

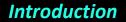
Class 10th - History

The Age of Industrialisation

Full Chapter Explanation







Understand the heading



Industrialisation

Western perspective

Indian perspective

Theme of the chapter

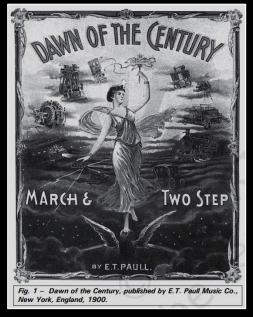


What we are going to study in this chapter

- Before the industrial revolution
- Hand labour and steam power
- Industrialisation in the colonies
- Factories comes up
- The peculiarities of industrial growth
- Market for goods



In 1900, a popular music publisher E.T. Paull produced a music book that had a picture on the cover page announcing the 'Dawn of the Century'





- At the centre of the picture is a goddess-like figure, the angel of progress, bearing the flag of the new century.
- She is gently perched on a wheel with wings, symbolising time.
- Her flight is taking her into the future.
- Floating about, behind her, are the signs of progress: railway, camera machines, printing press and factory.





Fig. 2 – Two Magicians, published in Inland Printers, 26 January 1901.

Picture on the pages of trade magazine



- It shows two magicians.
- The one at the top is Aladdin from the Orient who built a beautiful palace with his magic lamp.
- The one at the bottom is the modern mechanic, who with his modern tools weaves a new magic: builds bridges, ships, towers and high-rise buildings.
- Aladdin is shown as representing the East and the past, the mechanic stands for the West and modernity.



Analyse the Images



Triumphant account of the modern world.



- Modern world is associated with rapid technological change and innovations, machines and factories, railways and steamships.
- The history of industrialisation thus becomes simply a story of development.







Before the Industrial Revolution

Industrialisation

Growth of factory industry



When we talk of industrial production we refer to factory production. When we talk of industrial workers we mean factory workers. Histories of industrialisation very often begin with the setting up of the first factories.





Even before factories began to dot the landscape in England and Europe, there was large-scale industrial production for an international market.



Proto - industrialisation



Proto - Industrialisation in Practice

Merchants from the towns in Europe began moving to the countryside,



Supplying money to peasants and artisans, persuading them to produce for an international market.

World trade 1







But merchants could not expand production within towns.



Why merchants could not expand production within towns?





- Urban crafts and trade guilds were powerful.
- These were associations of producers that trained craftspeople, maintained control over production, regulated competition and prices, and restricted the entry of new people into the trade.
- Rulers granted different guilds the monopoly rights to produce and trade in specific products.
 - It was difficult for new merchants to set up business in towns. So they turned to the countryside.



How production took place in the countryside during Proto - Industrialisation





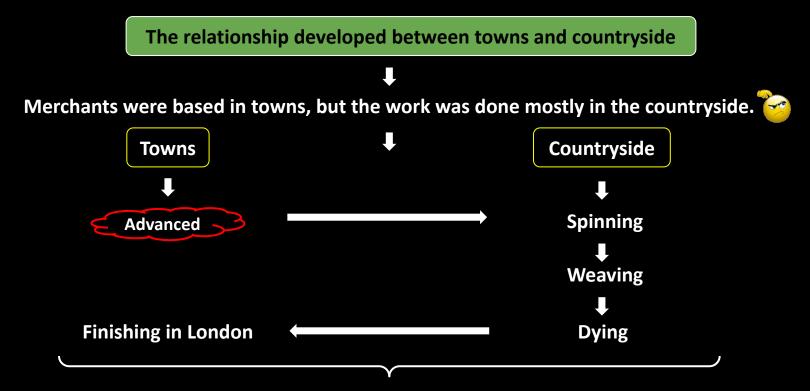
Poor peasants and artisans began for working for merchants. $\Rightarrow \xi$ Why?





- This was a time when open fields were disappearing and commons were being eclosed
- Cottagers and poor peasants who had earlier depended on common lands for their survival, gathering their firewood, berries, vegetables, hay and straw, had to now look for alternative sources of income.
- Many had tiny plots of land which could not provide work for all members of the household.
 - In this situation, merchants provided an alternative source of income





Selling in International market



Proto - Industrial System



- Part of a network of commercial exchanges.
- It was controlled by merchants and the goods were produced by a vast number of producers working within their family farms, not in factories.
- At each stage of production, 20 to 25 workers were employed by each merchant.







The coming up of the factory

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1730's to late eighteenth century.

