CHAPTER 1

SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS IN THE ANCIENT TIMES
INTERNAL FACTORS

EXTERNAL FACTORS

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EXTERNAL FACTORS

GEOGRAPHY
- Bodies of water
- Plains
- Topography

TRADE
- Trade & commerce
- Effects of trade
GEOGRAPHY
GEOGRAPHY: Bodies of Water

- Basic human needs and good source of food
- Avenue for various means of livelihood
- For agriculture, food processing and daily activities
Tools and irrigation systems were invented

• Converted into agricultural lands
• Terrain not suitable for planting crops: people looked for other means of livelihood

GEOGRAPHY: Topography - Land

- Romans
- Farmers
- Greeks
- Seafarers
GEOGRAPHY: Topography –
Natural Barriers

Wu Yi Mt.  Tiber River
GEOGRAPHY: Topography - Climate

- Climatic changes
- Amount of rainfall
- Techniques
- Flora & fauna
- Activities
GEOGRAPHY: Topography – Natural Resources

Resources
- Abundance
- Scarcity

Dependence
- Greeks – iron
- Goods

Houses, buildings
- Romans – lime and volcanic ashes

Defense & Invasion
- Greeks - Iron

Industries
- Metallurgy
Abundance and Scarcity of Resources
Dependence on Natural Resources
Houses, buildings, other structures
Defense and Invasion
EXTERNAL FACTORS

GEOGRAPHY
- Bodies of water
- Plains
- Topography

TRADE
- Trade & commerce
- Effects of trade
TRADE: Trade and Commerce

- Scarcity and excess in supply from available natural resources
- Increase in population
- Emergence of urban societies and manufacturing industries
TRADE: Effects

- Greater interaction and communication
- Advances in monetary system
- Increase in wealth
- Spread of scientific knowledge and technological products
INTERNAL FACTORS

- Mode of Living
- Belief System
- Law and Government
MODE OF LIVING

• Early civilizations:
  – Started out as agricultural communities
INTERNAL FACTORS

Mode of Living

Belief System

Law and Government
Belief System

Laws of nature ordering the universe and knowable by man

Mesopotamia

Order of nature
Movement of stars
Astrology
Patterns of heavens

Greeks

Order of nature
Movement of stars
Astrology
Patterns of heavens

Humanist

Romans

Humanist

Chinese

Yin & Yang
Religion

- **Mesopotamia**
  - Polytheistic

- **Egyptians**
  - Divine kingship

- **Greeks**
  - Polytheistic

- **Chinese**
  - Buddhism

- **Romans**
  - Christian

- **Indians**
  - Hinduism
INTERNAL FACTORS

Mode of Living

Belief System

Law and Government
• Influence the directions of political authorities