



# KNOWLEDGE TRADITIONS & PRACTICES OF *India*



**CLASS XII**



**CENTRAL BOARD OF SECONDARY EDUCATION**

Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 301 India

# नया आगाज़

आज समय की माँग पर  
आगाज़ नया इक होगा  
निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का  
नियम अब नया बनेगा  
अब परिणामों के भय से  
नहीं बालक कोई डरेगा  
निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।


बदले शिक्षा का स्वरूप  
नई खिले आशा की धूप  
अब किसी कोमल-से मन पर  
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।  
नई राह पर चलकर मंज़िल को हमें पाना है  
इस नए प्रयास को हमने सफल बनाना है  
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए  
शिक्षक, शिक्षा और शिक्षित  
बस आगे बढ़ते जाएँ  
बस आगे बढ़ते जाएँ  
बस आगे बढ़ते जाएँ.....





Knowledge *Traditions*  
and Practices of India



*Knowledge*  
**TRADITIONS and PRACTICES  
OF INDIA**  
Textbook for Class XII



**CENTRAL BOARD OF SECONDARY EDUCATION**

Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 301, India



Knowledge *Traditions*  
and Practices of India



Knowledge Traditions and Practices of India - Class XII

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## भारत का संविधान

### उद्देशिका

हम, भारत के लोग, भारत को एक सम्पूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,  
विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की स्वतंत्रता,  
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए  
तथा उन सब में व्यक्ति की गरिमा

और राष्ट्र की एकता और अखंडता  
सुनिश्चित करने वाली बंधुता बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई० को एतद्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान ( बयानीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 ) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान ( बयानीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 ) से "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

### भाग 4 क

## मूल कर्तव्य

51 क. मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;
- (च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परिरक्षण करे;
- (छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणी मात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले;
- (ट) यदि माता-पिता या संरक्षक हैं, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य के लिये शिक्षा के अवसर प्रदान करे।

1. संविधान ( छयासीवां संशोधन ) अधिनियम, 2002 की धारा 4 द्वारा प्रतिस्थापित।

## THE CONSTITUTION OF INDIA

### PREAMBLE

**WE, THE PEOPLE OF INDIA**, having solemnly resolved to constitute India into a '**SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC**' and to secure to all its citizens :

**JUSTICE**, social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity; and to promote among them all

**FRATERNITY** assuring the dignity of the individual and the<sup>2</sup> unity and integrity of the Nation;

**IN OUR CONSTITUENT ASSEMBLY** this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

---

1. Subs. by the Constitution (Forty-Second Amendment) Act, 1976, sec. 2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)

2. Subs. by the Constitution (Forty-Second Amendment) Act, 1976, sec. 2, for "unity of the Nation" (w.e.f. 3.1.1977)

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## THE CONSTITUTION OF INDIA

### Chapter IV A

#### FUNDAMENTAL DUTIES

##### ARTICLE 51A

**Fundamental Duties** - It shall be the duty of every citizen of India-

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;
- <sup>1</sup>(k) who is a parent or guardian to provide opportunities for education to his/her child or, as the case may be, ward between age of 6 and 14 years.

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1. Subs. by the Constitution (Eighty - Sixth Amendment) Act, 2002



## Preface

### *Knowledge Traditions and Practices of India*

India has a rich tradition of intellectual inquiry and a textual heritage that goes back to several hundreds of years. India was magnificently advanced in knowledge, traditions and practices during the ancient and medieval times. The intellectual achievements of Indian culture are found across several fields of study in ancient Indian texts ranging from the Vedas and the Upanishads to a whole range of scriptural, gnostic, scientific and artistic sources.

As knowledge of India's traditions and practices has become restricted to a few erudite scholars who have worked in isolation, CBSE seeks to introduce a course in which an effort is made to make it a common knowledge once again. Moreover, during its academic interactions and debates at key meetings with scholars and experts, it was decided that CBSE may introduce a course titled *Knowledge Traditions and Practices of India* as a new Elective subject for classes XI - XII from the year 2012-13. It was felt that there are many advantages of introducing such a *course* in our education system. As such in India, there is a wide variety and multiplicity of thoughts, languages, life styles, scientific, artistic and philosophical perceptions. The rich classical and regional languages of India, which are repositories of much of the ancient wisdom, express the large stock of shared wealth of the collective folklore imagination as well. A few advantages that would accrue from pursuing this course are given below and are self explanatory.

- India is a land of knowledge and art and cultural traditions and through this course the students will become aware of the country, its arts and thought.
- Learning about any culture particularly one's own culture builds immense pride and self-esteem. That builds a community and communities build harmony.
- The students will get an objective insight into the diverse traditions and practices of India. They will be in a position to ascertain how well these teachings may inform and benefit them in future.
- The textbook has original extracts and translations that will develop better appreciation and understanding of how knowledge was expressed by Indian thinkers and also shed a light on contemporary questions and issues that are a part of every discipline and field in some form or another.

This course once adopted in schools across India can become a basis of student-learning: each student brings his own culture, tradition and practice to the classroom. The content is devised





in a way that the educator can adapt it to his/her students' distinctive needs and background. This can be translated into effective instruction and can enrich the curriculum thereby benefitting one and all. This insight has close approximation with the pedagogy of CCE.

The course is designed to include a number of disciplines and fields of study ranging over Language and Grammar, Literature, Fine Arts, Agriculture, Trade and Commerce, Philosophy and Yoga to Mathematics, Astronomy, Chemistry, Metallurgy, Medicine and Surgery, Life Sciences, Environment and Cosmology.

This wide ranging course can serve as a good foundation for inter-disciplinary study and excellence in any discipline, pursued by the student as this shall give him the Indian perspective as well.

The course aims at providing a broad overview of Indian thought in a multi disciplinary and interdisciplinary mode. It does not seek to impart masses of data but highlights concepts and major achievements while engaging the student with a sense of exploration and discovery. This will promote students thinking on their own. The course can serve as an introduction to various subjects so that students who take this are prepared for higher studies in university in a related field.

The examination reforms by CBSE had strengthened the Continuous and Comprehensive Evaluation System. It has to be ascertained that the teaching and learning methodology of CCE is adopted by the affiliated schools when they adopt this course. The contents are selected to cultivate critical appreciation of ideas and provide insights, relevant for promoting cognitive ability, health and well-being, good governance, aesthetic appreciation, value education and appropriate world view. This will therefore comprehensively promote all-round personality development of the students apart from increasing their knowledge of the country they live in.

This course has been prepared by a special committee of convenors and material developers under the direction of Dr. Sadhana Parashar, Director (Training) and Mrs. Neelima Sharma Course Co-ordinator for 'Knowledge Traditions and Practices of India'. A special thanks and appreciation is extended by the Board to Prof. Jagbir Singh, Prof. Kapil Kapoor, Sri Michael Danino and all those who contributed to the extensive work of conceptualizing and developing the contents. I sincerely hope that our affiliated schools will adopt this new initiative of the Board and assist us in our endeavour to nurture the intellectual contribution of India to world knowledge.

**Vineet Joshi**  
Chairman





## Convenor's Note

In 2012, CBSE decided to introduce an Elective Course *Knowledge Traditions and Practices of India* for classes XI and XII and an Advisory Committee was constituted to reflect on the themes and possible content of the proposed course. Subsequently Module-Preparation Committees were constituted to prepare ten modules for the first year of the programme to include alphabetically the modules on Astronomy, Ayurveda (Medicine and Surgery), Chemistry, Drama, Environment, Literature, Mathematics, Metallurgy, Music and Philosophy.

For Class XII, Module-Preparation Committees were constituted to prepare eleven modules for the record year of the programme to include alphabetically eleven modules on Agriculture, Architecture (I & II), Dance (I & II), Education, Ethics, Martial Arts, Language, Other Technologies, Painting, Society, State and Polity and Trade.

We are happy that with the untiring work of our team of teachers this Course Book has been completed. In the years to come this will be counted as a landmark contribution.

Each module has:

- (i) A Survey article
- (ii) Extracts from primary texts
- (iii) Suitably interspersed activities to enable interactive study and class work,
- (iv) Appropriate visuals to engender reading interest, and
- (v) Further e- and hard copy readings.

Each module in the course has kept in mind what would be a viable amount of reading and workload, given the load that the class XI and XII students have to bear in the given amount of time. The word length has been controlled, while also providing, where needed, the choices in the reading materials.

Each Module consists of:

- (i) A Survey Essay (about 1500-2000 words) that introduces and shows the growth of ideas, texts and thinkers and gives examples of actual practice and production.
- (ii) A survey-related selection of extracts (in all about 2000 words) from primary sources (in English translation, though for first hand recognition, in some cases, where feasible, the extracts are also reproduced in the original language and script).
- (iii) Three kinds of interactive work are incorporated, both in the survey article and the extracts - comprehension questions, individual and collective activities and projects (that connect the reading material and the student to the actual practice and the environment).





- (iv) Visuals of thinkers, texts, concepts (as in Mathematics), practices.
- (v) Internet audiovisual resources in the form of URLs.
- (vi) List of further (i) questions, and (ii) readings.

The objective of each module, as of the whole course, is to re-connect the young minds with the large body of intellectual activity that has always happened in India and, more importantly, to enable them (i) to relate the knowledge available to the contemporary life, theories and practices, (ii) to develop, wherever feasible, a comparative view on a level ground of the contemporary Western ideas and the Indian theories and practices, and (iii) to extend their horizons beyond what is presented or is available and contemplate on possible new meanings, extensions and uses of the ideas - in other words to make them think.

We have taken care to be objective and factual and have carefully eschewed any needless claims or comparisons with western thought. Such things are best left to the readers' judgement.

The pedagogical approach clearly approximates CBSE's now established activity-oriented interactive work inviting the students' critical responses.

The first and second year's modular programmes have already been uploaded to be downloaded and used by schools, teachers and students.

As a first exercise of this kind, we are aware that the content selection, a major difficult task, particularly on view of the immense richness of India's textual wealth in practically all disciplines, can be critically reviewed from several standpoints. We do not claim perfection and invite suggestions and concrete proposals to develop the content. We are eagerly looking forward to receiving the feedback from both teachers and students. That would help us refining the content choice, the length and the activities.

We will also thankfully acknowledge any inadvertent errors that may be there.

The finalisation of this course is thus envisaged as a collective exercise teachers, students and school administrators and only over a period of time, the Course will mature. We know that perfection belongs only to Almighty.

If our students enjoy reading these materials, we all shall feel amply rewarded.

**Prof. Jagbir Singh**  
Convenor





## Acknowledgement

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- Shri Vineet Joshi, Chairman, CBSE
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- Dr. P. Kanagasabapathi, Professor and former Director, Tamil Nadu Institute of Urban Studies

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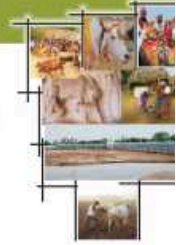
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## Agriculture: A Survey

India has a great variety of soils ranging from rocky to alluvial, diverse climate types and one of the most extensive agricultural lands in the world. India's monsoon is nature's abundant irrigating system and India is also blessed with a large network of perennial rivers that over ages have created vast stretches of highly productive alluvial soil.

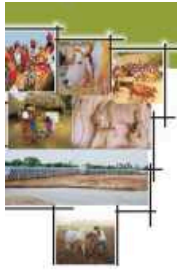
Not surprising then that India has been an agricultural economy and civilization and has evolved a long, rich and diverse tradition of agricultural practices, including the selection of right soil and good seeds, techniques of irrigation and manuring, crop protection and grain storage as well as animal husbandry and pisciculture.

### Agriculture in Prehistory and Protohistory

Recent archaeological findings indicate that rice was grown in parts of the Ganges Valley as early as in the 8<sup>th</sup> millennium BCE, and extended later to other areas, while the cultivation of barley and millets dates back to the 7<sup>th</sup> millennium BCE at Mehrgarh in Baluchistan.

A granary at Mehrgarh, Baluchistan, dated about 6000 BCE. Each 'box' of about 1 m x 1 m was lined with clay to protect the stored grain (barley or wheat) from dampness, possibly from insects. (The boxes' walls were higher than the remains suggest, up to 3 m.) Mehrgarh had many such granaries, suggesting a sophisticated collective management.





The next millennia saw the introduction and spread of many more crops:

- other cereals such as wheat;
- oil seeds such as sesame, sun flower, linseed, mustard and castor;
- legumes such as green gram, black gram and fenugreek;
- fibre crops such as cotton; vegetables of cucumber family and eggplant (brinjal);
- fruits such as grapes, dates, jujube, jackfruit, mango, mulberry and black plum.

In the same period, cattle, sheep, asses, goats, dogs, pigs, fowl, etc., were domesticated. Archaeology has found evidence for them in the Indus civilization (pre-urban phase: 3500–2600 BCE; urban phase: 2600–1900 BCE), as well as of



cultivation of barley, wheat, millets, cotton and other crops. Besides, the Harappans practised plough-based agriculture: a terracotta model of a plough share (left) was found at Banawali (Haryana), while a field at Kalibangan (Rajasthan) dated to about 2800

BCE revealed two perpendicular sets of furrows, suggesting the practice of intercropping (growing two different crops at the same time).

### Textual Sources

Agriculture, *kṛṣi*, is frequently mentioned in India's ancient literature. Apart from mentions scattered in various texts, it has a large body of specialized literature as well. The texts that have survived include *Kṛṣiparāśara*, Kauṭilya's *Arthaśāstra*, the Sangam literature of early Tamils, *Manusmṛti*, Varāhamihira's *Brhatsamhitā*, *Amarakoṣa*, *Kaśyapīyakṛṣisukti*, and Surapāla's *Vṛkṣāyurveda*. These texts provide



information about agriculture, horticulture, arboriculture and plant biodiversity. In addition, treatises on horses by Śālihotra and on elephants by Pālakāpya are also available. We get a wealth of information on agricultural practices from such texts.

### Types of Lands

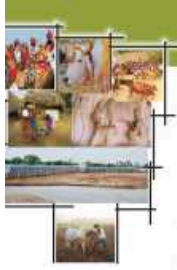
The *Amarakoṣa*, a Sanskrit thesaurus, describes twelve types of lands according to the fertility of the soil, irrigation and physical characteristics. These are: *ūrvara* (fertile), *ūṣara* (barren), *māru* (desert), *aprahata* (fallow), *śadvala* (grassy), *pankikala* (muddy), *jalaprāya* (watery), *kaccha* (land contiguous to water), *sharkara* (full of pebbles and pieces of limestone), *sharkarāvati* (sandy), *nadīmātrka* (land watered by a river), and *devamātrka* (rain-watered). The Sangam literature (200 BCE to 200 CE) provides some information on soil types. For example, in *Tolkāppiyam*, an early work on Tamil grammar and poetics, five types of land are mentioned: *mullai* (forest), *kuṛiñci* (hills), *marutam* (cultivable), *neytal* (coastal land) and *pālai* (barren land).

### Rain-Fed and Irrigated Crops

Since crop production often depended on seasonal monsoon rains, scholars worked out methods to predict rainfall. *Kṛṣiparāśara* and *Bṛhat Saṁhitā* describe such methods in every season. Parāśara's main technique was based on the positions of the Moon and the Sun in the sky. Varāhamihira in his *Bṛhat Saṁhitā* considered lunar mansions (*nakṣatras*) in predicting seasonal rainfall. Because of the confidence they have in ancient methods, a large number of farmers in India even today carry out farm operations based on them.

Agricultural practices often involve some technique of irrigation. Wholly or partly irrigated crops were raised thanks to canals, smaller channels or reservoirs such as village tanks. Reservoirs also served the purpose of water harvesting to cope





## Knowledge Traditions and Practices of India



Agriculture

with the dry seasons or prolonged droughts. The simplest form of irrigation consisted of having a pair of bullocks pull a leather bag out of a well; the bag would tilt over the edge of the well and empty its content into a small channel.