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The first symbol of the new era was cotton



In 1760 Britain was importing 2.5 million pounds of raw cotton to feed its cotton industry. By 1787 this import soared to 22 million pounds.



This increase was linked to a number of changes within the process of production.



Reasons for the increase of cotton consumption



- A series of inventions in the eighteenth century increased the efficacy of each step of the production process (carding, twisting and spinning, and rolling).
- They enhanced the output per worker, enabling each worker to produce more, and they made possible the production of stronger threads and yarn.
- Then Richard Arkwright created the cotton mill

Countryside (Manual) → To → Towns (Mills with machines)

- Within the mill, all the processes were brought together under one roof and management.
- This allowed a more careful supervision over the production process, a watch over quality, and the regulation of labour.













Factories increasingly became an intimate part of the English landscape.



- So visible were the imposing new mills, so magical seemed to be the power of new technology. That contemporaries were dazzled.
- They concentrated their attention on the mills, almost forgetting the bylanes and the workshops where production still continued.



Chimneys billowing smoke came to characterise the industrial landscape.



The pace of Industrial change



- How rapid was the process of industrialisation?
- Does industrialisation mean only the growth of factory industries?





The pace of Industrial change

The most dynamic industries in Britain were clearly cotton and metals **First**



Metal



Growing at a rapid pace, cotton was the leading sector in the first phase of industrialisation up to the 1840s.

With the expansion of railways, in England from the 1840s and in the colonies from the 1860s, the demand for iron and steel increased rapidly

By 1873 Britain was exporting iron and steel worth about £77 million, double the value of its cotton export.



The pace of Industrial change

- Even at the end of the nineteenth century, less than 20 per cent of the total workforce was employed in technologically advanced industrial sectors.
- Textiles was a dynamic sector, but a large portion of the output was produced not within factories, but outside, within domestic units.



The pace of Industrial change

Third

Traditional industries too had development, they were not stagnant.



Seemingly ordinary and small innovations were the basis of growth in many non-mechanised sectors such as food processing, building, pottery, glass work, tanning, furniture making, and production of implements.



The pace of Industrial change

Fourth

→ Technological changes occurred slowly



- New technology was expensive and merchants and industrialists were cautious about using it.
- The machines often broke down and repair was costly.
- They were not as effective as their inventors and manufacturers claimed.



Example: The case of the steam engine



The case of the steam engine





- James Watt improved the steam engine produced by Newcomen and patented the new engine in 1781.
- His industrialist friend Matthew Boulton manufactured the new model.
- But for years he could find no buyers.



So even the most powerful new technology that enhanced the productivity of labour manifold was slow to be accepted by industrialists



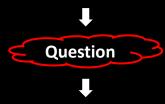
Hand labour and steam power

In Victorian Britain, there was no shortage of human labour.

→ They were demanding work.



- When there is plenty of labour, wages are low.
- So industrialists had no problem of labour shortage or high wage costs.
- They did not want to introduce machines that got rid of human labour and required large capital investment.



Why industrialist prefer hand labour over steam power





Why industrialist prefer hand labour over steam power?



- 1. Plenty of labours who were willing to work for low wages.
- 2. Seasonal nature of industries demanded labour for a specific season
 - Gas works and breweries were especially busy through the cold months. So they needed more workers to meet their peak demand.
 - Book binders and printers, catering to Christmas demand, too needed extra hands before December.
 - At the waterfront, winter was the time that ships were repaired and spruced up.
 - Industrialists usually preferred hand labour rather than machines.



Why industrialist prefer hand labour over steam power?



3. A range of products could be produced only with hand Labour.

- Machines were oriented to producing uniforms. standardised goods for a mass market.
- But the demand in the market was often for goods with intricate designs and specific shapes
- In mid-nineteenth-century Britain, for instance, 500 varieties of hammers were produced and 45 kinds of axes. These required human skill, not mechanical technology.

Example

- The aristocrats and the bourgeoisie—preferred-things-produced by hand.
- ightharpoonup Countries with labour shortage (America) ightharpoonup been on using machines



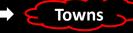




The abundance of labour in the market affected the lives of workers.



Migration from countryside



Possibility of jobs





- Spending weeks in seeking jobs
- Sleeping under bridges and night shelters and night refuges.

The actual possibility of getting a job depended on existing networks of friendship and kin relations.





Seasonality of work in many industries meant prolonged periods without work.





- After the busy season was over, the poor were on the streets again.
- Some returned to the countryside after the winter, when the demand for labour in the rural areas opened up in places.
- But most looked for odd jobs, which till the mid-nineteenth century were difficult to find.



