

INDIAN MYTHOLOGY & HISTORY

**GOLDEN AGE OF
INDIA**

TIMELINE

	-3000 BCE	-2500 BCE	-2000 BCE	-1500 BCE	-1000 BCE	-500 BCE	0 CE	500 CE	1000 CE	1500 CE	2000 CE
	5000 ya	4500 ya	4000 ya	3500 ya	3000 ya	2500 ya	2000 ya	1500 ya	1000 ya	500 ya	now
India	Indus Valley Civilization			Gangetic Valley Vedic Civilization			Jainism/ Buddhism / Mouryas	Satavahans/ Sakas/ Hunas	Guptas/ Adi Sankara	Muslim Invasion	Mughals/ Marathas/ British/ Independent India
Mesopotamia	Mesopotamian						Parthian	Romans	Islamic		
Egypt	Egyptian					Greek	Byzantine		Islamic		
Europe		Greek					Greeks / Romans	Romans	Byzantine / Romans / Dark Ages		Renaissance / Colonization / Industrial Revolution / World Wars
Persia		Ancient Persian				Persian			Islamic		
China			Ancient China			Imperial China					Ming, Qing, Communists
Americas		Mayan				Aztecs & Incas					Europeans

BRONZE AGE

IRON AGE

HOW DO WE KNOW ABOUT THIS ERA?

- Many travelers from China and Europe have noted information.
- There is much more non-religious texts from this era that documents facts in an objective basis.

VIKRAMADITYA, SHUNGAS, KALINGAS

- After greeks were pushed back, India kept getting attacked by Sakas (a tribe from southern Siberia) and Vikramaditya defeated them.
- He started the Vikram era, which was started just 57 years before the Christian Era.
- Meanwhile, in Magadha, Shungas succeeded Mauryans.
- In current Orissa (Eastern India), Kalingas rose into prominence again under Kharavela and won large parts of central India, and even defeated Shungas.

SAKAS INTO INDIA – KANISHKA

- Sakas finally managed to rule parts of north-west India, about 100 AD, and adopted Buddhism and merged into Indian culture. The 3rd king in that dynasty – named Kushana dynasty - was Kanishka. He provided patronage to Buddhism.