Whether simple or highly sophisticated, water structures have been constructed in India right from the time of the Indus civilization. (See module **Other Technologies** for more details.) In the 3<sup>rd</sup> millennium BCE, Dholavira in the Rann of Kachchh could sustain itself in an arid climate only thanks to vast reservoirs and water harvesting on a massive scale. In the Ganges plains, embankments, reservoirs, sluices, channels, interconnected tanks, wells of various kinds became common features in the 1<sup>st</sup> millennium BCE; in his *Arthaśāstra*, Kauṭilya referred to many of them and lay down strict rules for the management of water structures. The rich Indian vocabulary attached to them – *kulls*, *kunds*, *ahars*, *pokhars*, *khadins*, *arakere*, *kolas*, *surangam*, *tadagams*, *eris*, to mention a few – testifies the variety of structures India developed.



The 329-metre-long 'Grand Anicut' (*Kallanai* in Tamil) across the Kāveri River, thought to have been constructed by the Chola king Karikāla some 1,800 years ago (it has been restored several times since), is a massive and effective water-diverting device, splitting the river into four streams and irrigating thousands of hectares of agricultural land in the Kāveri delta. (Courtesy: Michel Danino)



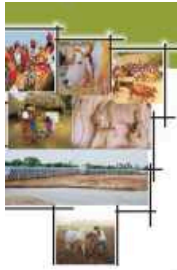
### Implements

The Ṛgveda describes a simple bullock-drawn wooden plough with a metal bar attached as a ploughshare to open the soil. *Kṛṣiparāśara* gives details of the plough's design with Sanskrit names for its different parts. This basic design has hardly undergone any change over centuries; even today, many farmers use a similar bullock-drawn plough. A bamboo stick of a specific size was used to measure land. Disc plough, seed drill, blade harrow (*bakhar*), wooden spike, tooth harrow, planks, axe, hoe, sickle, *sūpa* for winnowing, and a vessel to measure grain (*udara*) have all been mentioned. One to eight pairs of bullocks were used for ploughing in early days.



Ploughing with a wooden ploughshare in West Bengal (source: Wikipedia)





### Seed and Sowing

Farmers knew how to select healthy seed from a ripening crop. The importance of good seed was so clearly recognized that the law-giver Manu recommended severe punishment for the adulteration of seed.

Seed were covered with flours of rice, black gram, and sesame to ensure good germination. Surapāla listed several herbs as seed treatment materials for shrubs and trees. Cow dung has long been used for treating cotton and some other seeds by a large number of farmers.

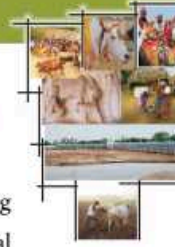
The art of sowing rice seed in small areas, i.e., in nurseries, and transplanting the seedlings is not a recent practice. It was first perfected in the deltas of Godavari and Krishna rivers in the 1<sup>st</sup> century CE.

### Manures

According to Parāśara, crops grown without manure will not give good yield. Kauṭilya mentioned the use of cow dung, animal bones, fish and milk as manure. In the *Agni Purāṇa*, application of 'excreta of sheep and goat and pulverized barley and sesame allowed to be soaked in meat and water for seven nights' is recommended to increase



A few varieties of native rice from Tamil Nadu  
(courtesy: Centre for Indian Knowledge Systems,  
Chennai)



flowering and fruiting of trees. Surapāla describes the 'ancient' practice of preparing fermented liquid manure (*kunapajala*) prepared by boiling a mixture of animal excreta, bone marrow, flesh and dead fish in an iron pot and then adding to it sesame oilcake, honey, soaked black gram, and a little ghee (clarified butter). No fixed quantities of materials were required to prepare *kunapajala*. This application of liquid manure is still practised by farmers.

*Panchagavya*, a mixture of five cow products, is a fermented culture of cow dung, urine, milk, curd and ghee (other ingredients are sometimes added to increase fermentation). Studies have shown that *panchagavya* works as a biofertilizer, enhancing growth and productivity of crops and increasing resistance to diseases.

### Pests and Their Management

Parāśara used the word 'disease' in Sanskrit (*vyādhi*) to differentiate from visible pests. He even listed goats, wild boars, pigs, deer, buffaloes, parakeets and sparrows among pests. Varāhamihira's chapter on treatment of trees mentioned that trees are vulnerable to disease when exposed to cold weather, strong winds, and hot sun; this possibly laid the foundation of classifying tree diseases based on humours such as *vāta*, *pitta* and *kapha* (the *tridoṣa* of Ayurveda), which were formalized in later centuries in Surapāla's *Vṛkṣāyurveda*. (For more details, see Module **Life Sciences (3): Plant and Animal Science in Ancient India**.)

Surapāla's text deals with arbori-horticulture and gives considerable information on the importance of trees, soil types, classification of plants, seed, sowing, planting, plant protection recipes, nourishment, types of gardens, locating groundwater, and bio-indicators to decide the suitability of raising specific crops or breeding animals. For treating disorders, Surapāla suggests using a number of plant species that we know today have antimicrobial properties, including mustard paste and milk.





Preparation of biopesticide based on traditional methods  
(courtesy: Centre for Indian Knowledge Systems, Chennai)

### **Cattle Management**

Since Vedic times, owning cattle meant possessing wealth. The Rgveda is replete with references to cattle and their management. References can be found to grazing of livestock, provision of water from clean ponds and succulent green fodder, and livestock barns. Later, cattle sheds were constructed and cleanliness of the shed was emphasized. Cows came to be regarded as sacred, while Buddhism and Jainism promoted non-killing of all animals.





Village scene in a panel at Mahabalipuram, Tamil Nadu (courtesy: Michel Danino)

The Kannada text *Lokopakāra* (1025 CE) indicates treatments for livestock diseases such as those affecting the horns, teeth and buccal cavity, and human diseases / disorders such as sore throat, carditis, lumbago, rheumatism, atrophy of muscles and acute dysentery. Plasters were used to treat broken bones.

Among other officers, the *Arthaśāstra* notes the 'superintendent of cattle', who supervised livestock in the country, kept a census of livestock and ensured their proper rearing. Livestock was classified as tame steers, draft oxen, bulls to be trained to yoke, stud bulls, livestock reared for meat, buffaloes and draft buffaloes, female calves, heifers, pregnant cows, milking cows, barren livestock (either cows or buffaloes), and calves up to two months old. The *Arthaśāstra* gives an elaborate





description of the rations that a bull, cow or buffalo should be supplied with. Maintenance of pastures around villages was encouraged.

### Horticulture and Arboriculture

Harappans cultivated fruits such as date palm, pomegranate, lemon and melon. The Sangam literature refers to jackfruit, coconut, date palm, areca nut, plantain, and tamarind.

A method of grafting described in *Bṛhat Saṁhitā* was what is known today as 'wedge grafting'. Surapāla's text mentions 170 species of plants including trees, shrubs and a few herbs, and deals with the laying out gardens and orchards and growing unusual trees. Layouts included designs such as *maṇḍapa* (canopy), *nandyāvarta* (quadrangle with an opening to the west), *swastika* (design of religious significance), *chaturasra* (square), *sarvatobhadra* (a square enclosing a circle), *vīthi* (line), *nikuṅja* (arbour), and *punjaka* (cluster). The text recommends layouts for 'pleasure gardens'.

### Fishing

The Harappans made fishing nets and consumed both sea and freshwater fish. The Ṛgveda makes a general mention of fishes, but not specifically as a food item, while the Yajurveda mentions capturing fish by sedating them in a pond by treating the water with the bark of some trees. *Manusmṛti* names two fishes, *rohu* and *pathen*, as suitable for food. It is believed that fish culture (or pisciculture) came from China, where it originated almost 2,500 years ago, to Bengal via Myanmar or Thailand. The Chalukya king Someśvardeva (1127 CE) described methods of culturing fish and listed 34 kinds of fishes.





### Agriculture and Society

In India as in every country, agriculture was an integral part of popular culture and gave rise to annual fairs, cattle *melas*, festivals and rituals, all of which were occasions for celebration. Almost every part of India had its own dates and customs for the purpose: Akshaya Tritiya, for instance, a Hindu and Jain festival, is now often taken to be an auspicious day for buying gold, but it is also a harvest



A decorated cow (source:  
[www.sathyasai.org.ar](http://www.sathyasai.org.ar))

festival in parts of western and northern India. So are Holi in the same region, Lohri in Punjab and neighbouring states, Magh Bihu in Assam, Nabanna in Bengal, Onam in Kerala or Pongal in Tamil Nadu, among others, most of them accompanied with rituals honouring cows and bullocks. Such festivals not only helped to bond local communities together, but have promoted national integration.



Pongal celebrations in a village of Tamil Nadu (courtesy: Christine Deviri)





## Knowledge Traditions and Practices of India

Agriculture

A prosperous agriculture being the base of strong kingdoms or empires, it was almost always supported by the multitudes of Indian rulers. The tradition was to impose minimal tax on farmers, rarely exceeding one-sixth of the produce. We probably need to continuously remind ourselves of the wisdom of our ancestors and provide genuine respect and importance to farmers.



Decorated camels at a festival (source: [www.leisurewings.com](http://www.leisurewings.com))

### Comprehension

1. What are the elements that damage crops?
2. Study some of the implements used in agriculture in ancient India and compare them to the ones being used today.
3. How do you get to learn about the weather forecast today? How do you think weather prediction was made in ancient times?
4. How many land types are there? What physical characteristics are they based on?
5. What are the duties of the 'superintendent of cattle' mentioned in *Arthasāstra*?



6. What do you understand by pisciculture and how did it reach Bengal?
7. What are the ingredients of *kunapajala*? What are the advantages of this manure?
8. What are the different types of manures mentioned by Kaṭilya?
9. What are the earliest pests mentioned in Indian literature? Name a few visible pests and explain how they cause harm to crops.
10. What do you understand by 'arbori-horticulture'?
11. What is grafting? List a few plants and trees that are grown using this method.
12. What should be kept in mind while designing a layout for gardens as mentioned in Surapāla's text? In modern times, what kind of professionals would you associate with the designing of 'pleasure gardens'?

Activity 1

- Machines are replacing human hands in agriculture. Discuss in groups and brainstorm mentioning the machines used in place of manpower.

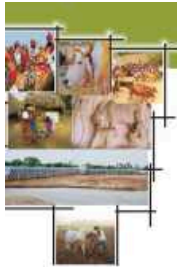
Activity 2

- Discuss in groups the various uses of different plants and their parts; complete the following table:

Plant	Parts	Part and Uses
Coconut		
Mango		
Cinnamon		

You may view this short documentary on the uses of every part of the coconut tree: [www.theperennialplate.com/episodes/2013/04/episode-118-coconut-nose-to-tail/](http://www.theperennialplate.com/episodes/2013/04/episode-118-coconut-nose-to-tail/)





**Project Ideas**

1. Visit a nearby village to study the prevalent agricultural practices in that area. Interview farmers and find out how differently they work compared to their ancestors. Prepare a questionnaire keeping in mind the following points:
  - Preparing the fields
  - Seeds
  - Manures/fertilizers
  - Irrigation
  - Varieties of crops
  - Harvesting
  - Storage
  - Transporting the produce to the market
  - Innovations/ experimentation in farming.
2. **Agriculture is a waste-free activity.** Nothing is waste for a farmer. Find out how reusing and recycling takes place in farming. Your project may include the following:
  - Findings on recycling processes
  - Interview with farmer/s
  - Relevant pictures/images
3. Put together a presentation on '**Agriculture: A Promising Career Option**'. Use examples that inspired youth from different professions to revert to agriculture, using conventional methods as a means of sustainable living.
4. The excavations of Indus Civilization have brought forth the early history of agriculture and animal husbandry. Make a project about the findings using maps, toys, pots, figurines and seals of that era.





Extended Activities

- Make a home visit to some relative / friend staying in rural India. Stay overnight, taking part in the daily routine of a farmer and experience the stress-free life and the pleasure of being in the lap of nature. Make a diary entry of your experience.
- Visit some farmers who practise organic farming to find out:
  - The difference between village food and what you eat at home
  - Why organic products are highly priced
  - What manures these farmers use in their fields and how they prepare them.
- There is a tradition of planting barley in an earthen pot during *Navaratri*. What do you think is the significance of this ritual? Can we relate it to seed testing? Discuss in groups some other traditions related to agriculture and suggest the logic or scientific reasons behind them.
- Animals are a part of the family of farmers. There is an emotional cord that binds them. They are respected and worshipped as also their agricultural equipment. Make a list of the different fairs and festivals which revolve around farmers. Note how the animals are attired and decorated on harvest festivals. To understand this rural sentiment, you may plan a visit from school or with family to a camel or cattle fair or markets and understand the significance of *pashudhan* in rural life.
- India is going through a soil crisis, as discussed in articles such as in the link given below. Discuss what remedial measures traditional Indian methods may offer. [http://articles.economictimes.indiatimes.com/2011-07-12/news/29765398\\_1\\_soils-farmers-cereal-production](http://articles.economictimes.indiatimes.com/2011-07-12/news/29765398_1_soils-farmers-cereal-production)





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### Internet Resources (all URLs accessed in May 2013)

- Asian Agri-History Foundation, Secunderabad, <http://asianagrihistory.org/>

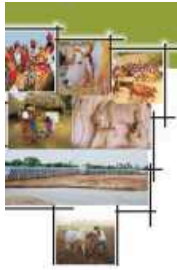


## Knowledge Traditions and Practices of India



- Centre for Indian Knowledge Systems, Chennai: [www.ciks.org](http://www.ciks.org) and [www.youtube.com/watch?v=w5bHfqkQvHA](http://www.youtube.com/watch?v=w5bHfqkQvHA)
- Organic seed treatment: [www.youtube.com/watch?v=PHDIaVH\\_F1U](http://www.youtube.com/watch?v=PHDIaVH_F1U)
- Food and Agricultural Organization (FAO): [www.fao.org/ag/ca/](http://www.fao.org/ag/ca/)
- A discussion forum on Indian agriculture: <http://farmnest.com/>
- Examples of traditional Indian farming:
- Examples of traditional Indian farming: [www.vedicsociety.org/an-introduction-to-vedic-farming-methods-p-185.html](http://www.vedicsociety.org/an-introduction-to-vedic-farming-methods-p-185.html)
- A resource on Indian organic farming: <http://ofai.org/resources/>





## Agricultural Heritage: Excerpts from Primary Texts

### Rigveda

This earliest Indian text insists that natural forces (earth – solid matter; water – liquid matter; air – subtle matter; fire – energy; and *ākāśa* – the opposite of matter) must remain in harmony with each other and humanity must not disturb the balance between them. The following verses relate to agriculture and deal with cow protection, cattle management, tree cutting, desire for rain, and contented animals and farmers.

'O cows! Procreate calves, select fine quality grass, and drink clean, safe water from ponds.' (6:28:7)

'O humans! Do not kill a cow who is mother of Rudras [now Shiva], daughter of Vasus [attendant deities of Indra, and later Vishnu], sister of Āditya [the Sun], milk bearing, innocent without complex.' (8:90:15)

'O Pūṣan [Sun]! Do not destroy the trees that support birds but destroy those who hate me.' (6:48:17)

'Let the soil get soaked with water and give us harvests in the years to come.' (4:57:7)

'Let our ploughs open the soil happily, let the ploughman walk happily with the bullocks, and let clouds soak the lands with water. Give us happiness.' (4:57:7, 8)

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*Kṛṣiparāśara (c. 400 BCE)*

Parāśara's *Kṛṣiparāśara* is an introductory text addressed to farmers. He stressed soil management, seed health, and overall farm management that included water harvesting and conservation, animal management and maintenance of implements. The following verses are self-explanatory:

'Farms yield gold if properly managed but lead to poverty if neglected.'

'Even a fourfold yield of crops procured at the cost of health of the bullocks perishes soon by the sighs of their exhaustion.'

'The bullocks of the farmer who keep the cow shed, strong, clean, and free of cow dung grow well even without special nourishment.'

'Crops grown without manure will not give yield.'

'Any implement which is not sufficiently strong or is not manufactured as per the measurements will, at the time of farming operations, obstruct the work at every step. There should be no doubt about it.'

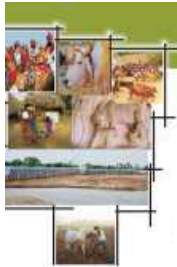
'Uniform seeds produce excellent results. Hence every effort should be made to procure uniform seeds.'

