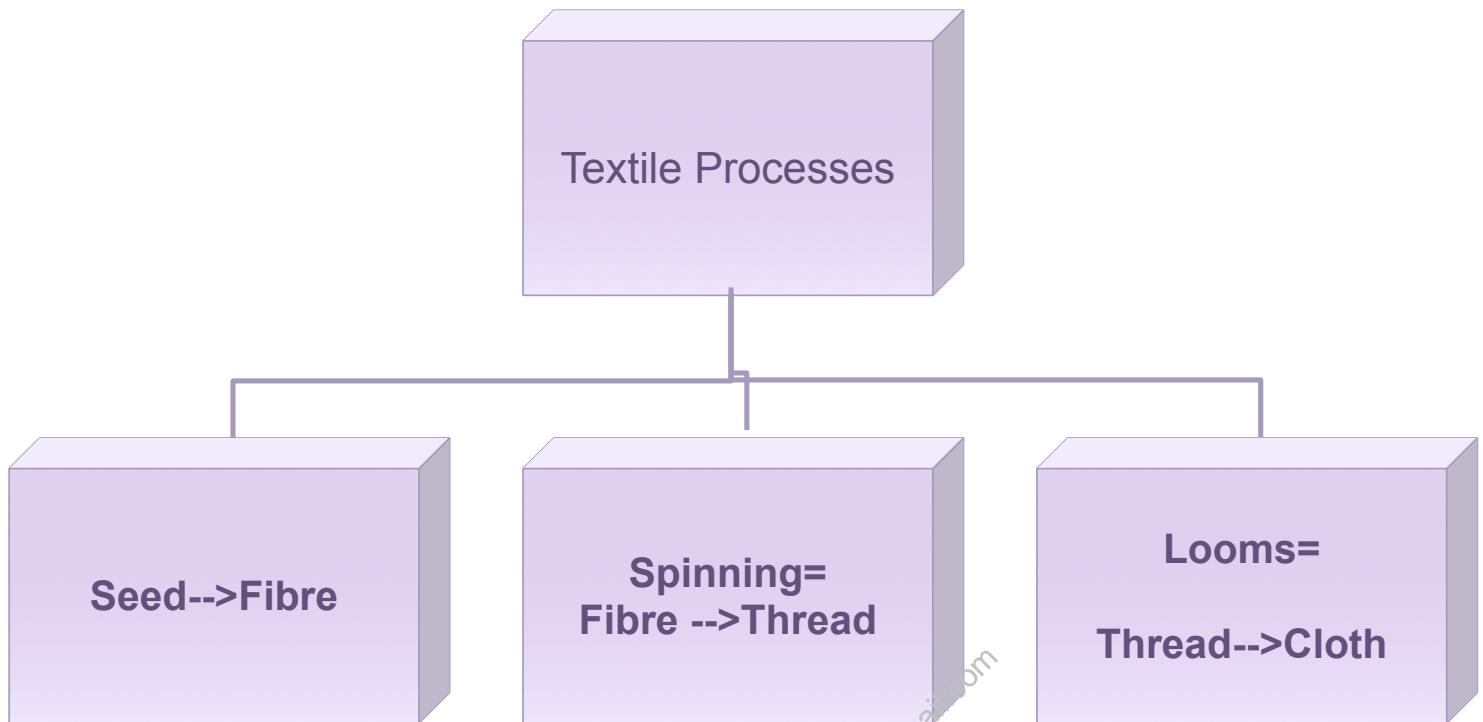


INDUSTRIAL REVOLUTION (IR) 1750-1850 IN ENGLAND

IR was a revolution in Economic process of production of goods in Economy aided by Technological Innovations & their spread which boosted the pace & scale of production of goods (*mass production). There was a shift to mechanized production; development of new sources of power; developments in communication & transport; It is called a revolution due to revolutionary socio-political & economic impact on world.

IR happened 1st in England : Of :

- # Capitalism in England : The existed profit motive in society.
- # There existed demand for manufactured goods due to new ways of life & rising urban population
- # Spirit of quest for new ideas due to Renaissance
- # Democracy & Existence of security of property that allowed capitalists to accumulate & deploy wealth.
- # Accumulation of money from trade allowed capital formation i.e. adoption of machines & funding innovators.
- # Geography : # England is an island : enjoyed protection from foreign invasions : prevented war related destruction.
 - # abundant natural resources (coal & iron)
 - # good natural harbours boosted sea trade.