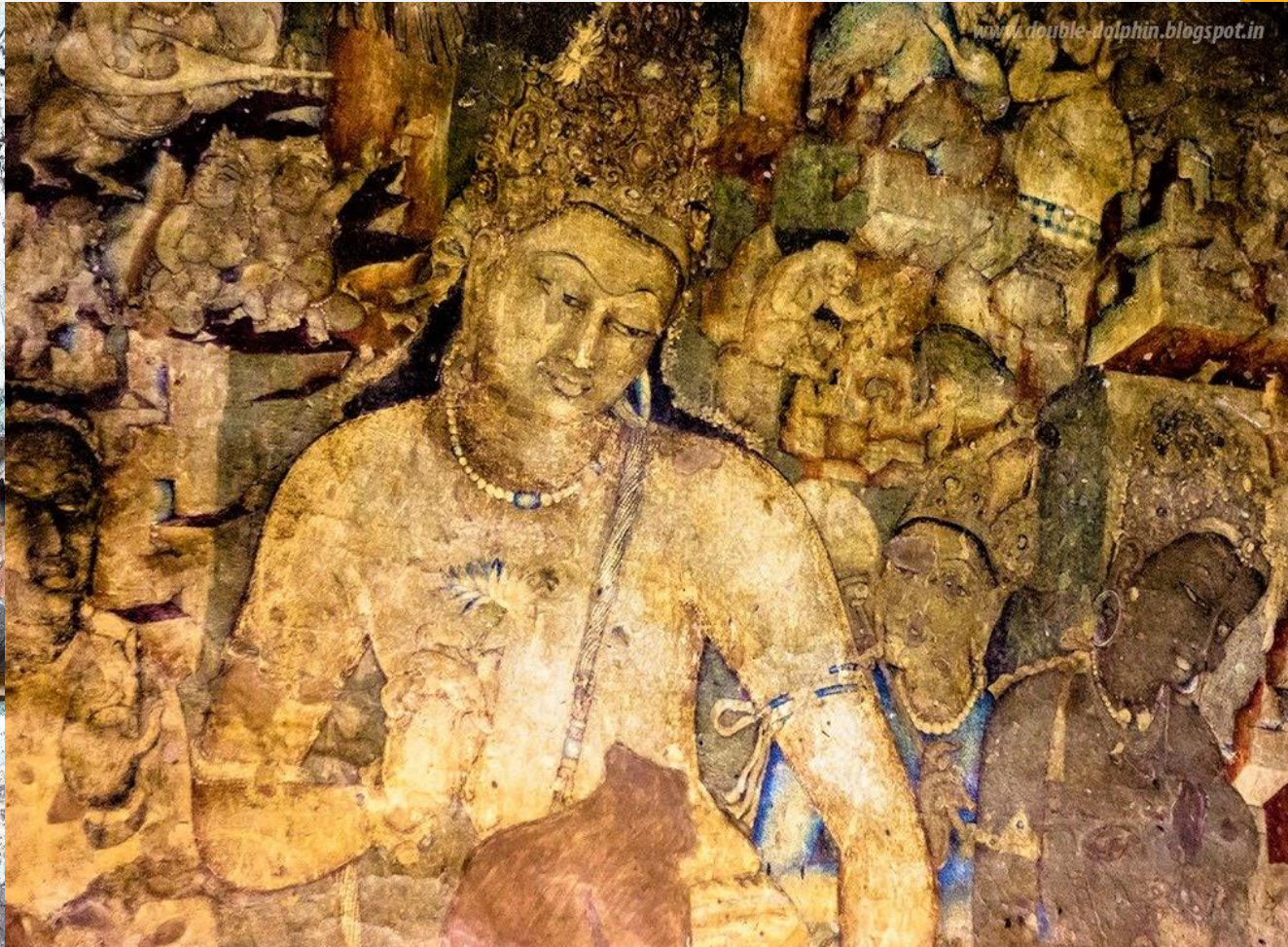


SATAVAHANAS/ANDHRAS

- Finally, a dynasty from South-east arose and captured all of central India as well. Under this dynasty, a lot of architectural and artistic marvels were made.



AJANTA CAVES



STUPAS & TEMPLES

- Buddhists started building of Stupa starting in late Mauryan dynasty. Sanchi Stupa was built in 1st century CE.
- Hindus started building temples in about 3rd century CE.