'One should (therefore) put in maximum effort to procure and preserve these seeds. The origin of plentiful yield is the seed.'

'What hope of harvest can that foolish farmer have who has not made arrangements for preserving water for the crop during *Aśvin* (October) and *Kārttika* (November).'

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### Kauṭilya (3<sup>rd</sup> or 4<sup>th</sup> century BCE)

Kauṭilya's *Arthaśāstra* is one of the most informative texts of ancient India. *Varta* or Economics – crop production, animal husbandry and trade – was considered one of the four sciences of the time, the other three being Vedas, Politics and Philosophy. Kauṭilya mentions intercropping of medicinal plants with any field crop. An example of wasteland utilization was planting cucurbits on river banks after the excess water receded. The practice continues even today in parts of India. Some significant statements by Kauṭilya:

'Whoever hurts or causes another to hurt, or steals, or causes another to steal a cow, should be slain.'

'The Superintendent of forest produce shall collect timber and other products of forests by employing those who guard forests.'

'[Knowledge cultivators] shall be provided with forests for *soma* plantation, for religious learning, and for performance of penance, such forests being granted with safety for animate and inanimate objects and being named after the tribal name (*gotra*) of the resident therein.'

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### *Kaśyapīyakṛṣisukti* (800 CE)

This detailed treatise gives advice on farm management not only to farmers but also to kings. Details about rice-growing practices are still widely followed in India today.

'Land is intended to receive excellence in every age.'

'A good quality land yields good results to everyone, confers good health on the entire family, and causes growth of money, cattle and grain.'





‘To the west, north, east, or south of the villages and cities at the most convenient places, he [the king] should prepare reservoirs of water according to the condition of the land.’

‘The reservoir of water to be founded should be deep, equipped with barriers, splendid in the shape of a bow, long in some cases, round in others but essentially unfathomable.’

‘They should also be equipped with inlets for water. Hence they should be founded near some hill or a high-level ground joined with a lake.’

‘The king should plan its construction at such places as not to cause fear of danger from flooding. Such reservoirs should be regularly examined.’

‘Large forests teeming with various trees, on the forest lands, or on the outskirts, or interiors of existing forests, or on mountain slopes should be propagated.’

About canals for irrigation, ‘Even more than the ponds, lakes, wells, etc. protection of canals should be treated by them [farmers and the king] as their *dharma*, said the sages who know the truth.’

‘That water [therefore] should be preserved by all sorts of efforts, as agriculture is said to depend on water. Hence, kings and [other] eminent persons should obtain water by exerting everywhere in the seasons and conserve it.’

For rice, ‘The second cultivation in a year is fruitful everywhere and is therefore recommended on various types of farmlands. For taking up this second operation, it is essential to raise the fertility of the soil, which can be achieved by using manure of goat-dung, cow dung, and vegetation [green manure].’





### *Vṛkṣāyurveda* (c. 1000 CE)

Surapāla's *Vṛkṣāyurveda* is a 'complete' treatise on arbori-horticulture. It also emphasizes the importance of trees and environment. Some of the verses carry deep meaning. The importance of growing trees is versed beautifully thus:

'Ten wells are equal to one pond.  
Ten ponds are equal to one lake.  
Ten lakes are equal to one son.  
Ten sons are equal to one tree.'

'... One should undertake planting of trees, since trees yield the means of attaining *dharma* [righteousness], *artha* [accumulating wealth without being greedy], *kāma* [procreation], and *moksha* [liberation], which are the four aims of life.'

'Seeds which are treated and preserved [in the prescribed manner] are all good for use. Trees grown from such seeds bear for ever abundant flowers and fruits of an excellent quality.'

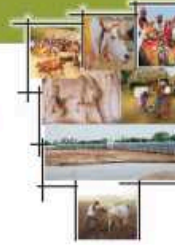
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### *Kṛṣigītā* (c. 1500 AD)

Paraśurāma in *Kṛṣigītā* recommended deep summer ploughing. This has been in practice in Kerala for several centuries. Green manuring was recommended for rice. Although forest clearing was recommended as a means to expand cultivated areas, farmers were also encouraged to plant trees and other woody perennials.

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### Comprehension

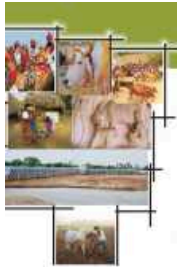
1. Name a few texts that depict Indian agriculture in ancient times.
2. What is the significance of uniform seeds in farming?
3. List a few herbs that were traditionally used to treat seeds.
4. '... One should undertake planting of trees, since trees yield the means of attaining *dharma* [righteousness], *artha* [accumulating wealth without being greedy], *kāma* [procreation], and *moksha* [liberation], which are the four aims of life.' Present your views on this statement.
5. What is the advice to the kings regarding water management in *Kaśyapiyakṛṣisukti*?
6. 'O humans! Do not kill a cow who is mother of Rudras ...' In the light of present day context, analyse the statement and present your views.

### Extended Activity

- Literature is the mirror of society, for instance, films like *Do Bigha Zameen* and *Mother India* convey the essence of Indian farming traditions. The famous Hindi writer, Munshi Prem Chand wrote extensively on the backdrop of rural India. Keeping this in view,
- collect folk and film songs;
  - read literature of various languages;
  - watch Indian classics with family and friends.

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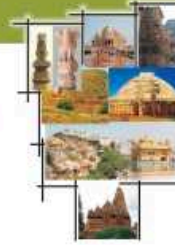
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## Architecture: A Survey (1) Early and Classical Architecture

*Vāstu-vidyā* or *Śilpaśāstra* – the science of architecture – is one of the technical subjects studied in ancient India, along with *āyurveda* (science of medicine), *dhanurveda* (science of archery), *jyotiṣa* (astronomy), etc. In the earliest texts, the word *vāstu* occurs in the sense of a building site or the building itself. Later on, other subjects such as temple construction, town planning, public and private buildings and forts were included in the discipline in which the construction of a structure was regarded as a sacred act.

In the *Atharvaveda*, there are references to different parts of the building such as sitting-room, inner apartment, room for sacred fire, cattle shed and reception room. (*Atharvaveda*, IX.3). The *Sāṅkhāyana Gṛhya Sūtra* (c. 500 BCE) describes in three chapters the ceremonials performed for constructing a building. Kautilya's *Arthaśāstra* (c. 300 BCE) deals with town planning, fortifications and other structures of civil nature. *Samarāṅgaṇasūtradhāra*, authored by King Bhoja (1010-55 CE), discusses methods of examination of a site, analysis of the soil, systems of measurement, qualifications of the *sthapati* (architect) and his assistants, building materials, consecration of the plan followed by construction of foundation, basal mouldings and technical details for each part of the plan, design and elevation. The two principal south Indian texts, *Mayamata* (1000 CE) and *Mānasāra* (1300 CE), share a common understanding of the architectural plan and design of the southern (Drāviḍa) vintage but, while the former has a practical outlook, the latter develops the theory of the science.



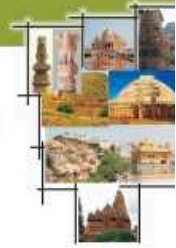


### Temple Architecture

India is justly famous as a land of temples. Many of these temples, especially those belonging to the ancient and medieval ages, are renowned on account of their architectural and sculptural excellence. Hindu temple architecture has broadly been classified as Nāgara or the north Indian style, Drāviḍa or the south Indian style, and Vesara which contains elements of both. Each region of India has given rise to a unique style of temple architecture due to the availability of stone and other material and in keeping with the climatic conditions and other factors.

The origin of Indian temple architecture can be traced to Vedic times. The square shape of the *vedi* (Vedic sacrificial altar) inspired the basic design of temples. The Indian shrine depicted in early bas-reliefs at Bharhut, Sanchi, Mathura and Amravati, has a small square altar, often enclosed by a *vedikā* (square railing) and shaded by a tree or a *chattra* (parasol). *Vāstu Śāstra* visualizes the *vāstupuruṣa-maṇḍala* — the abstract representation of temple architecture — as a square in the form of a *yantra* (symbolic diagram). The philosophy behind this concept is based on an equivalence behind the macrocosm — the universe, represented by the various gods or powers in the *maṇḍala* — and the microcosm — the temple, often taken to be in the image of the human body. One central objective of Indian temple architecture is thus to connect the human being to the universe.





Pāparākṣasi		Pilipiñjā									Caraki	
		Roga	Ahi	Mukhya	Bhallāṭa	Soma	Bhujuga	Aditi	Diti	Agni		
Jambhaka		Pāpa-Yakṣman	Rudra						Āpa	Parjanya	Śarvaskanda	
		Śoṣa		Rāja Yakṣman	Pṛthivīdhara			Āpa vatsa		Jayanta		
		Asura		M i t r a	Brahmā			A r y a m a n		Indra		
Varuṇa			Sūrya									
Kusuma-danta			Satya									
Pītānā		Sugrīva		Indra	Vivasvān			Savitṛ		Bhṛṣa	Vidāri	
		Dauvārika	Jayā						Sāvitra	Antar-ikṣa		
		Pitarah	Mṛga	Bhṛṅga-Rāja	Gandharva	Yama	Bṛhat-kṣata	Vitatha	Pūṣan	Aniḷa		
		Aryaman										

One of the vāstupuruṣa-maṇḍalas on which India's temple architecture is based (adapted from Stella Kramrisch).

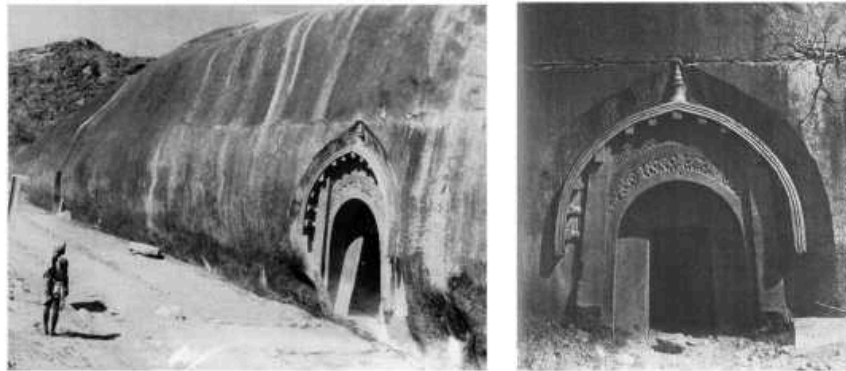
### Rock-Cut Structures

In India, temples were initially constructed of perishable material like wood, brick and mortar, perhaps reinforced by metal. Later, the need to have a permanent structure to house the deities led to the creation of shrines in stone and this is how the artificial 'cave temples', scooped out of hard rock came into being in several





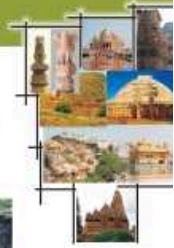
places in India. The early rock-cut cave temples in various parts of India were Hindu, Jaina and Buddhist in nature. Some of the earliest examples of this type of architecture are the caves excavated during the 3<sup>rd</sup> century BCE in the time of the Mauryas, one of the best known being the Lomas R̥ṣi cave in the Barabar Hills of Bihar, excavated out of hard granite for the Ājīvika sect, a heterodox sect. The entrance is a representation in stone of a hut's entrance, with mock timber crossbeams protruding from the roof. A carved frieze of elephants is a stone imitation of similar work in wood along with a stone imitation of bamboo trellis.



Lomas R̥ṣi cave, Bihar

Subsequently, the rock-cut caves of different parts of India developed variations depending upon the nature of the rock into which they were carved. The *caitya* shrines of the Buddhists as also the *vihāras* or monasteries are found in large numbers in the earliest phase of the evolution of cave temples. Remains of a circular *caitya* shrine belonging to the time of Aśoka are seen at Bairat in Rajasthan. Buddhist rock-cut caves are also found in Maharashtra, most notably at Ajanta and Ellora, where sandstone is abundant.





Left: Ajanta Caves, Right: Ellora Caves (source: Wikipedia)

The earliest Hindu caves, which belong to the early 5<sup>th</sup> century, are seen at Udayagiri, near Bhilsa in Madhya Pradesh. Badami (ancient Vātāpi), in Karnataka, the capital of the Cālukyan dynasty is home to a number of such cave temples of sandstone belonging to the 6<sup>th</sup> century. They are mostly for Hindu deities and one is a Jaina cave temple. Many such cave temples were excavated during the Pallava dynasty of the 7<sup>th</sup>–8<sup>th</sup> century in the northern part of Tamil Nadu, especially at Mamallapuram (also known as Mahabalipuram), their port-city in Tamil Nadu. During the reign of the Pāṇḍyas of south Tamil Nadu who were the contemporaries of the Pallavas, many such Hindu and Jaina cave temples were excavated, followed by important Jaina cave temples at Ellora in the 9<sup>th</sup> century.

### Monolithic Temples

The concept of creating cave temples slowly faded away as the architects graduated to making monolithic temples, i.e., shrines carved from top to bottom out of one piece of rock. Examples of these are seen in Mamallapuram, belonging to the 7<sup>th</sup> century. Famously known as the 'Five Rathas' (chariots), these five monolithic monuments are each of a different shape and size and are believed to replicate





monuments made of perishable material that existed prior to their time. The grandest of the monolithic temples is the famous Kailāśa temple at Ellora in the reign of the Rāṣṭrakūṭas in the 8<sup>th</sup> century.

### Constructed Temples

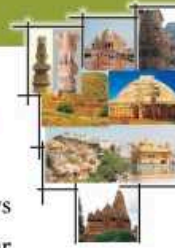
This type of architecture began with *stūpas* (relic mounds), *caitya* halls and *mahāvihāras*, which go back to the time of Buddha (6<sup>th</sup> century BCE). Originally the *stūpas* were made of bricks and surrounded by a wooden railing, then were enlarged and elaborated over centuries to magnificent complexes during the period of different empires and dynasties – Maurya empire, Śuṅga dynasty, Andhra period and Kuṣāṇ period.



The great *stūpa* at Sanchi

Mauryan architecture, which is inspired by Buddhist thought, is illustrated by the *stūpas* at Sanchi, the monolithic rail at Sarnath and the pillars of Bodh Gaya.





Śuṅga architecture added decorations of stone *vedikas* (railings) and gateways surrounding the *stūpa*. Examples of these monuments are the *stūpas* at Sanchi (near Bhopal), Bharhut (Madhya Pradesh), and Amaravati on the Krishna River. At Bharhut the gateways are imitations in stone of the wooden portals of early Indian towns. Most prominent in the embellishment of the *vedikas* are the carvings of Yakṣas and Yakṣīs (supernatural beings). The great *stūpa* at Sanchi, whose foundation was originally laid by Aśoka, was enlarged under the patronage of the Andhra Dynasty. Architecture under the Kuṣāṇas produced relief friezes carved in dark schist and portrayed figures in classical poses with flowing Hellenistic draperies; it also made use of ivory and imported glass. The *stūpa* in Gandhara marks the gradual elaboration of the primitive types known at Sanchi and Bharhut.

In the Gupta age, the tradition of excavating cave temples and monolithic shrines evolved into the construction of brick and stone temples. This was due to two reasons. One reason was that while the architects and sculptors could create a cave temple only where boulders or hills were available, a structural stone temple could be created at any chosen site by baking bricks or quarrying and transporting stones. Secondly, there was more scope for architectural and sculptural innovation and experimentation while constructing a temple.