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IR in ENGLAND is characterized by following

TEXTILE MARKET WAS BOOMING IN ENGLAND & EAST INDIAN COMPANY HAD MONOPOLY OVER TRADE WITH INDIA ∴ DOMINATED TEXTILE MARKET BY SELLING FINISHED COTTON FROM INDIA. OTHER BUSINESSMEN WANTED SHARE OF COTTON MARKET BY MANUFACTURING FINISHED COTTON LOCALLY. ∴ THIS TRIGGERED SERIES OF INNOVATIONS.

TEXTILE SECTOR:

(a) FASTER SPINNING: MACHINES WERE DEVELOPED FOR FASTER SPINNING OF FIBRE INTO THREAD BY HARGREAVES, ARKWRIGHT (1765) & CROMPON (COMBINED TWO OF MACHINES OF HARGREAVES & ARKWRIGHT) (1779).

(b) FASTER WEAVING (OF THREAD TO CLOTH): POWER LOOM WAS DEVELOPED BY CARTWRIGHT (1785, BASED ON HORSE POWER). THIS MACHINE WAS LATER ADAPTED TO RUN WITH HYDRO POWER & THEN WITH STEAM POWER.

(c) FASTER SEPARATION OF FIBRE FROM SEEDS: COTTON GIN INVENTED BY ELI WHIRNEY (IN 1793) WAS 300 TIMES FASTER THAN MANUAL SEPARATION.

STEAM: STEAM ENGINE DEVELOPED BY JAMES WATT (1769) WAS MOST IMPORTANT INVENTION AS IT REVOLUTIONIZED THE PRODUCTION PROCESS.

STEAM ENGINE WAS DEPLOYED TO MACHINES & REPLACED HYDRO POWER. IT WAS USED TO DRAIN WATER FROM COAL MINES ∵ TINY COAL EXTRACTION.

TRANSPORT SECTOR:

- # STEAM ENGINE WAS DEPLOYED IN RAILWAY WITH HELP OF GEORGE STEPHENSON'S INVENTION IN 1814. 1ST PASSENGER TRAIN (1830)
- # THIS LED TO HUGE RAILROAD CONSTRUCTION.
- # STEAM ENGINE WAS DEPLOYED ON SHIPS. THIS BOOSTED INTERNATIONAL TRADE OF BR.
- # STEAM POWERED BOATS LED TO MODERN ECONOMIC INTERCONNECTIVITY THROUGH INLAND WATER TRIBUTARIES & DEVELOPMENT OF CANAL NETWORK
- # McADAMIZED ROADS / PAKKA ROADS CONTRIBUTED TO FASTER & EFFICIENT TRANSPORT OF GOODS & LABOUR.

IRON & STEEL SECTOR:

- # BLAST FURNACE'S INVENTION LED TO ABILITY TO CHANGE LOW GRADE IRON TO STEEL. NOW BETTER QUALITY CAST IRON COULD BE PRODUCED APART FROM PIG IRON.
- THIS LED TO PRODUCTION OF CHEAPER & BETTER QUALITY FINISHED IRON / STEEL.

- # POST : DEVELOPMENT OF TELEGRAPH NETWORK ALLOWED CHEAPER, FASTER LONG DISTANCE COMMUNICATION WHICH HELPED BETTER CONDUCT OF BUSINESS TRANSACTIONS.

AGRICULTURE

ENCLOSURE movement : Here BIG LANLORDS LOBBIED WITH PARLIAMENTARIANS TO BRING SUCH LAWS WHICH ALLOWED THEM TAKE OVER COMMON LANDS IN VILLAGES & ALSO ACQUIRE LANDS OF SMALL LANDOWNERS.

- (a) This led to CONSOLIDATION OF LAND HOLDINGS & CONSEQUENT ECONOMIES OF SCALE. ∵ now less land was needed FOR FOOD SECURITY ∵ freeing up land FOR PRODUCTION OF CASH CROPS ∵ providing ADDITIONAL RAW MATERIAL FOR FACTORIES.
- (b) SMALL LANDOWNERS BECAME HANDLESS LABOURERS ∵ now there was FREE LABOR & ∵ AVAILABILITY OF LABOR FOR FACTORIES IN URBAN AREAS.

FARM PRODUCTIVITY ↑ ∵ OF

- (a) TECHNIQUES LIKE MANURING & CROP ROTATION
(b) INTRODUCTION OF NEW MACHINES FOR FARM WORK
THIS FURTHER ↑ FARM LABOR REQUIREMENT ∵ freeing up LABOR FOR URBAN FACTORIES.