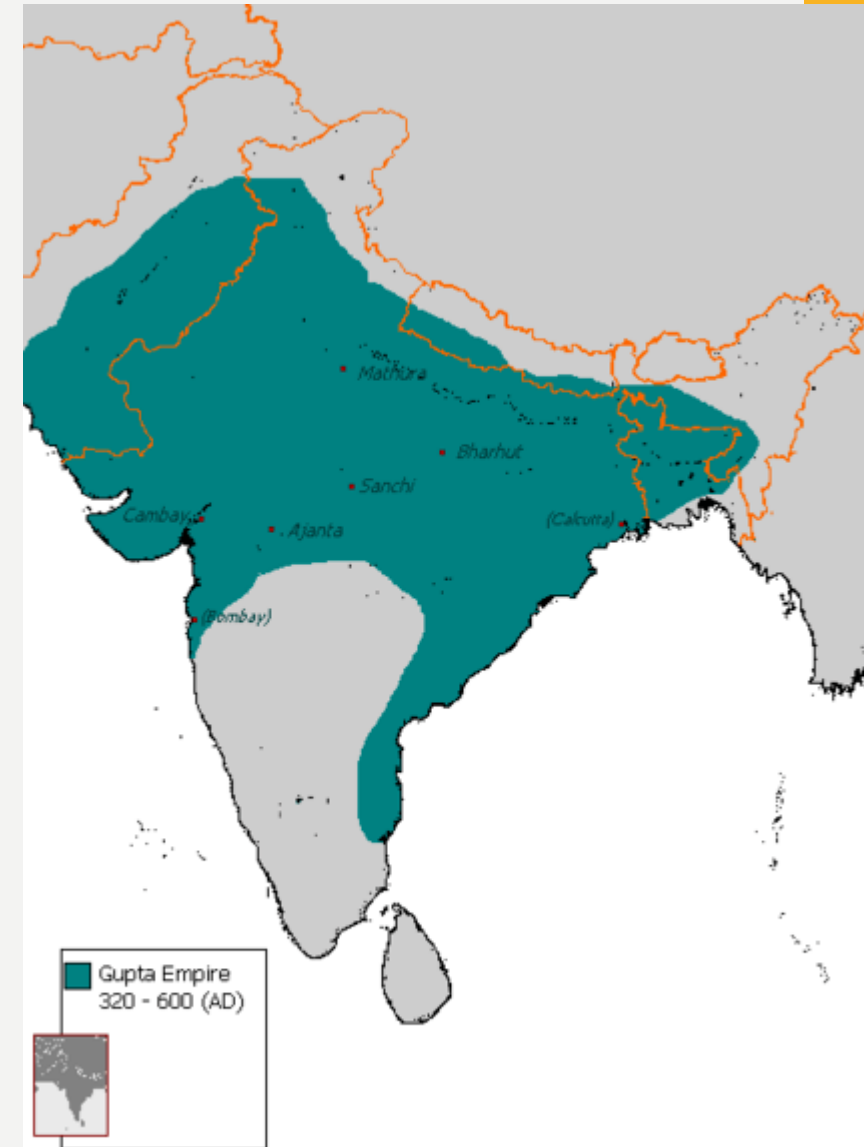


LITERATURE

- Panini wrote a book of rules on Sanskrit grammar in 4th century BCE but by this time (1st to 3rd century CE), Sanskrit developed further along with a clearly and scientifically defined script, i.e. Devnagari. This is used till today by all Hindi & Marathi.
- Panini's rules were so advanced that everything was completely followed certain rules and any exceptions were also noted very clearly.
- Patanjali codified these rules further.

ARRIVAL OF GUPTAS

- This dynasty arose in 3rd century BC and 4th century, they ruled almost all of north India out of Prayag (aka Allahabad).
- Guptas defeated all of Sakas from north India.
- Nalanda university was founded by Guptas.



NAVARATNA OF VIKRAMADITYA

- The 3rd king in dynasty, Chandragupta Vikramaditya, expanded the empire.
- His court had 9 scholars dubbed, Nine Jewels (Navarathna), one of which was Kalidasa.

KALIDASA

- Kalidasa is widely regarded as the greatest poet and dramatist in the Sanskrit language of India. His plays and poetry are primarily based on the Vedas, the Mahabharata and the Puranas.
- Abhijñānaśākuntalam ("Of Shakuntala recognised by a token") is generally regarded as a masterpiece.
- Raghuvamśa is an epic poem about the kings of the Raghu dynasty.
- He wrote plays as well.
- Here is one of his poems, translated in English:

Wouldst thou the young year's blossoms and the fruits of its decline
And all by which the soul is charmed, enraptured, feasted, fed,
Wouldst thou the earth and heaven itself in one sole name combine?
I name thee, O Sakuntala! and all at once is said.

NALANDA UNIVERSITY



At its peak, this university hosted 10000 kids! It was built in the 4th century CE and was an active university for about 800 years at which it was invaded by Muslim invaders. It is said that the library of the university had so many books, numbering over hundreds of thousands, that when it was burnt by the invaders, the fire lasted for 6 months.

The library not only collected religious manuscripts but also had texts on such subjects as grammar, logic, literature, astrology, astronomy, and medicine.

IRON PILLAR OF DELHI

An iron pillar that has not yet rusted after 1600 years! It's in the same campus as the Qutb Minar in Delhi.



MATHEMATICS OF ARYABHATA

- Discovery of Pi

CIRCUMFERENCE-DIAMETER RATIO

चतुरधिकं शतमष्टगुणं द्वाषष्टिस्तथा सहस्राणाम् ।

अयुतद्वयविकम्भस्यासन्नो वृत्तपरिणाहः ॥ १० ॥

10. 100 plus 4, multiplied by 8, and added to 62,000 : this is the nearly approximate measure of the circumference of a circle whose diameter is 20,000.

This gives

$$\pi = \frac{\text{circumference}}{\text{diameter}} = \frac{62832}{20000} = 3.1416.$$

This value does not occur in any earlier work on mathematics, and forms an important contribution of Āryabhaṭa I.

It is noteworthy that Āryabhaṭa I has called the above value approximate.

ARYABHATA – VALUE OF ZERO

- The Hindu–Arabic numeral system is a positional decimal numeral system, and is the most common system for the symbolic representation of numbers in the world.
- It was invented between the 1st and 4th centuries by Indian mathematicians.
- Aryabhata not only used it, but, also defined the value of 0. He was the first one to say, that anything divided by 0 is infinity!