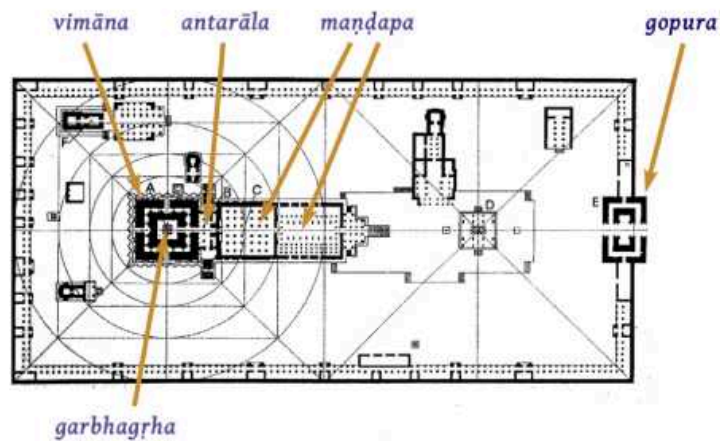
Initially, temples were made as small shrines with possibly only the central sanctum sanctorum or the main cell enshrining the principal deity. Over time, they evolved into bigger temple complexes, with more sculptures and niches enshrining deities. Eventually, temples evolved into various styles, but those remained based on certain common concepts and features:

- *gopura*: an elaborate gateway, especially in south Indian temples, generally in the form of a tower;
- *jagatī* (literally, 'earth'): the platform on which the temple is erected;





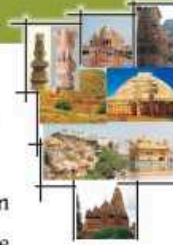
- *maṇḍapa*: a open pillared hall for public events, including rituals, discourses or art performances;
- *antarāla*: an antechamber between the *maṇḍapa* and the *garbhagrha*;
- *garbhagrha*: the sanctum sanctorum, where the presiding deity is installed;
- *śikhara* (for north Indian temples) or *vimāna* (for south Indian temple): the tower over the *garbhagrha*.



The main parts of a classical Hindu temple  
(here the Bṛhadiśvara temple of Tanjavur)

Some of the best examples of such structural stone temples are of the Gupta age like the Daśavatāra Viṣṇu temple in Deogarh in Uttar Pradesh of the early 6<sup>th</sup> century (*right*), which is studded with intricate sculptures.





The structural temples of the Cālukyas in Badami, Aihole and Pattadakal in Karnataka, belonging to the 7<sup>th</sup> and 8<sup>th</sup> centuries, follow close on the heels of the Gupta creations. The temples of Aihole and Pattadakal need special mention as some are in the Drāviḍa and some in the Nāgara styles of architecture, situated in close proximity of each other.

Around this time, also arose the magnificent Drāviḍa temples of the Pallavas in Mamallapuram and in Kanchipuram, their capital city. Special mention must be made of the Shore temple in Mamallapuram which is one of the earliest structural stone temples of this dynasty constructed in the 8<sup>th</sup> century.



Shore Temple, Mamallapuram  
(courtesy: Dr. Chithra Madhavan)



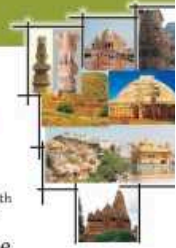
Kailāsanātha temple  
(courtesy: Dr Chithra Madhavan)

In the same century was constructed the Śiva temple now known as the Kailāsanātha temple in Kanchipuram, almost wholly out of sandstone, far more grand than its predecessors. Later, many others in this town were constructed by the kings of this dynasty.



(Left:) Sun temple, Konarak. (Top right:) Liṅgarājā. (Bottom right:) Mukteśvara temple, Bhubaneswar (courtesy: Michel Danino)

In Orissa, from the 7<sup>th</sup> century up to the 13<sup>th</sup> century, temples of the Nāgara order were built. These temples, while retaining the blueprint of the earlier ones of this style, became far larger and more ornate. This regional school, called the Kalinga or Orissan style, had a long period of evolution. The curvilinear *śikhara* over the sanctum sanctorum is the most eye-catching feature as also the hall called the *jagmohana*. The walls are profusely decorated with sculptures. The Paraśurāmeśvara temple in Bhubaneswar belongs to this century, the Mukteśvara temple (third quarter of the 10<sup>th</sup> century), the Rājārānī temple (11<sup>th</sup> century) and the Liṅgarājā temple (mid-11<sup>th</sup> century). The best-known temple by way of architecture, the Sun temple in Konarak, is a 13<sup>th</sup>-century creation.



With the coming of the age of the Imperial Cōlas who came to power in the 9<sup>th</sup> century with their capital initially at Tanjavur (Tamil Nadu), Dravidian temple architecture reached its pinnacle. The great temples of the Cōlas at Tanjavur, Gangaikondacholapuram, Darasuram and Tribhuvanam are standing examples of the height temple architecture of south India had reached. The *vimānas* are very tall in these four temples. In addition to these grand temples, the Cōlas constructed numerous others of varying sizes in almost every town and village across their vast empire. The innumerable sculptures of stone and bronze in the Cōla temples are outstanding examples of the skill and dexterity of the artisans of the period and also reflect the patronage given to them by the Cōla emperors. It must be pointed out that the grand *gopuras* of Tamil Nadu, which started to evolve in the Pallava times, gained much prominence in the Cōla age.



Great Cōla temples at Tanjavur and Darasuram, Tamil Nadu

Improving upon the already known Nāgara style and contributing greatly to this style of architecture of approximately between the 9<sup>th</sup> and the 12<sup>th</sup> centuries was the Candela dynasty. Its major claim to fame is the group of outstanding temples at Khajuraho in Madhya Pradesh, the best-known being the Kandāriyā Mahādeva temple constructed in the 11<sup>th</sup> century. There are literally hundreds of sculptures adorning the walls of these temples. Some of the minute carvings are explicitly erotic





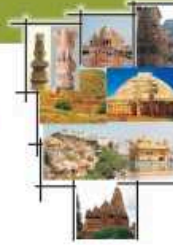
in nature. Scholars have over time attributed this to the then prevalent Tantric beliefs. The increasing complexity of the form of the Nāgara art and architecture is best exemplified in the architectural style of the Candelas.



Kandāriyā Mahādeva temple (source: Wikipedia)

In the South, the Pāṇḍyas of Madurai, who returned to power after the fall of the Cōla Empire in the second half of the 13<sup>th</sup> century, are known for their contribution to the famous Mīnākṣī-Sundareśvara temple in Madurai.





Minākṣī-Sundareśvarar temple in Madurai

This temple's *gopuras* set the example of many more to follow in the subsequent periods. The Pāṇḍyas also added many new shrines and *mandapas* to the already existing temples in Tamil Nadu.



Somanathapura (Keśava temple), near Mysore, in Hoysāla style

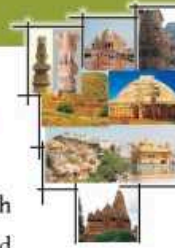


The kings of the Hoysāla dynasty, who ruled over south Karnataka and for some time over parts of Tamil Nadu as well, contributed immensely to temple art and architecture. Their very unique star-shaped temples, mostly built of soft soap stone, are profusely decorated with hundreds of minute sculptures. The most important Hoysāla temples are at Belur (constructed in 1117), Halebid (its construction commenced in 1118) and Somanathapura (13<sup>th</sup> century).

The very large and powerful empire of Vijayanagara was established in the ancient city of Vijayanagara (now called Hampi) in Karnataka in 1336. The monarchs of Vijayanagara contributed in no small measure to the development of temple art and architecture in South India. They drew upon the architectural plan of the temples of the Tamil country and constructed the beautiful temples in Hampi such as the Viṭṭhala temple, Acyutarāyā temple and the *gopura* of the Virupākṣa temple.



(Left) Virupākṣa temple. (Top right) Viṭṭhala temple. (Bottom right) Acyutarāyā temple.



The temples of Kerala are very different from the others in South India, with wood being used much more than stone. The central part of the Kerala temple called the *śri vimāna* is mostly circular with sloping tiled roof. The *kūṭṭambalam*, which is the hall where the traditional music and dance performances are staged, is one of the striking features of temples of this region.

To a large number of temples in Tamil Nadu and Andhra Pradesh, they added *gopuras*, *prakaras* (enclosures) and many smaller shrines and *mandapas* (open pavilions). The expansion of many of the temples into mammoth temple complexes is the result of the impetus given to religion and temple architecture by the monarchs of Vijayanagara.

These emperors, beginning from the 16<sup>th</sup> century, appointed viceroys called Nāyakas in different parts of their empire. In Tamil Nadu, these Nāyak chieftains ruled from many areas, the most important being from Madurai, Tanjavur and Ginjee (or Senji, near Tiruvanamalai). They too followed in the footsteps of the Vijayanagara monarchs and added to the already big temples like those in Madurai, Tanjavur, Rameswaram and Srirangam, among many others. Many of the *gopuras* and *mandapas* seen in temples of Tamil Nadu are creations of the Nāyak times.

While Jain temples share most of their architectural features with Hindu temples, Sikh temples or gurdwārās do not have to conform to any particular architectural style; their chief requirements is that the Guru Granth Sahib should be installed on a seat under a canopy, usually on a higher platform. In practice, however, gurdwārās, the most famous of which is the Harmandir Sahib in Amritsar, often draw their features from Indo-Persian architecture.



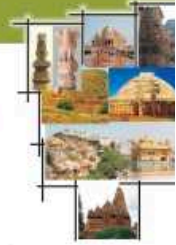


A view of the temples at Mount Shatrunjaya (near Palitana, Bhavnagar district, Gujarat).  
This site, which is sacred for Jains, has around 900 temples (source: Wikipedia).



A view of the Harmandir Sahib or Golden Temple in Amritsar (source: Wikipedia).





### Public and Private Architecture

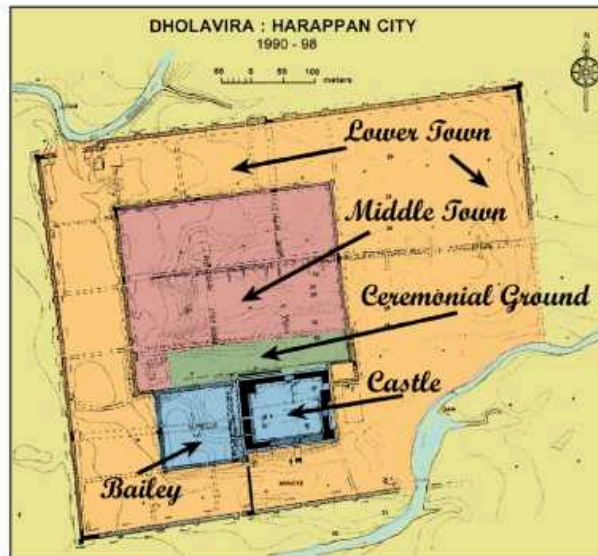
Excavations at Harappa and Mohenjo-daro in 1921-22 marked the discovery of the Indus or Harappan civilization (2600–1900 BCE). Later discoveries include major sites like Kalibangan (Rajasthan), Lothal (Gujarat) and, in the last two decades, Dholavira (Gujarat), Bhirrana, Rakhigarhi and Farmana (all three in Haryana). To date, over 1,100 urban and rural Harappan settlements have been found in the northwest of the Indian subcontinent.

Unlike our modern cities, most of which grew organically out of a town or a village, Harappan cities were planned, with the streets generally oriented along the cardinal directions. Houses were built with bricks of standardized proportions; some of the larger ones had at least an upper storey; roofs consisted of wooden structures covered with grass or leaves. Most houses had individual bathrooms connected to extensive drainage networks. Complex structures, such as Mohenjo-daro's Great Bath or the so-called Granary, demonstrated advanced planning and construction skills. In the Great Bath's central basin, for example, the floor was made of tightly fitted bricks set on edge and cemented with a gypsum plaster to make a watertight surface; it was then covered with a layer of bitumen (natural tar). Humbler structures, such as wells constructed with trapezoid bricks, which prevented inward collapse, were no less advanced. Some of these Harappan techniques and concepts were preserved in later Indian architecture: for instance, the general house plan, with rooms organized around a central courtyard, survives in many parts of rural India; the drainage system of the later Ganges civilization was very likely a Harappan legacy.

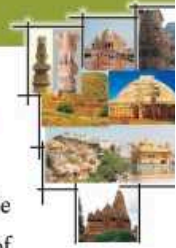




The Great Bath at Mohenjo-daro (source: Michael Jansen)



Dholavira's plan with the city's different areas  
(adapted from Archaeological Survey of India)



At Dholavira, a large and rigorously planned city located on an island in the Rann of Kachchh, stone was used to build massive fortifications, while a network of enormous reservoirs ensured water supply to the city through the year. The city was divided into upper town (consisting of Castle and Bailey, see plan above); middle town (where most habitations were located), which included a 283-metre-long ceremonial ground; and lower town. Dressed stone was used in construction along with mud bricks that conformed to Harappan standardized proportions. Stone pillars made of highly polished segments have also been found here.



(Left:) Massive stone fortifications at Dholavira (courtesy: Michel Danino). (Right:) A row of bathing platforms connected by a common drain at Lothal (courtesy: Archaeological Survey of India).

Bathing platforms with drains were often situated in rooms adjacent to the wells. A small drain cut through the house wall out into the street directed dirty waters into a larger sewage drain. Tapered terracotta drainpipes were used to direct water out to the street. Many houses had distinct toilets, separate from the bath areas; commodes were large jars or sump pots sunk into the floors. Drains were made of burnt bricks and connected the bathing platforms and latrines of private houses to





medium-sized open drains in the side streets. These open drains flowed into the larger sewers in the main streets: those were covered with baked bricks or dressed stone blocks. In Mohenjo-daro, large garbage bins were also provided along the major streets at regular intervals.

Nearly a millennium after the Indus civilization had collapsed, the Ganges civilization arose in the first millennium BCE. Among the first cities to emerge in the Ganges plains from about 800 BCE were Mathura, Kanyakubja (modern Kanauj), Kauśāmbi and Vārāṇasī (Benares) in today's Uttar Pradesh, Rājagṛha (Rajgir) and Vaiśālī in Bihar. But this urban development extended beyond the Ganges valley, as testified by Takṣaśilā (Taxila, today in northern Pakistan), Ujjayinī (Ujjain, in Madhya Pradesh) or Śīsupālgarh (probably the ancient Kalinganagar, near Bhubaneswar in Odisha).



A segment of Rajgir's Cyclopean Wall, near the southern gateway (courtesy: Dr. B.R. Mani).





In Rājagṛha, a huge fortification called 'Cyclopean Wall', running over several kilometres around the city, consists of unhewn stones being piled one on top of the other; it was constructed in the 6<sup>th</sup> or 5<sup>th</sup> century BCE. At Śīsupālgarh (3<sup>rd</sup> century BCE at least), stone masons were at work using large blocks of laterite to build a very well-made fort entrance that could be closed with huge doors turning on hinges. At the centre of the city, a huge apsidal (semi-oval) structure with pillars has been excavated, which may have been either a temple or a palace.



One of Śīsupālgarh's gateways, excavated in 1948 (courtesy: Archaeological Survey of India)

Other important structures of this period include Aśoka's pillars, a series of columns dispersed throughout north Indian, erected or at least inscribed with edicts by the Mauryan emperor Aśoka during his reign in the 3<sup>rd</sup> century BCE. Originally, there must have been many pillars but only nineteen survive with inscriptions. They are monolithic, about twelve metres high, two metres underground, with mirror-like polish. The finest among them, now in Sarnath museum, had at its capital (top) a



sculpture of four lions fused together, which was adopted as the emblem of the Republic of India.



Examples of Aśoka's pillars with their capitals depicting lions (source: Wikipedia)

### Comprehension

1. What do you understand by *vāstu*? How old is the *vāstu* tradition in India? Justify your answer by giving a reference to an ancient text.
2. What information do we get from the *Samarāṅgaṇasūtradhāra* about architectural planning and design?
3. Name the two south Indian texts which expound the practical aspects of the science of architecture?
4. 'Indian temples are renowned on account of their architectural and sculptural excellence.' Justify.
5. Name a few rock-cut temples in India mentioning the period in which they were carved. Also mention their religious context.



6. What are the characteristics of monolithic temples? What distinguishes them from the other types of temples?
7. What is a *stūpa*? Make a line-drawing of it and label it. Also make a list of the most visited *stūpas* and *vihāras* in India?



8. See the above picture of Delhi's Akshardham temple, which is based on *vāstuśāstra*. Compare it with any of the ancient temples.
9. Name four major cities of Indus civilization. Express your views on the concept of town planning of that period. What features of construction / architecture of that period testify to the continuity of tradition in India?