IMPACT OF IR

on Br :

- # AGRARIAN economy CHANGED TO INDUSTRIAL Economy
- # From net IMPORTER OF FINISHED GOODS to net EXPORTER OF FINISHED GOODS
- # IMPORT OF raw MATERIAL ↑_{ed}
- # STEEL PRODUCTION, COAL PRODUCTION ↑_{ed}
- # GDP ↑_{ed} & Br emerged as Economic & Political SUPER Power.

on Br PPL:

- # BOURGEOISE / MIDDLE CLASS / CAPITALIST CLASS BENEFITED MOST.
- # RISE OF INDUSTRIAL CAPITALISM + INDUSTRIAL CAPITALISTS
- # RICH POOR DIVIDE ↑_{ed}
- # MIGRATION OF RURAL MASSES TO URBAN AREAS FOR WORK IN FactORIES ∴ SOCIAL UPROOTING OF RURAL MASSES.
- # ∴ RISE OF WORKING CLASS AS POPULATION NOW MORE EMPLOYED IN INDUSTRIAL SECTOR
- # URBAN AREAS DID NOT HAVE INFRA TO SUPPORT ↑_{ed} POPULATION ∴ CROWDING IN CITIES WITH STARK CONTRAST B/W SLUMS & LUXURIOUS GATED COLONIES

1776: "An enquiry into NATURE & CAUSES OF WEALTH OF NATIONS" OR SIMPLY "WEALTH OF NATIONS" BY ADAM SMITH ARGUED FOR FREE MARKET ECONOMY & LAISSEZ FAIRE i.e. GOVT SHOULD HAVE NO ROLE IN ECONOMY WHICH SHOULD BE LEFT TO MARKET FORCES OF DEMANDS & SUPPLY.

∴ GOVT INTERVENTION IN MARKET WAS DISCOURAGED.

NO GOVT INTERVENTION IN FAVOR OF POOR OPPRESSED WORKERS WHO SUFFERED FROM

(a) RAMPANT CHILD LABOUR & WOMEN LABOR AS IT WAS CHEAPER TO HIRE

(b) 16-20 HRS OF WORK DAY

(c) NO SOCIAL SECURITY, NO ACCIDENT ALLOWANCE

(d) NO SECURITY OF JOB

(e) NO MINIMUM WAGES

HANDICRAFT SECTOR WAS DESTROYED & NOW RURAL MAN WAS A LANDLESS & TOOLLESS WORKER OF FACTORY.

On Ideology:

Rise of Industrial Capitalism

Exploitation of workers → Strengthening of Socialism & of working class solidarity

e.g. Observing the industrialized economy of England Karl Marx published his works which led to rise of Communism (Communist Manifesto 1848
Das Kapital 1867)

Working class movts began for right to form Trade unions & for right to vote

e.g. Chartist Movt 1830s-40s, for right to vote (Failed)

∴ -ves. of Industrial Capitalism → to rise of Socialism & Communism ∴ laissez faire put Capitalism itself under threat of a violent overthrow by working class.

∴ In 19th c, Govt intervened in favor of workers by legalizing Trade unions, introducing Factory Acts to regulate working conditions & gradually right to vote was given to all by 1929.

Impact on Colonies:

Exploitation Ted i.e. Colonialism ↗

In name of modernization, Rail road network & ports were developed but with goal of faster extraction of raw materials (Rm) for British Factories & faster capture of markets of colonies. ∴ ports were connected with sources of Rm & to cities.

ILLUSTRATIVE Example of INDIA:

Impact on India

HANDICRAFTS SECTOR:

1. LOSS OF MARKETS

- Br Factory textile products destroyed External + Domestic markets for Indian Handicrafts sector.

How?

EIC

Monopoly over Indian Trade ended in 1813
EIC monopoly over China Trade ended in 1833

- Indian weavers produced better quality initially but lost in price competition + later in quality as well

OTHER

INDUSTRIES IMPACTED

- only other Industries like iron, glass, paper, melting, shipbuilding.

Colonialism led to TRANSPORT

- Transport sector revolution → faster capture of Indian mkt + faster extraction of Rm i.e. cheaper & faster T

(+) Colonialism led

Colonialism led to TRANSPORT

- Suez Canal (1859-69) hurt further

AGRI OVERBURDENED

- Since Industrialization of India didn't happen: Artisans didn't have any other occupation to move to but only Agri.

(+)

Economy

- Became net exporters of Rm.

SPREAD OF IR OUTSIDE BR

- # Colonies were deprived of industrialization
- # Constant warfare in European mainland did not allow peace & stability important for economic growth.
- # Machines were introduced in Europe post 1815 (Defeat of Napoleon :: end of 23 yrs of war) but yet IR did not begin properly until 1870 :-
 - (a) 1830 & 1848 Revolts for democracy, independence & unification (in Italian & German Kingdoms)
 - (b) Wars of unification in Italy & Germany. Until 1870

POST 1870 IR HALLMARKS:

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HASRED TILL 1970}

- # Electricity & oil & gas as sources of energy
- # Internal combustion engine
- # Chemical synthesis i.e. chemical sector played important role
- # Banking sector played important role as unlike Br there was less accumulation of wealth from trade.
- # New methods of communication (Telephone)
- # State took lead in assisting capitalists while in Br IR was total initiative of capitalists.
This was :: a prosperous capitalist class did not properly exist in rest of Europe.
- # Industrial espionage to get technology from Br.

