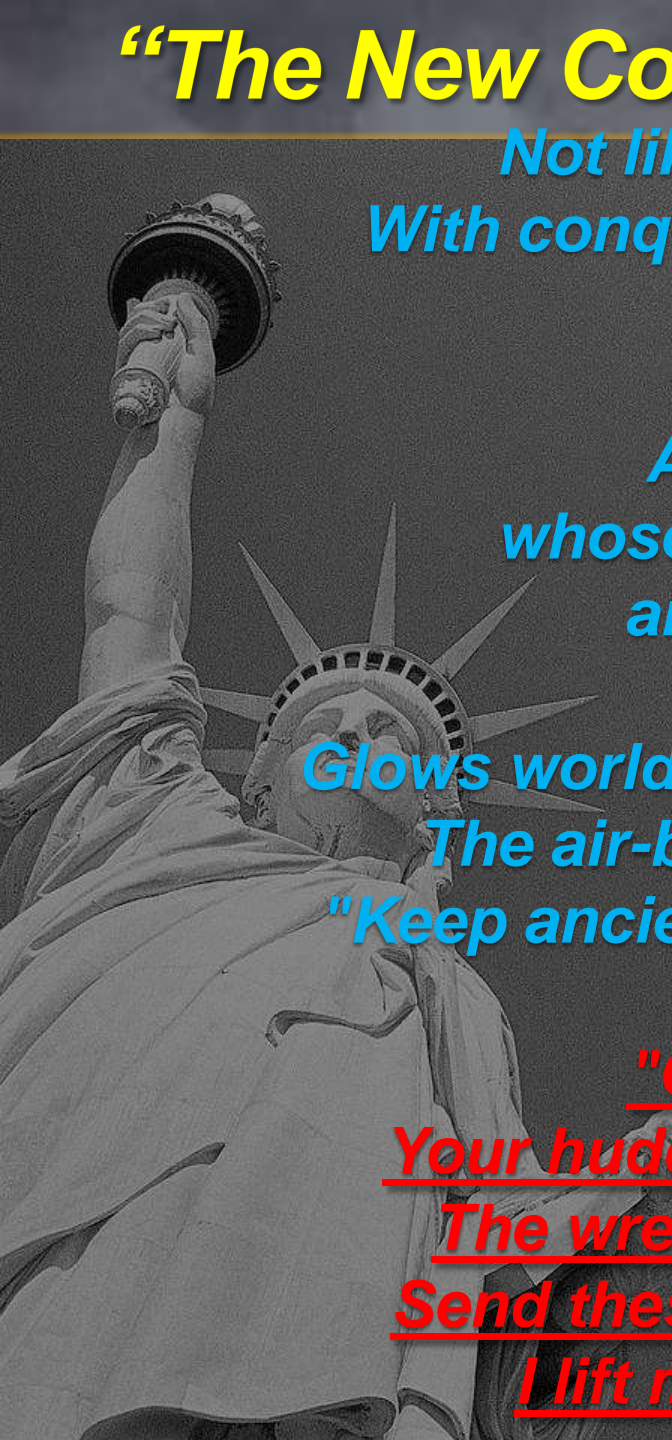
A. Global Migrations

1. A Wave of Immigrants 1845-1900s

a. To U.S.=Polish, Germans,
Russian Jews, Italians, Irish



“The New Colossus” by Emma Lazarus



*Not like the brazen giant of Greek fame,
With conquering limbs astride from land to land;
Here at our sea-washed,
sunset gates shall stand
A mighty woman with a torch,
whose flames the imprisoned lightning,
and her name Mother of Exiles.*

*From her beacon-hand
Glow's world-wide welcome; her mild eyes command
The air-bridged harbor that twin cities frame.
"Keep ancient lands, your storied pomp!" cries she
With silent lips.*

*"Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!"*

2. Mass Starvation in Ireland (a British colony)

a. Irish relied on the potato:

1. Most Irish crops sent to Britain

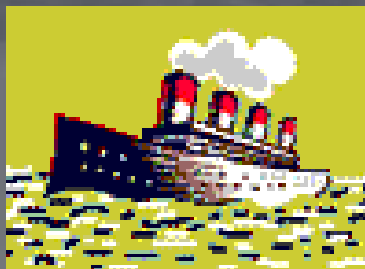
2. 1845 → Irish Potato Famine

(fungus on potatoes = “the Blight”)

= 1 million Irish starved to death,

= 3-5 million left for US & Canada

[http://www.pbs.org/destinationamerica/u
sim_wn_flash.html](http://www.pbs.org/destinationamerica/u
sim_wn_flash.html)