#### Activity 1

- In groups, list the temples, forts, palaces, mosques and mausoleums of various states in India.



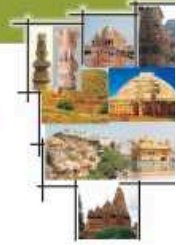
	State	Temples	Fort and Palaces	Mosques and Mausoleum
1.				
2.				
3.				
4.				
5.				
Etc.				

**Activity 2**

- There are three major styles of temple architecture in India – *nāgara*, *drāvida* and *vesāra*. Explain the prominent features of these styles and prepare a list of temples with those respective styles.

Style	Prominent Features	Temples
<i>Nāgara</i>		
<i>Drāvida</i>		
<i>Vesāra</i>		





### Activities

- Form groups, study important places of worship such as Golden Temple, Bodhgaya temple, Dilwara Jain temple and belur temples and identify the various elements of a temple: *gopuram*, *jagati*, *maṇḍapa*, *antarāla*, *garbhagrha*, *śikhara* or *vimāna*.
- Go through the above Survey text above and prepare a worksheet on temples built by these various dynasties: Vijayanagara, Coḷās, Pāṇḍyas, Hoysālā, Kaliṅga. You may use the following hints to prepare your worksheet:
  - Name of the monument
  - Location (route from your school to the monument)
  - Organization which maintains the place
  - Interesting features and facts about the monument
  - Add pictures / drawings of the mentioned monument
  - Any suggestions and recommendations you would like to give a visitor to the heritage site.

### Projects

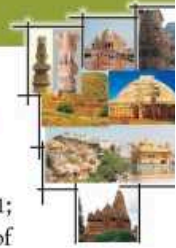
- State tourism organizes educational trips to various historical monuments. Work in groups and design an information brochure which includes:
  - Route map of various monuments of your respective states
  - History of each monument along with images
  - Folklore associated with the monument.
  - Also prepare a budget which includes travel expenses, boarding lodging and state the expenditure per person.



- Make a list of temples built in *drāvida*, *nāgara* and *vesāra* style in the last 100 years and document the following:
- History, period, dynasty of temple architecture.
  - Where did the craftsmen live during the construction of the temples, forts etc.?
  - Visit various monuments and study the floor and elevation plan and decoration of the building.
  - Write your views on how the world would have been without beautiful monuments.
  - Indicate the role of our heritage sites in enhancing integration and understanding (brotherhood) in society. Also mention the government and non-government initiatives taken to preserve our architectural heritage.

#### Further Reading

1. Acharya, P.K. 1913. *Mānasāra*. Oxford: Oxford University Press.
2. Agrawal, V.S., (ed.) 1966. *Samarāṅgaṇasūtradhāra*. Baroda: Oriental Institute.
3. Bhattacharya, Tarpada. 2007. *Vastuvidya Systems of Indian Architecture*. New Delhi: Ajai Book Service.
4. Dagens, Bruno. 1994. *Mayamata* (text with translation). New Delhi: Indira Gandhi National Centre for the Arts.
5. Fabri, C.L. 1963. *Introduction to Indian Architecture*. Mumbai: Asia Publishing House.
6. Kapoor, Kapil, (ed.) 2010. *Encyclopedia of Hinduism*, vol. 1. New Delhi: IHRF in association with Rupa.
7. Kramrisch, Stella. 1976. *The Hindu Temple*, 2 vols. New Delhi: Motilal Banarsidass.
8. Krishna Deva. 1995. *Temples of India*, 2 vols. New Delhi: Aryan Books International.



9. Meister, M.W., et al., 1988. *Encyclopedia of Indian Temple Architecture*, vol. 2, part 1; *North India: Foundation of North Indian Style*, New Delhi: American Institute of Indian Studies.

#### Internet Resources (all URLs accessed in May 2013)

- Indian Temple Architecture: [www.templenet.com/arch.html](http://www.templenet.com/arch.html)
- Archaeological survey of India, Photo gallery of monuments: [http://asi.nic.in/asi\\_pgallery.asp](http://asi.nic.in/asi_pgallery.asp)
- Overview of Ajanta caves: <http://sahapedia.org/ajanta/>
- An online encyclopaedia on temple architecture of various regions: [www.templenet.com/encyclo.html](http://www.templenet.com/encyclo.html)
- Monolithic temples in Mahabalipuram (Mamallapuram): [http://asi.nic.in/asi\\_monu\\_whs\\_mahabalipuram\\_monolithic.asp](http://asi.nic.in/asi_monu_whs_mahabalipuram_monolithic.asp)
- Mohenjo-Daro: Introduction to the site: [www.mohenjodaro.net/mohenjodarointroduction.html](http://www.mohenjodaro.net/mohenjodarointroduction.html)
- Slides on Mohenjo-Daro: [www.mohenjodaro.net/mohenjodaroslides.html](http://www.mohenjodaro.net/mohenjodaroslides.html)
- Slides on Harrapan civilization: [www.harappa.com/walk/index.html](http://www.harappa.com/walk/index.html)





## Architecture: Excerpts from Primary Texts

### *Viṣṇudharmottarapurāṇa*

The *jagatī* [site platform] should be divided according to the portion of the temple. The *jagatī* should consist of three *bhūmikās* [stages] of equal height. The *bhūmikā* one after the other should have the shape of the *bhadrapīṭh* shape.

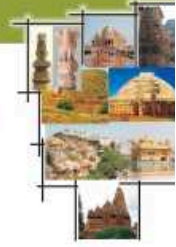
*Kaṭi* [the hip or the waist] of the temple should be made, half of the [height of the] temple, similarly the *kūṭa* [the portion of the temple above the *kaṭi*]. The width of the flight of the steps should be one-eighth of [the measurement of] the bottom of the *kaṭi*.

For each *bhūmikā* should be of equal number. The *kūṭa* should be divided into three parts, each having an auspicious *āmalasāraka* [topmost part].

O king! The *kūṭa* should be quadrilateral and gradually elevating. The [three parts] *vicchedas* [compartments] should be decorated with a row of lions. (Khaṇḍa III, 86:4–8)

**Note:** Here the characteristics of a temple which is the best and which increases victory and health.

\*



### *Viṣṇudharmottarapurāṇa*

*Caturra* [square] temple having one storey and the shape of a house is known as *gr̥ha*. Lakṣmī [the goddess of wealth] should be installed there.

For all gods, the same [*gr̥ha* temple] should be made having many storeys according to one's desire ... that desired temple is called *bahubhūmikā*.

The temple having twelve storeys and six sides is called *meru*. It should be made with four doors for all the three gods.

All the temples having eleven storeys are called *śuktīmān*. When it has ten storeys, it is called *mandara*.

That with nine storeys is known as *pāriyātra* and that with eight storeys is well known as *alaka*. That with seven storeys is *vimāna* and that with six storeys is called *nandana*. By five it becomes *pancabhauma* and that with four storeys *catuṣkaka*. That with three storeys becomes *tribhūmi* and that with two storeys *dvibhūmika* and that with one storey is called *ekabhūmika*.

... There is a temple *rājarāja*. It is praised as the chief temple. It has one *jaḡatī* which is knee-high and equal to one third of the temple, similarly *kaṭī* is also one third. Its *śikhara* [tower above the sanctum sanctorum] is equipped with *kuhara* [opening] and decorated with various figures. It has one *maṇḍapa* [pavilion]. Four small temples are placed at the intermediate directions, which are joined on the ground through four *maṇḍapas*, out of which two are at the base of the *sopāna* [staircase]. (Khaṇḍa III, 86:91–97)

**Note:** Here the temples have been classified on the basis of their characteristics, particularly the number of storeys.

\*





### Viṣṇudharmottarapurāṇa

On an auspicious day constellation ... after worshipping, the *sthapati* [architect] follows a *daivajña* [an astrologer] and enters a forest. There he should examine the trees and decide which are to be cut and which should not be cut.

O King!... They [Trees] should be offered food of *kulmāṣa* – *ullopika* and other flowers; incense [*dhūpa*] and then O one coming from the Yadu dynasty this mantra should be spoken.

O the living Beings – *bhūtāni* [ghosts] – living here, I bow down to you. May you be blessed. Accept this offering and change your residence.... If you cannot leave this tree, you should kindly tell me clearly in the dream.

O King! O fortunate one! Saying this, the architect and the astrologer guarded by armed men, should sleep there. If one of them sees an auspicious dream or does not see accordingly the tree may be cut.

(Khaṇḍa III, 89: 1–2, 12–19)

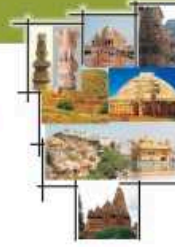
**Note:** This discourse between Mārkaṇḍeya and Vajra is a piece of advice to the architect regarding *dārū-parikṣā* [the test of the wood] for constructing a building.

\*

### Viṣṇudharmottarapurāṇa

The learned people say that the stones which have uniform colour, which are even and glossy, which are under the ground, which break only after severe blows, which are massive and pliant and beautiful, which are smooth, void of sand, pleasing to the eye and mind, which are washed by the water of the river, pure and plunged in water, which are hidden by the





shade of trees, which are near a sacred place and which are extensive and broad should be selected. (Khaṇḍa III, 90: 2-5)

**Note:** This discourse is an account regarding *śilā paikṣā* [the testing of the stone] for the constructing a building.

\*

#### *Viṣṇudharmottarapurāṇa*

The land which is white, red and yellow or black are beneficial to the *varṇas*... The land that tastes *madhurā* [sweet], *kaṣāyā* [astringent], *āmlā* [sour], *lavaṇā* [salty] are beneficial for all the people of the *varṇas* respectively.

The ground which gives out good smell and good sound, which is glossy and firm, whose earth dug out from the pit not only is capable of filling it, but also remains in excess and in whose pit the lamp does not faint and the flower put in it, does not wither and water stays for a longer time, this ground should be known as praiseworthy. (Khaṇḍa III, 94: 32-33, 42-43)

**Note:** This account show as to how the examination of land should be made for constructing a building.

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#### *Kautilya's Arthaśāstra*

On all the four quarters of the boundaries of the kingdom, defensive fortifications against an enemy in war shall be constructed on grounds best fitted for the purpose: a water-fortification [*audaka*] such as an island in the midst of a river, or a plain surrounded by low ground; a mountainous fortification [*pārvata*] such as a rocky tract or a cave; a





desert [*dhānvana*] such as a wild tract devoid of water and overgrown with thicket growing in barren soil; or a forest fortification [*vanadurga*] full of wagtail [*khajana*], water and thickets. Of these, water and mountain fortifications are best suited to defend populous centres; and desert and forest fortifications are habitations in wilderness [*atavisthānam*]. (II.4)

**Note:** Here Kautilya classifies the fortifications against an enemy in war.

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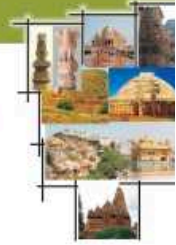
#### Kautilya's *Arthaśāstra*

Round [the] fort, three ditches with an intermediate space of one *danda* [about 1.8 m] from each other, fourteen, twelve and ten *dandas* respectively in width, with depth less by one quarter or by one-half of their width, square at their bottom and one-third as wide as at their top, with sides built of stones or bricks, filled with perennial flowing water or with water drawn from some other source, and possessing crocodiles and lotus plants shall be constructed. At a distance of four *dandas* [7.2 m] from the [innermost] ditch, a rampart six *dandas* high [10.8 m] and twice as much broad shall be erected by heaping mud upwards and by making it square at the bottom, oval at the centre pressed by the trampling of elephants and bulls, and planted with thorny and poisonous plants in bushes. (II.4)

**Note:** Here other defensive measures, to be used around the fort, have been suggested.

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### Mayamata

The architect will be from a renowned land... He will be a man of quality, capable of establishing constructions and well versed in all sciences. He must be of perfect body, just, compassionate, disinterested, free from envy and weakness, beautiful and learned in mathematics. He must have studied the authors of old, be frank and a master of his senses. He must know how to draw and be familiar with the whole land. He must be generous, free from greed, in good health, attentive and free from the seven vices, endowed with a well-chosen name and persevering. He must have crossed the ocean of the science of architecture. (5.14-18, translation adapted from Bruno Dagens)

**Note:** This passage from *Mayamata*, a south Indian text on architecture composed in the time of the Co $\ddot{c}$ la Empire, lays down the qualities and knowledge an architect must be endowed with.

\*

### Mayamata

The *mānāṅgula* [one of the various types of *āṅgula*, a linear measure equal to the width of the middle finger or the length of its middle phalanx] is said to be a multiple of the atom, which is defined as the smallest thing those who have mastered their senses can distinguish. Eight atoms make up a speck of dust; multiplying by eight every time takes us from the speck of dust to the tip of a hair, then to a nit, to a louse, and finally to a grain of barley. Eight barley grains make up a digit [*āṅgula*] called *mātra* [*mātrāṅgula*, another type of *āṅgula*]. Twelve *āṅgulas* make up a span [*vitasti* or *tāla*, the distance between the tips of the extended thumb and little finger]. Twice that is what scholars call a cubit [*hasta*, the length of



the arm from the end of the middle finger to the elbow]. Twenty-five *āṅgulas* make up a *prājāpatya*, twenty-six a *dhanurmuṣṭi* and twenty-seven a *dharnurgraha*.

For vehicles and seats, the cubit is used. For buildings, the *dhanurmuṣṭi*. For all kinds of settlements, the *dharnurgraha*. However, the cubit can also be used for all types of buildings. ... Four cubits make up a toise [*yaṣṭi* or *daṇḍa*, 96 *āṅgulas* or roughly 6 ft or 1.8 m]. Villages of various kinds, towns, villas, palaces must be measured out in toises, while houses must be measured in cubits. (5.2-9, translation adapted from Bruno Dagens)

**Note:** This lays down a system of linear units to be used by architects, which is very similar to that described in Kautilya's *Arthaśāstra*. In practice, units from the *āṅgula* (digit) to the *daṇḍa* (96 *āṅgulas*) were those in common use, especially the span of 12 digits and the cubit of 24 digits. These linear units patterned on the proportions and dimensions of the human body were the basis for all measurements of rooms, houses, temples, palaces, towns or cities. The same units were used in iconometry, that is, the science of measurements and proportions of sculptures.

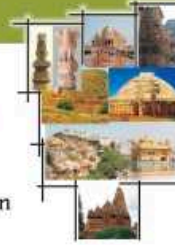
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### *Mānasāra*

The characteristic features of the palaces of kings [of various ranks] will be described now. The breadth ... is said to begin from 181 *daṇḍas* [of four cubits each] and end at 201 *daṇḍas*, the increment being by two *daṇḍas*. ... The length should be greater than the breadth by one-fourth, one-half, three-fourths, or twice the breadth. (40.1-7, adapted from P.K. Acharya's translation)

**Note:** The *Mānasāra*, another south Indian text on classical architecture, lays down here various dimensions as well as proportions for a king's palace. The choice of





specific proportions perceived to be auspicious is a constant feature of Indian classical architecture, and was applied to houses, palaces and temples alike.

\*

### *Mānasāra*

Leaving out the *Brahmā* plot at the centre, in all the surrounding quarters [of the palace complex] should be constructed the dwelling houses of kings, and all other desirable people. In the *Indra* [east], or the *Varuṇa* [west] quarter should be built the palace of the *Sārvabhauma* [class of kings]. ... The palace of the *Adhirāja* [class of king] should be built in the *Yama* [south] and the *Vivasvat* quarters. ... [Several other classes of kings follow.] All the main palaces should have their [main] door towards the east. ... The coronation hall should be situated to the south of the main palace. ... The treasury and the house for the storage of [valuable] clothes should be separately situated in the *Varuṇa* [west] or the *Nair-ṛita* [south-west] quarter. ... The houses for keeping jewels and gold, etc., should be situated in the *Soma* [north] or the *Mukhyaka* quarter. ... The dining hall should be situated in the south or south-west, as well as in the north-east, where should also be situated the kitchen. The tank should be dug in the north-west or the south-west. ... The stables for horses and elephants, etc., should be built on the left side of the gate. The guard-house for the watchmen should be situated on the right side of the gate. (40.73-111, adapted from P.K. Acharya's translation)

**Note:** These are only a few instructions in a long list describing every possible feature of the king's palace, its location with regard to the cardinal directions or with regard to quarters associated with specific deities. This is the tradition of *vāstuśāstra*, which associates divine powers to the various rooms of a residence and therefore to various





human occupations. It may be noted that such arrangements were never completely standardized, and despite commonly agreed general principles, there were sometimes substantial differences from one text to another.