Germany :

- # RAPIDLY INDUSTRIALIZED Post 1870 TO Become 2ND European Economic Power BUT WAS FAR BEHIND By
- # However Became A RIVAL in COAL & PIG IRON AND ALSO A NAVAL RIVAL BY 1914

Fr : LACKED RAW MATERIALS like COAL & IRON ∴ FAR BEHIND BR. (1914)

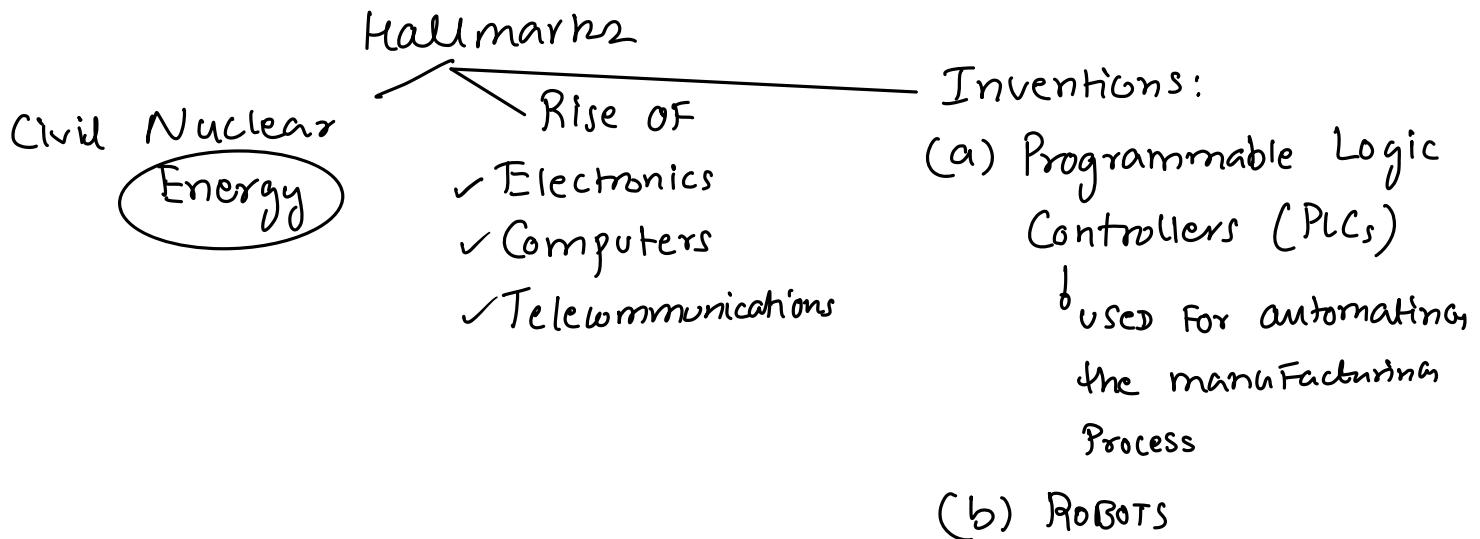
ITALY: LACKED RAW MATERIALS like COAL & IRON

Russia: # WAS RICH IN RAW MATERIALS BUT LACKED FREE LABOR (ONLY in 1861 THAT SERFDOM WAS ABOLISHED)
LACKED CAPITAL FOR INVESTMENT
VAST TERRITORY & SCATTERED POPULATION ∴ HIGH COST OF LOGISTICS FOR INTERCONNECTING THE ECONOMY i.e. FOR MOVE OF GOODS & LABOR
CONSTANT WARFARE : 1853-56 CRIMEAN WAR
1904-05 LOST RUSSO JAPANESE WAR, 1905 1ST RUSSIAN REVOLUTION
1914-17 (WWI); 1917 2ND RUSSIAN REVOLUTION;
1918-20 RUSSIAN CIVIL WAR

US: Busy in TERRITORIAL EXPANSION & THEN CIVIL WAR 1861-65
∴ IR Post 1865

JAPAN: IR Post 1868 MEIJI RESTORATION.

3rd I.R.: 1969+



4th I.R.: ongoing

Hallmark: INTERNET & applications.

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