→ Wages increased somewhat in the early nineteenth century. But they tell us little about the welfare of the workers.



- → The income of workers depended not on the wage rate alone
 - What was also critical was the period of employment:
 - The number of days of work determined the average daily income of the workers.

Unemployment



Rise in the unemployment



More poors



Hostility towards the technology replacing the workers.

!! Attacks on spinning Jenny !!

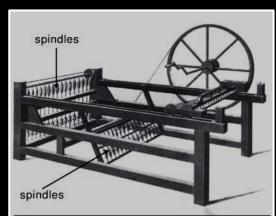


Fig. 11 – A Spinning Jenny, a drawing by T.E. Nicholson, 1835.

Notice the number of spindles that could be operated with one wheel.

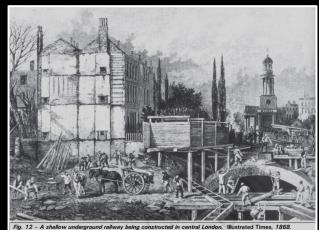
In was a machine devised by James
Hargreaves in 1764 Which consist of
number spindles, operated by turning a
single wheel which can spin several
threads at the same time. It replaced
the hand spinning and labour work.



How did the situation improved?







From the 1850s railway stations began coming up all over London. This meant a demand for large numbers of workers to dig tunnels, erect timber scaffolding, do the brick and iron works. Job-seekers moved from one

Construction and building activities in cities opened up greater opportunities of employment.

- Roads were widened, new railway stations came up, railway lines were extended, tunnels dug, drainage and sewers laid, rivers embanked.
- The number of workers employed in the transport industry doubled in the 1840s, and doubled again in the subsequent 30 years.



Industrialisation in the colonies



We will take a look of Factory industries and non - mechanised sector.

→ Textile industries will be in focus



The age of Indian Textile



Before the age of machine industries, silk and cotton goods from India dominated the international market in textiles.







Why and how the Indian handmade goods dominated international market?





- 1. Quality of Indian products.
- 2. Demanded all over the world.
 - Armenian and Persian merchants took the goods from Punjab to Afghanistan, eastern Persia and Central Asia.
 - ➤ A vibrant sea trade operated through the main pre-colonial ports. Surat on the Gujarat coast connected India to the Gulf and Red Sea Ports; Masulipatam on the Coromandel coast and Hoogly in Bengal had trade links with Southeast Asian ports.



Why and how the Indian handmade goods dominated international market?





A variety of Indian merchants and bankers were involved in this network



- Supply merchants linked the port towns to the inland regions.
- They gave advances to weavers, procured the woven cloth from weaving villages, and carried the supply to the ports.
- At the port, the big shippers and export merchants had brokers who negotiated the price and bought goods from the supply merchants operating inland.



By the 1750s this network, controlled by Indian merchants, was, breaking down.





Coming up of European companies and breaking down of Indian system



European companies

- Gained concessions from local courts.
- Monopoly rights to trade X competition to local merchants



- Decline of the old ports of Surat and Hoogly through which local merchants had operated.
- Exports from these ports fell dramatically.
- The local bankers slowly went bankrupt



Decline in the ports of Surat and Hooghly

Rise in the ports of Bombay and Calcutta 🛊

- This shift from the old ports to the new ones was an indicator of the growth of colonial power
- Trade through the new ports came to be controlled by European companies, and was carried in European ships.
- While many of the old trading houses collapsed, those that wanted to survive had to now operate within a network shaped by European trading companies.

How did these changes affect the life of weavers and other artisans?



What happened to weavers?

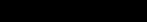
Phase - I

Phase - II

Before East India company gained political power



- After East India company gained political power
- British cotton industries had not yet expanded
- Indian fine textiles were in great demand in Europe.
- Competition from The French, Dutch,
 Portuguese as well as the local traders compete in the market, to secure woven cloth.



- It could assert a monopoly right to trade.
- It proceeded to develop a system of management and control that would eliminate competition, control costs, and ensure regular supplies of cotton and silk goods.







Impact on weavers and supply merchants before East India company gained political power?



- Demand for Indian fine textiles ↑ → so the company was keen on expanding textile exports from India.
- It was difficult for East India Company to ensure regular supply of goods due to competition.

The weaver and supply merchants could bargain and try selling the produce to the best buyer



How did company eliminated competition, control cost and ensured regular supplies?