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### *Mānasāra*

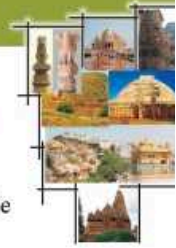
There should not be any defect in the breadth, the height, the plinth, the lintel, the pillar, the entablature, the platform, the neck, the [spherical] roof, the dome, the nose, the windows, and the door, with regard to the portico, the stalk and such other parts, the sanctum, the floors, all the stairs and staircases, the wall, the gatehouses, the pavilions, the corridors, the balconies, the roof, the shed-yards, the sides and the tops, and with regard to the foundation and the neighbouring area: nowhere should there be any defect. The [vigilant] eye of the architect should avoid the possibility of any defect in those members. (69.3-11, adapted from P.K. Acharya's translation)

**Note:** The *Mānasāra* devotes a whole chapter to the misfortunes that will befall a house master, a king or the kingdom itself if there are any defects in the construction of the home, the palace or the city. Perfection in architecture and construction were clearly highly valued.

### Comprehension

1. According to *Mayamata*, what qualities and knowledge should an architect possess?
2. What is iconometry?





3. According to *Mānsarā*, what should be the proportion and dimensions for the palaces of kings? Do the same principles apply to any other kind of buildings?
4. According to *Mānsarā*, what should be the location with regard to the cardinal directions that is appropriate for building palaces for kings.
5. 'Perfection in architecture and construction were clearly highly valued'. What vital factors should the architect keep in mind during the construction of the home, palace or city to avoid misfortunes befalling a housemaster or king?





## Architecture: A Survey (2) Medieval & Colonial Architecture

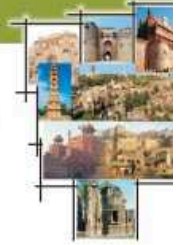
### Fort and Palace Architecture

There are many references to forts and fortifications in ancient and medieval literature dating from the Vedic times. In the *R̥gveda* the word *pur* refers to a large settlement that was protected by fortifications or other means. The *Aitareya Brāhmaṇa* refers to the three Agnis (fires) as three forts which prevent the *asuras* (demons) from disturbing the sacrifice. Kautilya's *Arthaśāstra* gives a detailed account of an ideal fortified city. *Durg* is the Indian term for 'fort', and means 'difficult to trespass', signifying the importance of a strategic site, a strong wall and a moat to make it an impregnable bastion. There are six types of forts: the *dhanva durg* (desert fort), the *mahi durg* (the mud fort), the *jala durg* (the water fort), the *giri durg* (hill fort), the *vṛkṣa* or *vana durg* (the forest fort) and the *nara durg* (fort protected by men).

India is dotted with forts built by various rulers, such as the Rajputs and the Muslim dynasties. In northern India, fort architecture was a combination of traditional architecture and Central Asian and Persian influences. The South being geographically isolated, its architecture was not influenced to that level and generally retained its own styles.

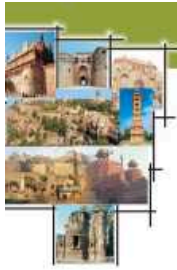
The Rajputs were creative builders and constructed some of the most illustrious and impressive forts and palaces. Some of the forts are at Kangra, Rai Pithora, Chittorgarh, Gwalior, Kumbhalgarh, Jaisalmer, Meharangarh, Junagarh, Amber, Jaigarh and Shrirangapatnam. These forts and palaces have complex compositions.





Wall of Rai Pithora fort built in 1180 CE by Prithviraj Chauhan.

The Kangra Fort (Himachal Pradesh) was built by the royal Rajput family of Kangra (the Katoca dynasty), which traces its origins to the ancient Trigarta kingdom mentioned in the *Mahābhārata*. It is the largest fort in the Himalayas and probably the oldest dated fort in India. The fort was first mentioned in Alexander the Great's war records, which would bring it to the 4<sup>th</sup> century BCE.



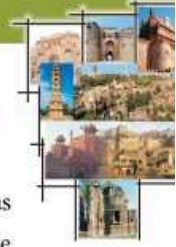
Kangra Fort and its Laxminarayan temple



Left: Chittorgarh Fort, Right: Vijaya stambha (source: Wikipedia)

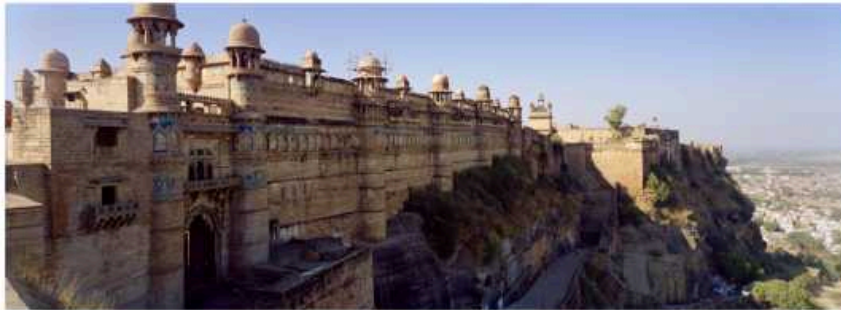
Chittorgarh, the oldest surviving fort, is said to have been constructed by the Mor kings between the 5<sup>th</sup> and the 8<sup>th</sup> centuries and is named after one of them, Chitrangada Mori, as inscribed on the coins of the period. The fort complex comprises 65 historic built structures, among them four palace complexes, nineteen main temples, four memorials and twenty functional water bodies. The first hill fort with one main entrance was established in the 5<sup>th</sup> century and successively fortified





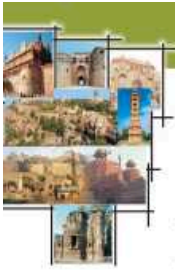
until the 12<sup>th</sup> century. The second, a more significant defence structure, was constructed in the 15<sup>th</sup> century during the reign of the Sisodia Rajputs. Besides the palace complex, located on the highest and most secure terrain to the west of the fort, many of the other significant structures, such as the Kumbha Shyam, Mira Bai, Adi Varah and Shringar Chauri temples, and the *vijaya stambha* (pillar of victory) memorial were constructed in this second phase.

Another important surviving fort is at Gwalior. This fort, bounded by solid walls of sandstone, is sprawled over a hilltop measuring over 2 km in length. The fort complex includes temples, palaces and a number of water tanks. Moreover, the southern path is bounded by intricately carved rock-cut temples of Jain *tīrthāṅkars*. The Telī-kā-Mandir temple follows the Drāviḍa style of architecture, as does the 9<sup>th</sup> century Caturbhuj Mandir which is an example of a Vaiṣṇavite shrine. The Man Singh palace is a prominent early 16<sup>th</sup>-century palace built by Raja Man Singh Tomar.



Panoramic view of Gwalior Fort (source: Wikipedia).

The Kumbhalgarh fort is located on the banks of Banas River and is the second most important fort after that of Chittorgarh. Both were built under the rule of Rana Kumbha. The Kumbhalgarh fort is accessed through a series of seven gateways named Aret Pol, Halla Pol, Hanuman Pol, Ram Pol, Vijay Pol, Nimboo Pol and Bhairon Pol.

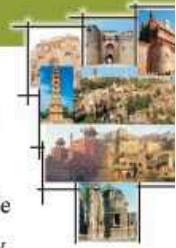


The fort's perimeter walls extend to 36 km. The frontal walls are three metres thick; the ramparts reach a height of 3 to 5 m, reinforced by circular structures. All gates leading towards the palace compound on the western side of the fort are roofed and flanked by additional structures. There are over 360 temples within the fort, 300 ancient Jain and the rest Hindu.



Top: The walls of the fort of Kumbhalgarh extend over 38 km. Bottom: Aerial view of Kumbhalgarh fort (source: Wikimedia commons)





Jaisalmer Fort, built in 1156 by Rawal Jaisal, a Bhati Rajput ruler, stands on the stark stretches of the great Thar Desert, on the Trikuta Hill. Architecturally, Jaisalmer fort consists of three layers of wall. The outer wall (the lowest) is composed of solid stone blocks. From the inner wall, Rajput warriors used to throw boiling water, oil, massive blocks of rocks on the enemies, when they got trapped between the inner and the middle walls.



Jaisalmer Fort (source: fotopedia).

Mehrangarh fort is an architectural marvel that stands proudly on a 125-m-long hill in the historic city of Jodhpur. Rao Jodha, the founder of Jodhpur, started the construction of this fort in the 15<sup>th</sup> century, but it was completed during the reign of Maharaja Jaswant Singh two centuries later. The fort wall spreads over some 5 km. The fort is situated 120 m above the city and is enclosed by imposing thick walls. The Jaypol or the gate of victory is the starting point of the fort. Maharaja Man Singh who ruled Jodhpur in the 19<sup>th</sup> century used this gate to commemorate his victory over the armies of Jaipur and Bikaner. Apart from this gate there are six other gates. The Iron Gate preserves the handprints of the wives of Maharaja Man Singh who immolated



themselves on their husband's funeral pyre. The area within this fort is covered with spacious courtyards and decorated palaces. The main palaces of the fort include Moti Mahal (Pearl Palace), Phul Mahal (Flower Palace), Śiśa Mahal (Mirror Palace), Sileh Khānā and Daulat Khānā. Some artifacts of the era like musical instruments and royal attire are also preserved in the palaces.



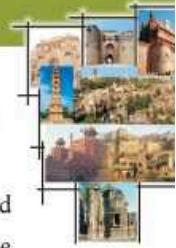
Mehrangarh Fort, Jodhpur (source: fotopedia)



Junagarh fort at Bikaner (source: Wikipedia)

The Junagarh fort, located in Bikaner, is one of the most impressive fort complexes in India. It was built by Raja Rai Singh in 1588. It is one of those few forts that are not built on a hilltop. There are 37 red sandstones (Dulmera) and marble





inside the premises of the fort, which include palaces with intricately carved windows, beautiful balconies, towers, temples and pavilions. The highlights of the fort are Candra Mahal, decorated beautifully with mirrors, paintings and carved marble panels, the Phūl Mahal, the Karan Mahal and the multi-storeyed Anūp Mahal, which was once used as the governance chambers for the rulers. Gaṅgā Niwās, Dūngar Niwās, Vijai Mahal and Raṅg Mahal are also fine examples of the splendid architecture.

Amber Fort, set in a picturesque location, a little away from Jaipur, the capital of Rajasthan state, was built by the Kacchawāha Raja Man Singh in 1592. Its architectural style is a blend of Hindu and Mughal architecture. Huddling on the hilltop, the fort showcased some unique work of delicate glass mirrors on the walls and ceiling that reflect the golden rays of the sun all over the premises. The fort is built in red sandstone and white marble. The entrance to the fort is through the Sūraj Pol which opens into the Jaleb Chowk, the main courtyard. The most prominent structures inside the Amber fort are the Diwān-i-Ām (the hall of public audience) and the Diwān-i-Khās (the Hall of private audience).



Amber Fort (source: Wikimedia)



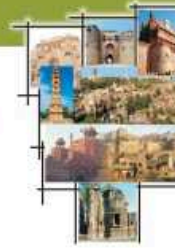


The magnificent Jaigarh Fort or 'victory fort' constructed near Jaipur by Sawai Jai Singh in 1726 is rugged and similar in structural design to the Amber Fort. The fort is built with thick walls of red sandstone and is spread over a vast range of 3 km in length, with a width of 1 km. The fort houses an enormous 50-ton cannon on wheels known as 'Jaivana Cannon' and a huge palace complex. This includes the Laxmī Vilās, Lalit Mandir and the Vilās Mandir.



Left: Double wall Jaigarh fort, Right: Diya Burj (Lamp tower) in Jaigarh fort

In contrast to the complex compositions of forts and palaces built by Rajputs, the Islamic forts and palaces, like Purānā Quilā ('old fort') and Lāl Quilā ('red fort') in Delhi, tend to be symmetrical. The architecture of these forts is a blend of Islamic, Persian and Indian styles of architecture. These were built of sandstone or marble and were endowed with *jharokhās* (a type of overhanging balcony), *chattrīs* (elevated, dome-shaped pavilions), *chajjās* (projecting eaves or cover usually supported on large carved brackets) and *jālīs* (perforated stone or latticed screen used for ventilation as well as decoration).

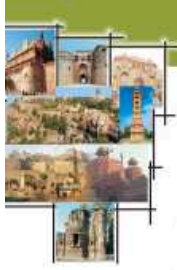


West gate of Purānā Quilā in Delhi (source: Wikipedia)

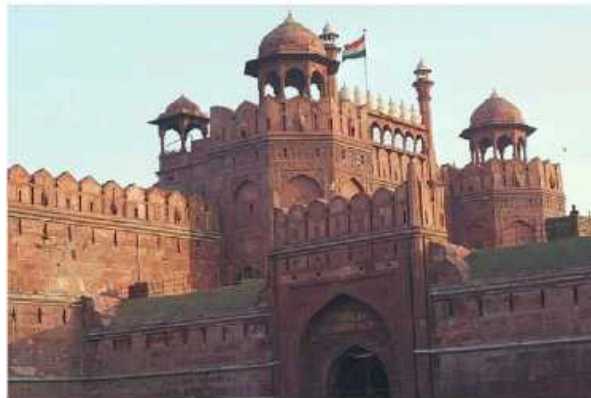
The Purānā Quilā was constructed by Humayun and Sher Shah. The walls of the fort rise to a height of 18 m, traverse about 1.5 km, and have three arched gateways: the Humayun Darwāzā, Talāqī Darwāzā and Barā Darwāzā. All the gates are huge, double-storeyed and built with red sandstone. They are flanked by two huge semi-circular bastion towers, decorated with white and coloured-marble inlays and blue tiles. They are also replete with ornate overhanging *jharokhās* (balconies) and are topped by pillared *chattrīs* (pavilions).

Another important fort is Agra's majestic Red Fort built by Emperor Akbar. It contains numerous impressive structures like the Jahāngīr Mahal, Khās Mahal, Dīwan-i-Khās, Dīwan-i-Ām, Macchī Bhawan and Motī Masjid. This Agra fort is enclosed by a double battlemented massive wall of red sandstone. Most of the buildings added later used marble as the chief construction material.

Delhi's Lāl Quilā (Red Fort) and Agra's Tāj Mahal built in the mid-17<sup>th</sup> century by Emperor Shahjahan are the pinnacle of Mughal architectural achievement. The Lāl



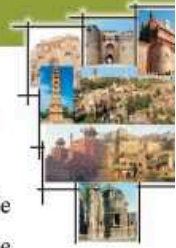
Quilā, built of red sandstone is octagonal in shape, with two longer sides on the east and west. The perimeter of its strong ramparts is about 2.4 km. The Red Fort rises to a height of 33.5 m on the town side and 18 m along the river. A wide moat surrounds the fort, which was originally connected with the Yamuna and was always filled with water. The two main gateways, known as Lahori Gate and Delhi Gate (so named as they face Lahore and Delhi respectively) are three-storey-high and flanked by semi-octagonal towers. The main entrance to the Lāl Quilā is through the Lahori Gate. Beyond the gate, there is a roofed passage, flanked by arcaded apartments leading to the palaces, known as Chattā Chowk. Some of the main buildings within the fort are: the Dīwān-i-Ām (hall of public audience) the Dīwān-i-Khās (hall of selective audience), the Hamām (bathroom set), the personal mosque of Aurangzeb, Motī Masjid (Pearl Mosque) and Mumtāz Mahal.



Delhi's Red Fort

Golconda Fort, originally a mud fort founded by the Kākatiyā dynasty of Warangal during the 13<sup>th</sup> century, was later reconstructed into a massive fort by various Qutb Shahi rulers during the 16<sup>th</sup> century, on the outskirts of Hyderabad. The





fort, on an isolated granite hill, rises about 120 m above the surrounding plain. The contours of the fort blend with those of the hill. Nowadays the ruins have a desolate majesty in the midst of an arid plain.