ARYABHATA – THE ASTRONOMER

यद्वत् कदम्बपुष्पग्रन्थिः प्रचितः समन्ततः कुसुमैः ।
तद्वद्वि सर्वसत्त्वैर्जलजैः स्थलजैश्च भूगोलः ॥ ७ ॥

7. Just as the bulb of a *Kadamba* flower is covered all around by blossoms, just so is the globe of the Earth surrounded by all creatures, terrestrial as well as aquatic.²

Solar and lunar eclipses were scientifically explained by Aryabhata. He states that the Moon and planets shine by reflected sunlight. He explains eclipses in terms of shadows cast by and falling on Earth. His computational paradigm was so accurate that 18th-century scientist Guillaume Le Gentil, during a visit to Pondicherry, India, found the Indian computations of the duration of the lunar eclipse of 30 August 1765 to be short by 41 seconds, whereas his charts (by Tobias Mayer, 1752) were long by 68 seconds.

APPARENT MOTION OF THE STARS DUE TO THE EARTH'S ROTATION

अनुलोमगतिर्नोस्थः पश्यत्यचलं विलोमगं यद्वत् ।
अचलानि भानि तद्वत् समपश्चिमगानि लङ्कायाम् ॥ ९ ॥
उदयास्तमयनिमित्तं नित्यं प्रवहेण वायुना क्षिप्तः ।
लङ्कासमपश्चिमगो भपञ्जरः सग्रहो भ्रमति ॥ १० ॥

9. Just as a man in a boat moving forward sees the stationary objects (on either side of the river) as moving backward, just so are the stationary stars seen by people at Laṅkā (on the equator), as moving exactly towards the west.
10. (It so appears as if) the entire structure of the asterisms together with the planets were moving exactly towards the west of Laṅkā, being constantly driven by the provector wind, to cause their rising and setting.

ARYABHATA'S LIST OF MAIN ACHIEVEMENTS

1. The alphabetical system of numeral notation	xxvii
2. Circumference-diameter ratio, viz., π	xxviii
3. The table of sine-differences	xxviii
4. Formula for $\sin \theta$, when $\theta > \pi/2$	xxviii
5. Solution of indeterminate equations	xxviii
6. Theory of the Earth's rotation	xxix
7. The astronomical parameters	xxix
8. Time and divisions of time	xxix
9. Theory of planetary motion	xxxi
10. Innovations in planetary computation	xxxiii
11. Celestial latitudes of the planets	xxxiii
12. Use of the radian measure in minutes	xxxiv