Irish Immigrants to US



B. Movement Toward A Global Economy

1. Industrial Revolution spread
beyond Britain by 1800s

=new countries to power

→US & Japan



2. Competition worldwide among countries:

a. Militarily=navies, armies

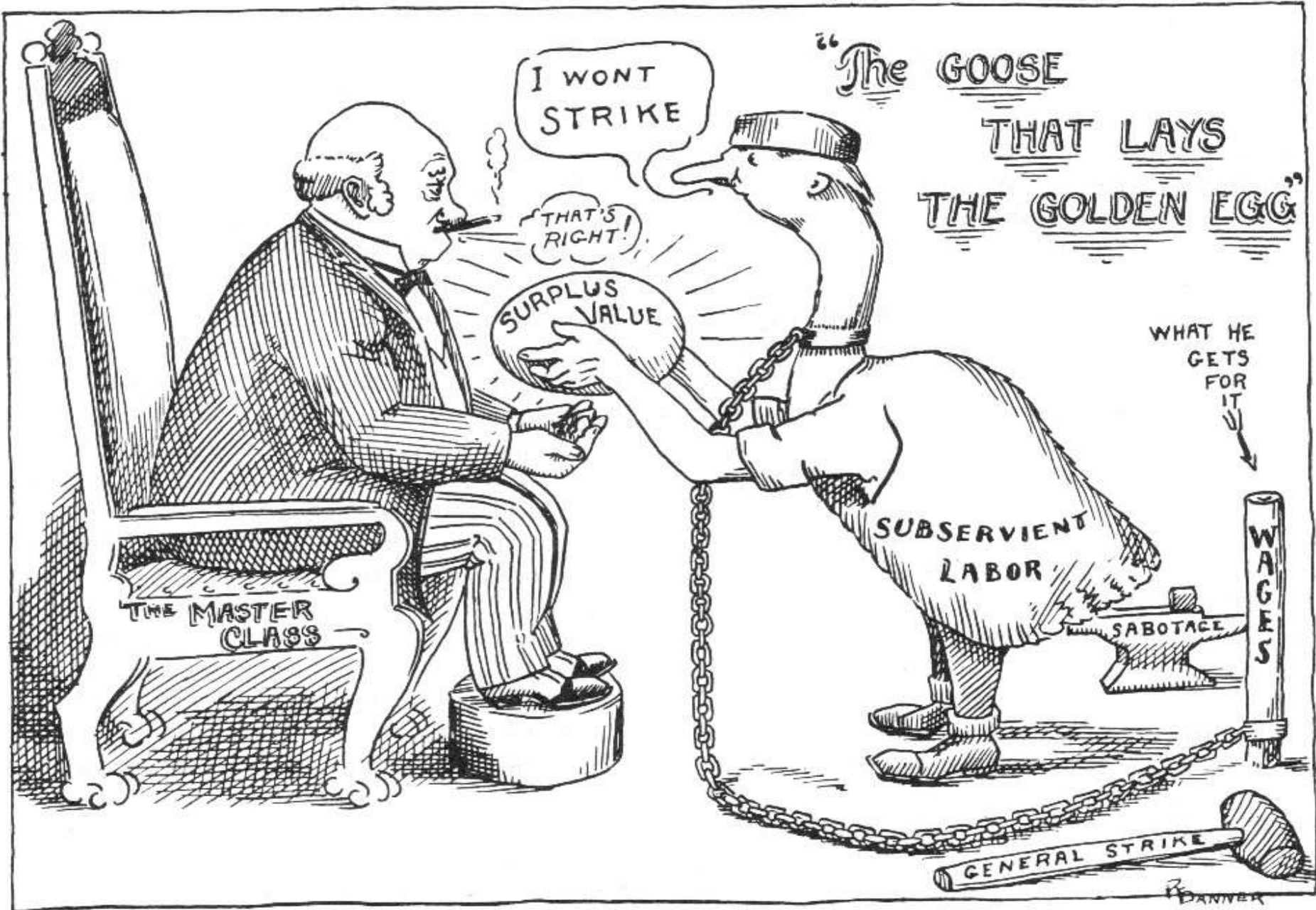
b. Imperially=colonies

expand=more nationalism

3. Quicker transportation, trade & communication

a. RR, steamships (eventually cars, airplanes)

=INCREASED GLOBAL TRADE



WHY SHOULD WORKERS PRODUCE FOR IDLERS?

Industrial Revolution in Britain, Coal Mines, Steel Mills & Child Labor Video Clip:

<http://video/SAFARI/montage/play.php?keyindex=3122&location=local&page=product&play=1>