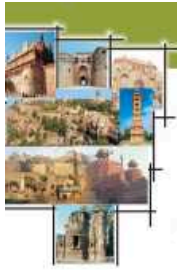


Golconda Fort

The fort has eight gates (*darwāzās*), the main gate being Fateh Darwāzā (Gate of Victory). The door is 4 m wide and almost 8 m high and studded with steel spikes to protect it from charging elephants. The fort also includes a palace, a mosque, a parade ground, and an armoury besides many other buildings.

The famous Srirangapatna fort, also called Tipu's palace, in Mysore, Karnataka, was built in 1537 in Indo-Islamic style. This magnificent fort is considered to be the second toughest fort of India. It has a palace, Lāl Mahal, which was the then residence of the most audacious king of Mysore, Tipu Sultan. The fort was built in a double wall defence system and has four entrances, namely Delhi, Bangalore, Mysore and Water and Elephant gates.

Most of these forts had ingenious water structures designed for harvesting and storage, including step-wells, elaborate reservoirs and channels. (See module **Other Technologies** for more details.)



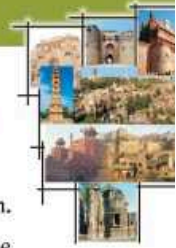
### Mosques

A mosque (*masjid*), a place of worship for the followers of the Islamic faith, is primarily decorated with geometric shapes, foliage and floral patterns, and calligraphy. This usually includes a number of distinctive elements: *minbār*, *mīnār*, *mehrab*, domes and prayer hall. *Minbār* is a raised platform from which an Imām (leader of prayer) addresses the congregation. *Mīnār* is the tall, slender tower, usually situated at one of the corners of the mosque structure. The top of the *mīnār* is always the highest point in a mosque that has one, and often the highest point in the immediate area. *Mehrab* is semicircular niche in the wall of a mosque that indicates the *qibla*, that is, the direction of the Kaba in Mecca, which Muslims should face when praying. The domes, which signify the vaults of heaven and the sky, are often placed directly above the main prayer hall. As time progressed, domes grew, from occupying a small part of the roof near the *mehrab* to encompassing the whole roof above the prayer hall.

Although the domes normally took on the shape of a hemisphere, the Mughals in India popularized onion-shaped domes. Some mosques have multiple, often smaller, domes in addition to the main large dome that resides at the centre. The prayer hall, also known as the *musallāh*, is another important feature of a mosque. Some mosques have Islamic calligraphy and Quranic verses



Jāmā Masjid in Delhi



on the walls to assist worshippers in focusing on the Koran, as well as for decoration. The Mecca mosque in Hyderabad and the Jāmā Masjid in Delhi illustrate these features of Indian mosques.



Mecca mosque in Hyderabad (source: Wikimedia)

The Mecca mosque is a listed heritage building located in Hyderabad. Muhammed Quli Qutub Shah commissioned bricks to be made from earth brought from Mecca and inducted them into the construction of the central arch of the mosque, which explains its name. This mosque is an awe-inspiring granite giant. Its main hall is 23 m high, 67 m wide and 55 m long, big enough to accommodate 10,000 worshippers at a time. Fifteen graceful arches support the roof of the main hall, five on each of the three sides. A sheer wall rises on the fourth side to provide *mehrab*. The three arched facades have been carved from a single piece of granite, which took five years to quarry. On the four sides of the roof of the main mosque are ramparts made up of granite planks in the shape of inverted conches perched on pedestals.



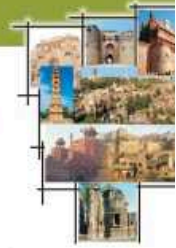
### Mausoleums

Some of the Moghul rulers built mausoleums (monumental tombs, *maqbarā* in Arabic) as lasting testaments to their legacy. Among the important ones are the Tāj Mahal, the mausoleums of Akbar (at Agra), Humayun (Delhi), Mohammed Adil Shah (Bijapur); it is also known as 'Gol Gumbaz'), and the mausoleum of the Lady ('Bībī kā Maqbarā' at Aurangabad, built by Aurangzeb in memory of his first wife).



Left: Taj Mahal, Right: Humayun's tomb

The famous Taj Mahal, a UNESCO World Heritage Site, has an extensive complex of buildings and gardens that covers 22.44 hectares. The main chambers of the Taj Mahal house the sarcophagi of Emperor Shah Jahan and his wife Mumtaz Mahal. Four minarets frame the mausoleum, and in the centre of the *mīnār* is the large, white marble dome that encloses the tomb. The buildings are constructed with walls of brick and rubble inner cores faced with either marble or sandstone locked together with iron dowels and clamps. Twenty-eight types of precious and semi-precious stones such as jasper, jade, crystal, turquoise, lapis lazuli, sapphire and carnelian were inlaid in the white marble.



### Colonial Architecture

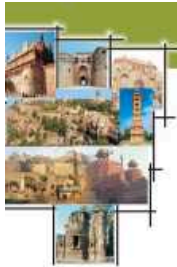
With the advent of the colonial era, Indian architecture saw the arrival of diverse European styles, whether of churches (especially in Kerala, Goa and Kolkata) or of secular buildings, in particular those that symbolized colonial authority: government buildings, courts, central secretariat and headquarters of the colonial government.



Victoria terminal, Mumbai

Among those are heritage buildings such as Mumbai's GPO, Chhatrapati Shivaji Terminus, Municipal Corporation of Greater Mumbai, and Gateway of India, Kolkata's Victoria Memorial, Chennai's Government Museum and Ripon Building, Amritsar's Khalsa College, Indore's Daly College, and many more. Interestingly, such buildings were often influenced by earlier Indian architectural styles, for instance in their generous use of domes and arches.





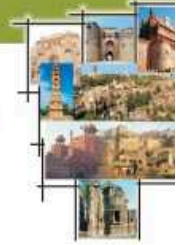
**Comprehension**

1. Which ancient text defines an ideal fortified city?
2. Define *durg* and mention the types of *durg* as referred to in Indian texts.
3. 'Rajasthan is the land of forts and palaces.' Name five forts of Rajasthan stating the time when they were built and their builder(s).
4. Name the oldest fort in India.
5. Name some of the forts built by Islamic rulers having perfect symmetry. Also mention their architectural styles.
6. What do you understand by Indo-Islamic architecture? Give examples.
7. Outline the salient features of a mosque.
8. Name some heritage buildings of colonial India.

**Activity**

➤ Complete the table with the required information.

Name of the Fort	Place	Ruler/Dynasty	Unique features



### Activities

- If you were to be a guide accompanying students to a heritage site in your city, what are the instructions you would like them to follow when you conduct the trip to make it a memorable and meaningful experience.
- Hold a debate on the topic: 'Development should not be at the cost of losing our tangible heritage.'
- 'We are noble citizens.' Prepare a list of do's and don'ts which indicate that we are sensitive and concerned about our cultural heritage.

### Projects

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. Collect information about UNESCO-designated World Heritage sites in India, place them on India's map and conduct a quiz competition based upon the information collected by you.
- Study the forts of India and evaluate them against the salient features explained in Kautilya's *Arthaśāstra*. You may explore the following points:
  - Water system (rainwater harvesting and storage)
  - Measures taken to make the fort impregnable
  - Area used for habitations and specifications regarding the number of inhabitants.
- 'Every monument has a story to unfold.' How exciting it would be when you discover the Red Fort narrating tales of the Great Rebellion of 1857. Work in pairs to select a few forts, temples, tombs and mosques and collect information about the period, dynasty, reason behind the construction of those monuments,



materials used, design, chief architect, number of builders and artisans, and the time and money spent to build them. Now present the history of those monuments through role play or as story narrators.

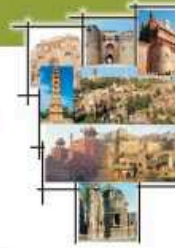
- Delhi – India's capital – is impregnated with the historical remains of seven cities. Research and make a presentation of your findings.

#### Extended Activities

- Plan an exhibition of hand-painted picture postcards on India's ancient architecture. You may hold a three-day workshop for the event and advertise it creatively. You may refer to the following steps for drafting:
  - Bring the best images of various historical monuments and distribute them among the participants.
  - Paint or sketch a bird's eye view of each monument on a picture postcard. Provide information about the monument on the reverse side of the postcard. (You may buy blank postcards from the post-office.)
  - Put up your creations on display.

Note: You may also refer to the following URL for ideas on postcards:  
[www.thedelhiwalla.com/2011/09/05/city-monuments-%E2%80%93-h-a-mirza-sons-postcards-muslim-delhi/](http://www.thedelhiwalla.com/2011/09/05/city-monuments-%E2%80%93-h-a-mirza-sons-postcards-muslim-delhi/)

- Organize a heritage walk to a nearby monument and either document it with pictures or make a documentary on behalf of the school. Make a diary entry of this visit.
- To appreciate India's magnificent architectural heritage and unique traditions, many dance and music festivals are organized every year at various heritage sites. Make a list of such events held in the recent years.



### Further Reading

1. Baig, Amita, and Joginder Singh. 2010. *Forts & Palaces of India*. Noida: Om Books International.
2. Manchanda, Bindu. 2006. *Forts & Palaces of India: Sentinels of History*. New Delhi: Roli Books.
3. Nath, R. 2003–05. *History of Mughal Architecture*. New Delhi: Abhinav Publications.

### Internet Resources (all URLs accessed in May 2013)

- Colonial Architecture in India: [www.indianmonumentsportal.com/indian-architecture/colonial-architecture.html](http://www.indianmonumentsportal.com/indian-architecture/colonial-architecture.html)
- Indian Forts: [www.culturalindia.net/indian-forts/](http://www.culturalindia.net/indian-forts/)
- Forts and Palaces of India: [www.incredibleindiatourism.in/forts.htm](http://www.incredibleindiatourism.in/forts.htm)
- Mosques in India: [www.archinomy.com/case-studies/2076/mosques-in-india](http://www.archinomy.com/case-studies/2076/mosques-in-india)
- Mughal architecture: [http://indiapicks.com/annapurna/S\\_Mughal.htm](http://indiapicks.com/annapurna/S_Mughal.htm)
- An introduction to Mughal architecture (PowerPoint presentation): [www.slideshare.net/aziz\\_khan/mughal-architecture](http://www.slideshare.net/aziz_khan/mughal-architecture)

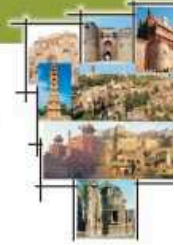




(A poem by a ninth-class student)

### इमारतें कुछ कहना चाहती हैं

इमारतें कुछ कहना चाहती हैं  
बीती बातें हमें सुनाना चाहती हैं  
लोग कहते हैं उनके होते हैं कान  
में कहता हूँ उनकी होती है जुबान  
जिससे वे कुछ बताना चाहती हैं  
इमारतें कुछ कहना चाहती हैं  
पास उनके खड़े हो जाओ तो आवाज़ें आती हैं  
वह जीती हैं जागती हैं और साँसे भी लेती हैं  
यदि सुनना चाहते हो इमारतों की बात  
तो एक बार अकेले बैठो उनके साथ  
क्योंकि इमारतें  
बिसरी यादों से धूल हटाना चाहती हैं  
इमारतें कुछ कहना चाहती हैं  
कहती इमारत  
तुम्हें सुनाती हूँ वीरों की गाथा  
और कहानियाँ राजाओं की  
फिर भी  
तुमने क्षति पहुँचाई और मुझे चोट की  
तुम्हारे बड़े बूढ़ों जैसी हूँ कुछ मेरा सम्मान करो  
मेरा अस्तित्व है खतरे में कुछ तो मेरा ध्यान करो  
इमारतें यही बात हमें समझाना चाहती हैं  
इमारतें कुछ कहना चाहती हैं  
गौरव भट्ट, कक्षा नवम, (२००४)  
राजकीय प्रतिभा विकास विद्यालय, वसन्त कुञ्ज, नई दिल्ली



***Buildings want to tell something***

*Buildings want to tell something  
Want to narrate things past  
People say they have ears  
I say they have a tongue  
With which they want to say something  
Buildings want to tell something  
Stand near them and voices come  
They live are awake and also breathe  
If you want to hear what they say  
Once just sit alone with them  
Because buildings  
Seek to wipe the dust off memories  
Buildings want to say something  
The building says  
    Let me narrate the tales of the brave  
    And the stories of kings  
    Yet  
    You damaged me, and hurt me  
    Am like the old of your family  
    My being is endangered — do attend to me  
Buildings want to make us understand just this  
Buildings want to tell something.*

Gaurav Bhat, 9<sup>th</sup> Standard (2004)  
National Talent Development School, Vasant Kunj, New Delhi



## Dance: A Survey (1) Classical Dance Forms

Dance has a long history in India. A large amount of material related to dance, dating from as early as the 2<sup>nd</sup> century BCE up to the 21<sup>st</sup> century CE, is available. For example we have a bronze 'dancing girl' figurine from Mohenjo-daro and a broken torso from Harappa in a dance pose. For convenience, we may divide the history of dance into three periods — classical, middle and modern.

### Classical Period

The first still available classical manual on dance is Bharata Muni's *Nāṭyaśāstra* (about 2<sup>nd</sup> century BCE). It gives a clear and detailed account of dance. It is said that *apsarās* (celestial dancers) were made to perform in the earliest drama to make the performance interesting for the audience. After watching the first performance of drama, *Nāṭyaśāstra* narrates that Śiva wanted dance and dance movements to be made a part of drama, and for that the sage Taṇḍu was requested to compose and direct a dance. Taṇḍu taught dance movements — *cārīs* (foot and leg positions), *maṇḍalas* (circular movements), *karaṇas* (movements of hands) and *aṅgāhāras* (dance postures) — to Bharata Muni who made them part of the training of actors and dancers in a play. The dance came to be called *tāṇḍava*, a series of body postures that form the basic language of Indian dance. The parallel dance performed by women is known as *lāsya*.



Śiva's *tāṇḍava*  
(Belūr temple, Karnataka)



A *karaṇa* at the Chidambaram temple

After the *Nāṭyaśāstra*, another significant available work on dance is Nandikeśvar's *Abhinaya Darpaṇa* (2<sup>nd</sup> century CE). These two manuals present the principles of dance. Indian dance has a grammar. Each dance form is a system of structures at different levels. For instance, the minimal units in a dance are (1) *sthāna*, standing position; (2) *cārī*, foot and leg movements; (3) *ṛttahasta*, hands in a dancing position. A configuration of these constitutes a *karaṇa*. There are 108 *karaṇas*; one can see them sculptured at the Chidambaram Naṭarāja temple. Any two *karaṇas* constitute a *mātrika*; a combination of two, three or four *mātrikas* constitutes, in turn, an *aṅgahāra*, an organized sequence of postures. Finally, an arranged sequence of *aṅgahāras* constitutes a dance.

Which periods do the above two sculptures belong to?

Dance is either *mārgī* or *deśī*, the two categories that apply to all arts. *Mārgī* is the standard, formal tradition; *deśī* is folk, variable traditions. Another classification of dance, as we have noted, is *tāṇḍava* and *lāsya* in character. In one sense *tāṇḍava* stands for the vigorous expression and actions and feelings regardless whether the dance is performed by men or women. *Lāsya*, on the other hand, stands for elements of grace and softness and gentle emotions. These are usually associated with women because Pārvatī taught it to Uśā, sage Bāṇa's daughter, who then passed on the art to the women of India. However, since love is the predominant sentiment in *lāsya*, it is also danced by men when their dance needs to express this sentiment. For example, Kṛṣṇa's dance with *gopīs* is in *lāsya* mode.