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 The Company tried to eliminate the existing traders and brokers connected with the cloth trade

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■ Establish a more direct control over the weaver. ⇒



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Through Gomastha



A paid servant appointed to supervise weavers, collect supplies, and examine the quality of cloth.



How did company eliminated competition, control cost and ensured regular supplies?



2. It prevented Company weavers from dealing with other buyers ⇒ €





- Through the system of advances.
- Once an order was placed, the weavers were given loans to purchase the raw material for their production.
- Those who took loans had to hand over the cloth they produced to the Gomasthas.
- They could not take it to any other trader.





The system created by British started many problems





- Weavers had to engage on the full time basis
- Clashes between weavers and gomasthas.



- → They were different from the supply merchants.
- The new gomasthas were outsiders, with no long-term social link with the village.
- → They acted arrogantly, marched into villages with sepoys and peons, and punished weavers for delays in supply—often beating and flogging them.



Impact on weavers?







- The weavers lost the space to bargain for prices and sell to different buyers.
- The price they received from the Company was miserably low.
- The loans they had accepted tied them to the Company.
- Weavers deserted villages and migrated, setting up looms in other villages where they had some family relation.
- Weavers along with the village traders revolted, opposing the Company and its officials.
- Many weavers began refusing loans, closing down their workshops and taking to agricultural labour.

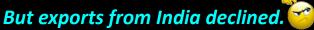


Manchester Comes to India

Henry Patallo,1772

"The demand for Indian textiles could never reduce, since no other nation produced goods of the same quality"







- In 1811-12 piece-goods accounted for 33 per cent of India's exports
- By 1850-51 it was no more than 3 per cent.



- → Why did this happen?
- → What were its implications?



Why there was a decline of cotton exports from India?

Cotton industries in England

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Persuaded the East India Company to sell British manufactures in Indian markets as well They pressurised the government to impose import duties on cotton textiles so that Manchester goods could sell in Britain without facing any competition from outside.



- → Exports of British cotton goods increased dramatically in the early nineteenth century.
- → Exports of Indian cotton goods decreased dramatically in the early nineteenth century.



Why there was a decline of cotton exports from India?



Cotton weavers in India thus faced two problems at the same time:

- 1. Their export market collapsed
- 2. The local market shrank, being glutted with Manchester imports.



By the 1860s, weavers faced a new problem.

Problem of the supply of raw cotton



Why the Indian weavers faced with the problem of the supply of raw cotton in the 1860s?

American Civil War

Cotton supplies from the US were cut off

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Britain turned to India

→ Raw cotton exports from India 🛊 = The price of raw cotton shot up 🛊

 $oldsymbol{1}$

Weavers in India were starved of supplies and forced to buy raw cotton at exorbitant prices.

Factories in India began production, flooding the market with machine-goods.



Factories Come Up



- The first cotton mill in Bombay came up in 1854 and it went into production two years later.
- By 1862 four mills were at work with 94,000 spindles and 2,150 looms
- Around the same time jute mills came up in Bengal, the first being set up in 1855 and another one seven years later, in 1862.
- In north India, the Elgin Mill was started in Kanpur in the 1860s, and a year later the first cotton mill of Ahmedabad was set up.
- By 1874, the first spinning and weaving mill of Madras began production.





The Early Entrepreneurs



- The history of many business groups goes back to trade with China.
- The British in India began exporting opium to China and took tea from China to England.
- Many Indians became junior players in this trade



Providing Finance, procuring supplies, and shipping consignments

Having earned through trade, some of these businessmen had visions of developing industrial enterprises in India.

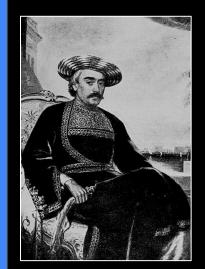


Who were the early Entrepreneurs?

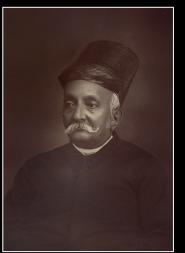


- In Bengal, Dwarkanath Tagore made his fortune in the China trade before he turned to industrial investment, setting up six joint-stock companies in the 1830s and 1840s.
- In Bombay, Parsis like Dinshaw Petit and Jamsetjee Nusserwanjee Tata who built huge industrial empires in India, accumulated their initial wealth partly from exports to China, and partly from raw cotton shipments to England.
- Seth Hukumchand, a Marwari businessman who set up the first Indian jute mill in Calcutta in 1917 also traded with China.
- So did the father as well as grandfather of the famous industrialist G.D Birla.

