

Chapter – 10: Buildings, Paintings and Books

Metallurgy

- Ancient Indian metallurgists – major contribution – metallurgical history of world
- Archeological excavations show – Harappans – expert craftsmen – had knowledge of copper metallurgy (study of metals)
- Harappans – also manufactured bronze – mixed copper and tin
- Harappans – belonged to bronze age – their successors – belonged to iron age
- India – highly-advanced iron-forged iron, wrought iron, cast iron

The Iron Pillar

- Iron pillar at Mehrauli, Delhi – skill of Indian craftsman
- Made of iron – 7.2 m high – weighs 3 tonnes – made about 1500 years ago
- This date is known – inscriptions on the pillar – mention ruler – Chandra – Gupta Dynasty
- Amazing fact – this pillar – didn't rust – all these centuries

Buildings in Brick and Stone

- Skills of our crafts persons – easy to see – buildings that survived – *stupas*
- *Stupa* – meaning mound (pile of stones)
- Several kinds of *stupa* – some common features
 - Small box at the centre of *stupa*
 - May contain – bodily remains (teeth, bone, ashes) of Buddha or his followers
 - May also contain – things they used – precious stones and coins as well
- This box – relic casket – covered with earth – layer of brick – added on top – afterwards – dome like structure – covered with carved stone slabs
- Often times – path – *pradakshina patha* – laid around *stupa* – surrounded with railings
- Entrance to these paths – through gateways
- Devotees – circled *stupa* – clockwise direction – mark of devotion
- Railings and gateways – decorated with sculpture
- Amaravati – impressive *stupa* – existed once – stone carvings – decorated *stupa* – made about 2000 years ago
- Other buildings – carved out of rocks – some – very detailed decoration – sculptures and painted walls
- Some – earliest Hindu temples – built at this time – deities – Vishnu, Shiva, Durga – worshipped here
- Most imp. part – *garbhagriha* – image of main deity – placed here – priests performed rituals – devotees offered worship
- Bhitargaon, UP – tower known as *shikara* – built over *garbhagriha* – mark it as sacred place
- Building these – required planning
- Most temples – had a *mandapa* – people assembled here
- Mahabalipuram and Aihole – some of the finest stone temples – built here

How were Stupas and Temples Built?

- Several stages – building a *stupa* or temple
- Kings and queens – decided to make these – they were expensive
- 1st – good quality stone to be found – brought to place for new building
- These rough stones – carved out carefully for pillars, wall panels, floors and ceilings
- Afterwards – place them carefully in right places
- Kings and queens – spent money from treasury – pay craftspersons – worked on these temples
- Devotees – visited the temple – brought gifts – used to decorate the building
- Association of ivory workers – paid for – one gateway at Sanchi
- Among others – paid for decorations – merchants, farmer, garland makers, perfumers, smiths, 100s of men and women – known from inscriptions on buildings

Painting

- Ajanta – several hills – carved out – over centuries
- Most of these – monasteries – some – decorated with paintings
- Caves – dark from inside – paintings made in light of torches (mashals)
- Colours – made of plants and minerals – vivid (bright) even after 1500 years
- Artists – who created these – still unknown

The World of Books

- Best-known *epics* – long poems about heroic men and women (include stories about gods) – written in this period
- Famous Tamil epic – *Silappadikaram* – composed by Ilango – around 1800 years ago
- This epic – story of merchant – Kovalan – lived in Puhar – married to Kannagi – fell in love with Madhavi
- Later – he and Kannagi – left Puhar – reached Madurai – accused of theft by Court jeweler of Pandya king
- King – sentenced him to death – Kannagi got angry – destroyed the city of Madurai
- Another Tamil epic – *Manimekalai* – composed by Sattanar – around 1400 years ago
- This epic – story of daughter of Kovalan and Madhavi
- These compositions – lost for many centuries – manuscripts – rediscovered 100 years ago
- Other writers – Kalidasa – wrote in Sanskrit

A verse from the ‘Meghaduta’

- This is Kalidasa’s best-known poem – monsoon cloud – imagined as – messenger between lovers
- Poet – describes wind – carry the cloud northwards –
 - Breeze – cool – fragrance of earth – inhaled by elephants
 - Helps the wild figs (fruit) ripen – blows gently

Recording and Preserving Old Stories

- Number of Hindu religious stories – written down – this period

- These stories include – *puranas* – literally means old
- They contain stories about gods and goddesses – Vishnu, Shiva, Durga, Parvati
- Also contain details – how to worship – creation of world
- Puranas – written in Sanskrit – meant to be heard by everybody – recited by priests in temples – people listened to them
- 2 Sanskrit epics – *Mahabharata* and *Ramayana* – very popular
- Mahabharata –
 - Story of war – between Pandavas and Kauravas – cousins
 - This war – gain control over Hastinapura – capital of Kurus
 - This story – old one – BUT – written down 1500 years ago
 - *Purana* and *Mahabharata* – compiled by Vyasa
 - *Bhagavad Gita* – also included here
- Ramayana –
 - About Rama – prince of Kosala – sent to exile (live in forest)
 - His wife – Sita – abducted (kidnapped) by Lanka king – Ravana
 - Rama – fought with Ravana – won the battle – returned to Ayodhya – capital of Kosala
 - This story – old one – BUT – written down in this period
 - Valmiki – recognized as the author of Sanskrit *Ramayana*

Stories Told by Ordinary People

- Ordinary people – told stories – composed poems, songs – sang, danced, performed plays
- Some – preserved in collections of stories – *Jatakas* and *Panchatantra* – written down in this period
- Stories of *Jatakas* – shown on railings of stupa and paintings in Ajanta

The story of the Monkey King

- Once upon a time – great monkey king – lived on the banks of Ganga in Himalayas – 80,000 followers
- Fed on (to eat) – fruit of special mango tree – didn't grow in the plains
- One day – ripe mango – fell into river – reached Varanasi
- King of Varanasi – bathing in river – tasted it – amazed (astonished)
- Asked the forest people – find the tree – led him to Himalayas
- King and his courtiers – feasted (partied) on mangoes – at night – they observed – monkeys also fed on those mangoes – decided to kill them
- King of monkeys – worked out plan – broke off branches – made a bridge across river – held onto it till everyone crossed
- He was exhausted – died there
- Human king – saw all this – tried unsuccessfully to revive monkey king
- Monkey king died – human king mourned his death – paid him full respect
- This story – shown on sculpture – found on stupa – at Bharhut, India

Writing Books on Science

- This period – time of Aryabhata – mathematician and astronomer – Sanskrit book – *Aryabhatiyam*
- Stated – day and night – caused by rotation of earth on axis – sun may appear to rise and set

- Developed – scientific explanation for eclipses – formula for calculating circumference of circle – accurately close to current formula
- Varahamihira, Brahmagupta, Bhaskaracharya – other mathematicians and astronomers – made several discoveries

Zero

- Numerals – used before – Indian mathematicians – invented symbol for zero
- This system – adapted by Arabs – spread to Europe – still in use today

Ayurveda

- Well-known system – health science – developed in ancient India
- 2 famous practitioners – Charaka (1st – 2nd centuries CE) and Sushruta (4th century CE)
- *Charaka Samhita* – written by Charaka – imp. book on medicine
- *Susruta Samhita* – written by Sushruta – elaborate surgical procedures