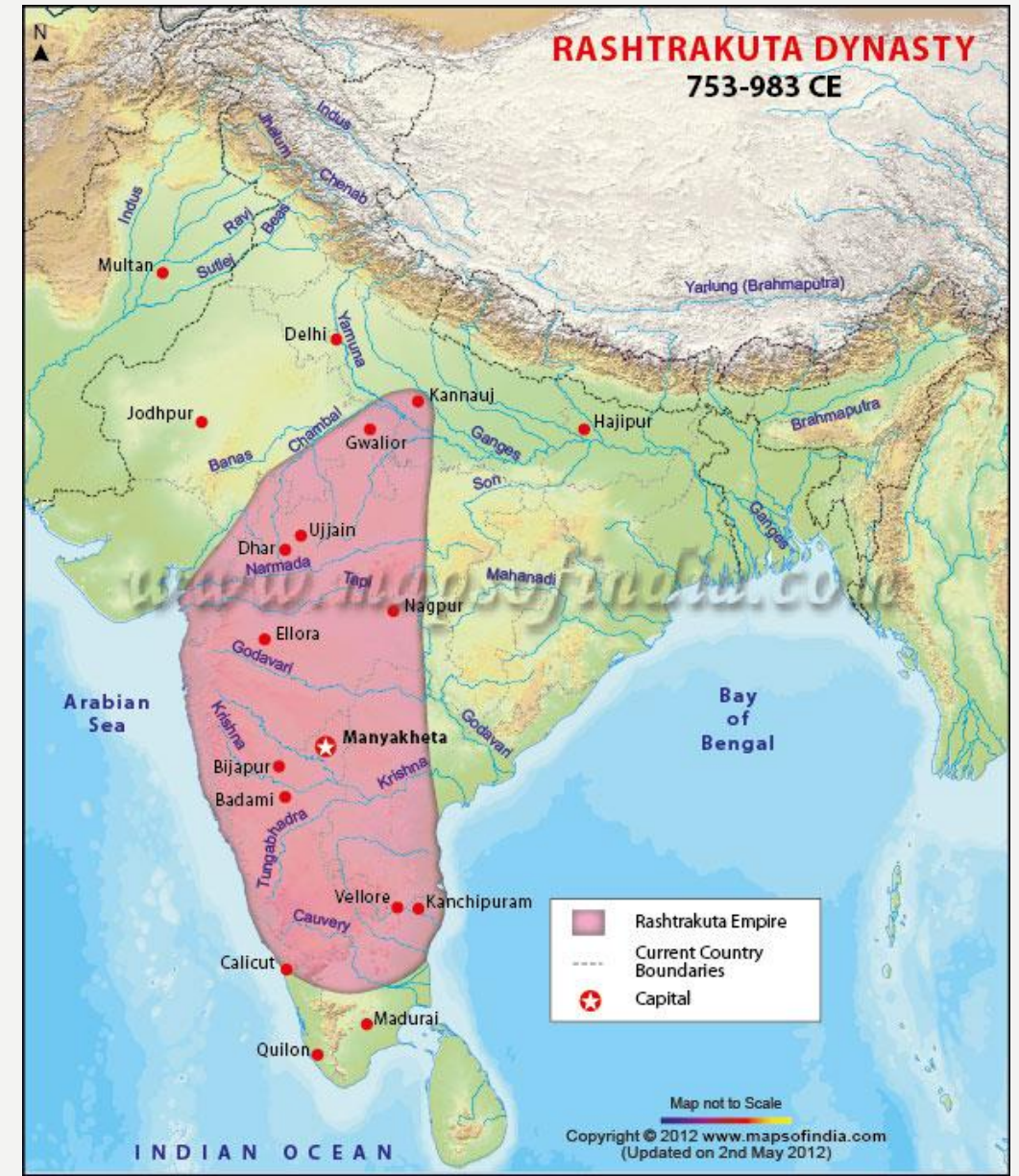
HARSHAVARDHANA

- Came to throne in AD606
- At the height of his power, Emperor Harsha's kingdom covered Punjab, Rajasthan, Bengal, Gujarat, Odisha and the whole of Indo-Gangetic plain that lay to the north of river Narmada.
- Harshavardhana also maintained diplomatic relations with the Chinese. Envoys from both countries visited each nation.
- Harsha gradually became a patron of literature and art. He made huge contributions to Nalanda University.
- Harshavardhana was himself into writing plays. He wrote at least three plays
- One of the legacies of Harsha is the famous Kumbh Mela. He started the famous religious festival at Prayaga at the confluence of rivers [Ganga](#), Yamuna and Saraswati.
- Era of booming economy; trade with Arabs.



RASHTRAKUTA DYNASTY

- Ruled Western Deccan from 750 CE till 1000 CE.
- Built amazing temple in Ellora.



ELLORA TEMPLE – ROCK CUT



ADI SHANKARACHARYA

- Born in Kerala in South India.
- His teachings are based on the unity of the soul and Brahman, in which Brahman is viewed as without attributes. Shankara travelled across India and other parts of South Asia to propagate his philosophy through discourse and debates with other thinkers.
- He was a major proponent of the Vedanta tenet that "Lord Brahman and men are of one essence and every individual should try to develop this vision of oneness."
- He founded four Shankaracharya peethas (monasteries), called "mathas," in the four corners of India to uphold his spiritual teachings. These are:
 - Sarada Peetham at Sringeri (Karnataka)
 - Kalika Peetham at Dwaraka (Gujarat)
 - Jyotih Peetham, Badarikashrama (Uttarakhand/Uttaranchal)
 - Govardhana Peetham in Jagannath, Puri (Orissa)

CHOLAS

- The dynasty became successful in 10th century AD and won all of South India, Central India south of Vindhya, Orissa, Sri Lanka and part of Myanmar & Malaysia.
- They were the first Indian empire to maintain a Navy fleet capable of attacking other countries.



BRIHADVESHWARA TEMPLE



ANGKOR VAT TEMPLE

- It was built by the Khmer King Suryavarman II in the early 12th century in Yaśodharapura, the capital of the Khmer Empire, as his state temple and eventual mausoleum. Breaking from the Shaiva tradition of previous kings, Angkor Wat was instead dedicated to Vishnu.



PRITHVIRAJ CHAUHAN

- Mohammad Ghori of Afghanistan attacked India in late 12th century. Prithviraj Chauhan the king of Delhi at that time defeated him but was too generous and let Ghori go back.
- Ghori came back and attacked the Indian army before dawn, which was against the rules of war for Indians at that time.
- Jaichand – father-in-law of Prithviraj Chauhan, King of current UP, hated his son-in-law so he did a deal with Ghori, under which he and his army, which was fighting along with Prithviraj Chauhan, left the battle field half way through the war, thereby creating a major panic amongst Indian military.
- Ghori not only killed Prithviraj but also followed Jaichand and killed Jaichand.
- This created the first dynasty of Muslim kings in India.