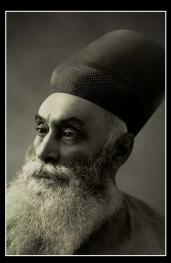




Dwarkanath Tagore



Dinshaw Petit



Jamsetjee Nusserwanjee Tata



Seth Hukumchand



G.D Birla



Capital was accumulated through other trade networks



- Trade with Burma, Middle East and East Africa
- Groups operated in India (Carrying goods from one place to another, banking money, transferring funds between cities, and financing traders.)
- When opportunities of investment in industries opened up, many of them set up factories.



Colonial control over Indian trade



† Difficulties for Traders



- They were barred from trading with Europe in manufactured goods.
- Had to export mostly raw materials and food grains raw cotton, opium, wheat, and indigo—required by the British.
- They were also gradually edged out of the shipping business.



Situation till first World War

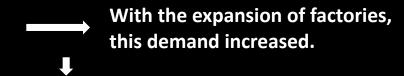


- European Managing Agencies in fact controlled a large sector of Indian industries.
- Three of the biggest ones were Bird Heiglers & Co., Andrew Yule, and Jardine Skinner & Co.
- These Agencies mobilised capital, set up joint-stock companies and managed them.
- In most instances Indian financiers provided the capital while the European Agencies made all investment and business decisions.
- The European merchant-industrialists had their own chambers of commerce, which Indian businessmen were not allowed to join.



Where did the workers come from?

Factories needed workers



- In 1901, there were 584,000 workers in Indian factories.
- By 1946 the number was over 2,436, 000.

Where did the workers come from?





Where did the workers come from?



- In most industrial regions, workers came from the districts around.
- Peasants and artisans who found no work in the village went to the industrial centers in search of work.

Example

- → In Bombay, the came from district of ratnagiri
- → While the mills of Kanpur got most of their textile hands from the villages within the district of Kanpur.
- Most often, mill workers moved between the village and the city, returning to their village homes during harvests and festivals.



Where did the workers come from?



Over time, as news of employment spread, workers travelled great distances in the hope of work in the mills.

Example

- From U.P to textile mills of Bombay and jute mills of Calcutta.
- Getting a job was not an easy task





The numbers seeking work were always more than the jobs available.



Role of Jobber



- Industrialists usually employed a jobber to get new recruits, Very often the jobber was an old and trusted worker.
- He got people from his village, ensured them jobs, helped them settle in the city and provided them money in times of crisis.
- The jobber therefore became a person with some authority and power.
- He began demanding money and gifts for his favour and controlling the lives of workers.



Fig. 20 – A head jobber.

Notice how the posture and clothes emphasise the jobber's position of authority.



The number of factory workers increased over time. However, they were a small proportion of the total industrial workforce.



The Peculiarities of Industrial Growth



Different segments of industrial ventures



European managing agencies



- They established tea and coffee plantations, acquiring land at cheap rates from the colonial government.
- They invested in mining, indigo and jute.
- Import of Manchester made goods.

Indian businessmen



- They avoided competing with
 Manchester goods in the Indian market.
- Production of coarse cotton yarn rather than fabric.
- The yarn produced in Indian spinning mills was used by hand loom weavers in India or exported to China.



A series of changes affected the pattern of industrialisation.



1. Swadeshi movement



- Nationalists mobilised people to boycott foreign cloth.
- Industrial groups organised themselves to protect their collective interests, pressurising the government to increase tariff protection and grant other concessions.
- Swadeshi products captured the imagination of market.



A series of changes affected the pattern of industries



2. Industrialists in India began shifting from yarn to cloth production.





- Exports of Indian goods to China declined.
- Produce from Chinese and Japanese mills flooded the Chinese market.
- Cotton piece goods production in India doubled between 1900 and 1912.



First world war and industrial growth



- British mills busy with war production to meet the needs of the army.
- Manchester imports into India declined



Indian mills had a vast home market to supply.

Indian factories were called upon to supply war needs: jute bags, cloth for army uniforms, tents and leather boots, horse and mule saddles and a host of other items.





Impact of the first world war on industrial growth New factories 1 + Working hours 1 + Workers 1

- Manchester could never recapture its old position in the Indian market.

!! Industrial production boomed !!

 local industrialists gradually consolidated their position, substituting foreign manufactures and capturing the home market.



Small scale industries predominate



- Large industries formed only a small segment of the economy.
- Only a small proportion of the total industrial labour force worked in registered factories:
 5 per cent in 1911 and 10 per cent in 1931.
- The rest worked in small workshops and household units, often located in alleys and bylanes, invisible to the passer-by.
- handicrafts production actually expanded in the twentieth century.
- hand loom cloth production expanded steadily: almost trebling between 1900 and 1940.



How did this happen?





How did the handicraft and hand loom production expanded and weavers survived, despite problems?



1. Technological changes was one reason 🛜



→ Handicrafts people adopt new technology if that helps them improve production without excessively pushing up costs.

Example

- Weavers using looms with a fly shuttle.
- This increased productivity per worker, speeded up production and reduced labour demand.





Fly shuttle.



- It is a mechanical device used for weaving, moved by means of ropes and pullies.
- It places the horizontal threads (called the weft) into the verticle threads (called the warp).
- The invention of the fly shuttle made it possible for weavers to operate large looms and weave wide pieces of cloth.





How did the handicraft and hand loom production expanded and weavers survived, despite problem?



2. Certain groups of weavers were in a better position than others to survive the competition with mill industries

Producer of coarse cloths

V/S

Producer of fine variety cloths





Its demand fluctuated violently

- Bought by the well-to-do was more stable.
- Less fluctuation: the rich could buy these even when the poor starved

Mills could not imitate specialised weaves. Saris with woven borders, or the famous lungis and handkerchiefs of Madras, could not be easily displaced by mill production.



Weavers, hardships and survival



- Weavers and other craftspeople, who continued to expand production through the twentieth century, did not necessarily prosper.
- They lived hard lives and worked long hours.
- Very often the entire household-including all the women and children had to work at various stages of the production process.
- But they were not simply remnants of past times in the age of factories.
- Their life and labour was integral to the process of industrialisation.



Market for Goods



Recall the whole chapter



Connect with the heading





- When new products are produced, people have to be persuaded to buy them.
- They have to feel like using the product.



How was this done?



How the market for goods was created?



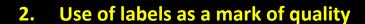
1. Advertisement was the one way.



- They try to shape the minds of people and create new needs.
- They appear in newspapers, magazines, hoardings, street walls, television screens.
- But if we look back into history we find that from the very beginning of the industrial age, advertisements have played a part in expanding the markets for products, and in shaping a new consumer culture.



How the market for goods was created?



- When Manchester industrialists began selling cloth in India, they put labels on the cloth bundles.
- When buyers saw MADE IN MANCHESTER written in bold on the label, they were expected to feel confident about buying the cloth.
- They also carried images and were very often beautifully illustrated.
- If we look at these old labels, we can have some idea of the mind of the manufacturers, their calculations, and the way they appealed to the people.

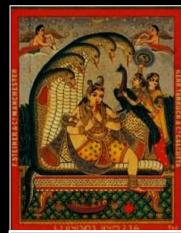


Fig. 26(a) – Manchester labels, early twentieth century.

Images of numerous Indian gods and goddesses – Kartika, Lakshmi,
Saraswati – are shown in imported cloth labels approving the quality of the product being marketed.



How the market for goods was created?



3. Use of Images and illustrations.



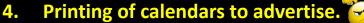
- Images of Indian gods and goddesses regularly appeared on these labels.
- It was as if the association with gods gave divine approval to the goods being sold.
- The imprinted image of Krishna or Saraswati was also intended to make the manufacture from a foreign land appear somewhat familiar to Indian people.







How the market for goods was created?





- Manufacturers were printing calendars to popularise their products.
- It captured the imagination of people as they saw them again and again.
- Unlike newspapers and magazines calendars were used even by people who could not read.
- Figures of important personages, of emperors and nawabs, adorned advertisement and calendars.
- When the product was being used by kings, produced under royal command, its quality could not be questioned.

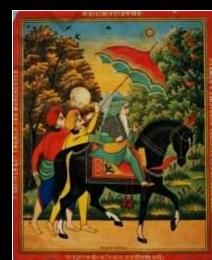


Fig. 26(b) – Maharaja Ranjit Singh on a Manchester label. Historic figures are used to create respect for the product.



How the market for goods was created?



Nationalist message through products





- If you care for the nation, then buy products that Indians produce.
- It captured the imagination of people as they saw them again and again
- Advertisements became a vehicle of the nationalist message of swadeshi.



28 - An Indian mill cloth label. The goddess is shown offering cloth produced in an Ahmedabad mill, and asking people to use things made in India.





Chapter Completed



STAY CONNECTED

KEEP LEARNING