There are three main components – *nāṭya*, *nṛtya* and *nṛtta* – which together with other elements make up the classical dance. *Nāṭya* corresponds to drama; it is the dramatic element of a stage performance. Bharata defines *nāṭya* as ‘a mimicry of the exploits of gods, demons, kings, as well as of householders of this world’. (See module **Theatre and Drama** for Class XI for more on *nāṭya*.) *Nṛtya* is the rhythmic movement of the body in dance combined with emotion or *rasa* and *bhāva*. *Nṛtta* stands for rhythmic movements and steps. On this basis, the technique of dancing can be categorized under two clear heads, *nṛtta* and *nṛtya*.

Both *rasa* and *bhāva* are conveyed through *abhinaya* or dramatic expression – *āṅgika* (gestures of the body), *vācika* (verbal), *āhārya* (costume and make-up) and *sāttvika* (physical manifestations of mental and emotional states) – which govern *nāṭya*. The *vācikabhinaya* of the *nāṭya* is replaced by the music accompanying the dance. The musical accompaniment invariably consists of poetry or lyric or narrative which is set to music and rhythm and strengthens the *bhāva*. The dancer also depicts those emotions through *sāttvika* (voluntary physical manifestations of mental and emotional states) like paralysis, perspiration, hair standing on end, change of voice, change of colour, trembling, fainting and weeping and helps in the realization and experience of *rasa*.

Indian classical dance forms were nurtured with a purpose in the sacred premises of temples. Temple dancing was imbued with the idea of taking art to the people and conveying a message to the masses. The temple rituals necessitated the physical presence of mortal women (instead of the ornate, carved figures of *apsarās* to propitiate the gods. The allegorical view of dance, used for the purpose of the pleasing the *devas*, was gradually transformed into a regular, service (with deep religious connotations) in the temples of the medieval times. This was possibly the reason behind the origin of *devadāsīs*, the earliest performers of the classical Indian dances. They were supposed to pursue the dance forms devotedly and excel in them.





They lived and danced only in the temple premises, their vocation enjoying great religious prestige.

### Middle Period

In the medieval period, though the *Nāṭyaśāstra* tradition was alive, yet there were departures and modifications. Sāraṅgadeva, who in his *Saṅgītaratnākara* introduced the concept of *paddhati* (style) and the movements, spoke of basic movements under two categories: *śuddha* (purely classical or academic form) and *deśī* (regional variants). The recognition of regional styles contributed greatly to the further development of the individual, distinctive, classical styles of the various regions. From the 13<sup>th</sup> century onward the important manuals of different regions, which include *Nṛtṭyaratnāvalī* of Jayasenāpati from Andhra Pradesh, *Saṅgītopaniśat Sarodhara* of Vacanācārya, *Śudhākalaśa* of Gujarat, *Hastamuktāvalī* of Assam, *Govinda Saṅgita Līlā Vilāsa* of Maṅipur, *Abhinava Candrikā* of Maheśvara Mahāpātra from Orissa, *Saṅgīta Dāmodar* of Raghunāth from Bengal, 'Ādi Bharatam', 'Bharatarnava' and 'Nṛtta Addhyāya' of the *Saṅgītamakaranda* from Tamil Nadu, *Balarāma Bharatam* and *Hastalākṣṇadīpikā* from Kerala, the *Nṛtṭyaratnakośa* by Kumbhakarāṇa from Rajasthan, and the *Saṅgītamallikā* of Mohammad Shah from north India attest to numerous regional variations.

The temples of medieval India also show that the sculptors had considerable technical knowledge of the art of dance. The Bṛhadeśvara temple of Thanjavur (or Tanjore, 11<sup>th</sup> century) and, as we mentioned earlier, the Naṭarāja temple of Chidambaram depicted *karaṇas*, while the Orissan temples of Vithal Deul, Parmeśvara and Rājarāni (9<sup>th</sup>-11<sup>th</sup> century) described *cārīs* and *sthānas* (positions) as given in the *Nāṭyaśāstra*. The Khajurāho temples of the Candela kings (11<sup>th</sup>-13<sup>th</sup> century) and the whole range of medieval sculpture extending from Rajapūtānā and Saurāṣṭra to Odisha and from Kashmir to Thiruvananthapuram (11<sup>th</sup>-13<sup>th</sup> century)





portray a variety of dance poses and movements which are accurate illustrations of either the original styles or of texts that were followed by the artists.

The different styles of classical Indian dance were practised and perfected by creative masters belonging to different *gharānās* (family traditions or schools) in different regions. These masters were the repositories of an invaluable oral tradition. They frequently contributed to the growth of their art despite their lack of basic education and academic knowledge of the Sanskrit language. Now the Indian classical dances, which were limited to the temple premises, were performed in royal courts, in the presence of the elite and the nobility.

### Modern Period

In British India, the system of education did not recognize the arts or crafts as a subject of educational curricula. Even temple dancing was forbidden. However, the masters of this art continued to practise it in the seclusion of their *gharānās* (family traditions or schools). The recent revival of interest in dance has helped the development and popularity of Indian dance styles which have spread beyond borders. In the early 20<sup>th</sup> century, Uday Shankar laid the foundation of what may be termed modern Indian dance as opposed to any of the Indian classical forms; his style came to be known as oriental dance. At the same time, art exponents such as Rukmani Devi, Menaka, Gopinath and Ragini Devi contributed to the revival of dance forms, which they presented in a manner easily received by spectators.

The presentation of Indian dance in Hindi cinema has projected modern dances to a global audience. Dance in early Hindi cinema was primarily modelled on classical Indian dance styles and particularly those of historic North Indian dancing girls or on folk dancers. Modern films often use a fusion of Indian dance styles with Western dance styles. It could be a combination or inter-mixing of Indian classical, Indian folk dance, belly dancing, jazz, hip hop and even folk forms.





### Classical Dance Forms

Indian dance forms fall into two broad categories – classical and folk (for folk dance forms, see this module's second unit). The present-day forms of classical Indian dances are performed on the stage on various occasions. In popular culture, the adapted, or 'semi-classical', forms of these styles have been exposed largely through depiction in popular movies and television programmes. These dance forms include Bharatanāṭyam, Kathakali, Kathak, Oḍissi, Manipurī, Mohiniāṭṭam and Kucipudī.

### Bharatanāṭyam

Bharatanāṭyam is a classical dance form from Tamil Nadu. It dates back to 1000 BCE. Its inspirations come from the sculptures of the ancient temple of Chidambaram. In ancient times Bharatanāṭyam was performed as *sadirāṭṭam* (court dance) by temple *devadāsīs*. E. Krishna Iyer and Rukmini Devi Arundale renamed *sadirāṭṭam* as Bharatanāṭyam in the 1930s.



Bharatanāṭyam was codified and documented as a performing art in the 19<sup>th</sup> century by the Tanjore Quartet of Chinnayya, Ponniah, Śivanandam and Vadivelū of the Tanjore Court, during the rule of Maratha King Saraboji II (1798–1832). The Tanjore Quartet completed the process of re-editing the Bharatanāṭyam programme into its present shape with its various items.

There have been several varieties of Bharatanāṭyam costumes in different periods. From the ancient texts and sculptures, one can see that the original costume did not completely cover the dancers' bodies. In the medieval times, however, the *devadāsīs* used to wear a special, heavy *sārī* that severely restricted the dance movements. The modern costumes are deeply symbolic, as their purpose is to project the dancer's *sūkṣma śarīra* (subtle body) into the material world. Also different dances require different kinds and nature of dress.



### Kathakali

Kathakali is a classical dance form which originated in Kerala. *Kathā* in Sanskrit means story and *kālī* in Malayalam means play. So Kathakali is a play based on a story. Kathakali, like other classical dances of India, has its origins in Bharata Muni's *Nāṭyaśāstra*. It is an art which has evolved from many social and religious theatrical art forms like Cakiarkoṭṭū, Kūdiattam, Kṛṣṇattam, Rāmattam which existed in the southern region in ancient times. The main custodian of Kathakali is the famous poet Vallathol Narayana Menon who established Kerala Kalamandalam in 1930 for the preservation of this art form.



Aspects of Kathakali (source: Wikipedia)

Kathakali, a stylised art form, is a blend of dance, music and acting and dramatizes stories mostly adapted from the Indian epics. All the four aspects of *abhinaya* – *āṅgika*, *vācika*, *āhārya*, *sāttvika* – and the three components of the dance – *nāṭya*, *nṛtta* and *nṛtya* – are unified flawlessly in this form. The *abhinaya* is presented in three stages: (a) word-to-word synchronization; (b) interpretation of the full line; and (c) *abhinaya* of the dancer following the singer. The dancers express themselves through organized *mudrās* and facial expressions.





As far as the costume of this dance form is concerned, it is elaborate and designed to heighten the effect of physical strength. The large overcoats, the flowing scarves, the bulging skirts, the antique ornaments, the strikingly opulent head dresses with streaming hair flowing down to the waist and covering the back – all create enlarged figures well befitting the sculptured facial features and produce tremendously impressive impersonations. If the characters are *sāttvika* (a righteous character or hero), the basic make-up is *pacca* (green); if the characters are *rājsika* (a character with particular vices or anti-hero), the basic make-up is *cutṭi* (white); and if the characters are *tāmsika* (an evil character or villain), the basic green make-up is broken up by red patches. Also, on the basic green make-up, an oval red and white design is made on the nose and on the upper nose.

Make a list of make-up items used by Kathakali performers.

### **Kathak**

Kathak originated in Uttar Pradesh, India. The name Kathak is derived again from the Sanskrit word *kathā* (story): *kathaka* means 'he who tells a story, or has to do with stories'. This dance form traces its origins to the nomadic bards of ancient northern India, known as *kathakas* (storytellers). Its form today contains traces of temple and ritual dances, and the influence of the *bhakti* movement. From the 16<sup>th</sup> century onwards it absorbed certain features of Persian dance and Central Asian dance which were imported by the royal courts of the Mughal era.

There are three major *gharānās* (schools) of Kathak from which performers today generally draw their lineage: the *gharānā* of Benares (born in the courts of the Kachwāhā Rajput kings, the Nawāb of Oudh, and Varanasi respectively), the *gharānā* of Jaipur and the *gharānā* of Lucknow; there is also a less prominent Raigarh *gharānā* which amalgamated the technique from all three preceding *gharānā* but became famous for its own distinctive compositions.





Aside from the traditional *abhinaya* pieces performed to a *bhajan*, *ghazal* or *thumri*, Kathak also possesses a particular performance style of expressional pieces called *bhāva batānā* (showing mood or feeling). It is a mode where *abhinaya* dominates, and arose in the Mughal court. It is more suited to the *mehfil* or the *darbār* environment, because of the proximity of the performer to the audience, who can more easily see the nuances of the dancer's facial expression. Shambhu Mahārāj was known to interpret a single line in many different ways for hours but all the Mahārāj family have found much fame for the naturalness and innovativeness of their *abhinaya*.



Source: [www.kathak.org](http://www.kathak.org)

As this dance form can be performed by a man or a woman, it has different costumes for them. For women there are two types of costumes, traditional Hindu and Mughal. The traditional Hindu costume for women sometimes consists of a sari, whether worn in an everyday style, or tied up to allow greater freedom of movement during dance. However, more commonly, the costume is a *lehaṅgā-colī* combination, with an optional *oḍhni* (veil). The traditional Mughal costume for women consists of





an *aṅgarkhā* on the upper body. The design is akin to a *cūḍīdār-kameez*, but is somewhat tighter fitting above the waist, and the 'skirt' portion explicitly cut on the round to enhance the flare of the lower half during spins. The traditional Hindu costume for men leaves them bare-chested; below the waist is the *dhotī*, usually tied in the Bāṅglā style that is with many pleats and a fan finish to one of the ends. There is the option of wearing a men's *bandī* too. The Mughal costume for men is *kurtā-cūḍīdār*.

### Kucipudī

Kucipudī is a dance form named after a village in the Krishna district of Andhra Pradesh. Renowned gurus like Vedāntam Lakṣmī Nārāyana, Cintā Kṛṣṇāmūrthy and Tadepalli Perayya broadened the horizons of this dance form.

Kucipudī is non-narrative and abstract dancing. Usually *jāṭiswaram* is performed as the *ṛtta* number. Next is presented a narrative number called *śabdām*. One of the favourite traditional *śabdām* numbers is the Daśāvatāra (the ten avatars of Viṣṇu). The *śabdām* is followed by a *nāṭya* number called *kalapam*. Next in the sequence comes a pure *ṛtyabhinay*, a number based on literary-cum-musical forms like *padam*, *jāvli*, *śloka*m, etc. In such a number each of the sung words is delineated in space through dance i.e. visual poetry, *drśya-kavitā*. A Kucipudī recital is usually concluded with *taraṅgam*. In earlier times, the themes were related to Śiva, but with the arrival of the Bhakti movement from the seventh century onwards themes linked to Kṛṣṇa were also enacted.



Kucipudī dancer  
(source: Wikipedia)

The Kucipudī costumes look similar to those of Bharatanāṭyam. The important characters have different make-up and the female characters wear ornaments and



jewellery such as *rakudi* (head ornament), *candravanki* (arm ornament), *addabhāṣā* and *kasinasāra* (neck ornament) and a long plait decorated with flowers and jewellery. Ornaments worn by the artists are generally made of a lightweight wood called *būrugū*.

### Maṇipurī

Maṇipurī dance is one of the main styles of Indian classical dances that originated in the beautiful north-eastern state of Manipur. The origin of Maṇipurī dance can be traced back to ancient times. It is associated with rituals and traditional festivals; there are legendary references to the dances of Śiva and Pārvatī and other gods and goddesses who created the universe. The dance was performed earlier by *maibas* and *maibīs* (priests and priestesses) who re-enact the theme of the creation of the world. With the arrival of Vaiṣṇavism in the 15<sup>th</sup> century, new compositions based on episodes from the life of Rādhā and Kṛṣṇa were gradually introduced. It was in the reign of King Bhāgyacandra that the popular *Rāsālilā* dances of Manipur originated.



Kṛṣṇa and Rādhā in *Rāsālilā* (source: <http://news.lib.uchicago.edu>)



The *rāsa* costume consists of a richly embroidered stiff skirt which extends to the feet. A short fine white muslin skirt is worn over it. *Patloi* is the typical costume of the female dancers. The *leherigā* is called *kumin* with mirrors and *zari* work intricately woven into beautiful designs. The women also wear a tight-fitting cone-shaped cap, garnished with a border of synthetic pearls, under a thin white veil. A dark coloured velvet blouse covers the upper part of the body and a traditional white veil is worn over a special hair-do which falls gracefully over the face. *Kṛṣṇa* wears a yellow dhoti, a dark velvet jacket and a crown of peacock feathers. The jewellery is very delicate and the designs are unique to the region.

The *kīrtan* form of congregational singing accompanies the dance which is known as *saikīrtana* in Manipur. The whole community celebrates childbirth, *upanayanam*, wedding and *śrāddha* with *saikīrtana* performances. The male dancers play the *puṅg* and *kartāl* while dancing. The *thaṅg-ta* is a martial dance which has its origin in the days when man's survival depended on his ability to defend himself from wild animals.

### Oḍissī

Oḍissī is believed to be the oldest form of Indian dance from the state of Odisha according to the various sculptural evidences available. Archaeological evidences of this dance form dating back to the 2<sup>nd</sup> century BCE are found in the caves of Udayagiri and Khandagiri near Bhubaneswar. The dance movements, frozen in stone, continue to inspire Oḍissī dancers even today. For centuries *mahārisa* or *devadāsīs* (temple dancers) were the chief repositories of this dance. Later, a class of boys called *goṭipuas* were trained in the art. They danced in the temples and also for general entertainment. Many of today's gurus of this style belong to the *gotipua* tradition.

Did you know that young boys learning Oḍissī are called *goṭipuas* and many of the present-day gurus of this dance form belong to the *gotipua* tradition?



(Top) Gotipua (source: [www.citizenside.com](http://www.citizenside.com))  
(Left) Odissi dancer (source: [www.ananyadancetheatre.org](http://www.ananyadancetheatre.org))

Odissi mostly derives its theme from the 12<sup>th</sup> century *Gīta Govinda* by Jayadeva. It is generally believed that the composers fixed the *tāla* and *rāga* of each song after the model of *Gīta Govinda*.

Odissi closely follows the tenets laid down by the *Nāṭyaśāstra* and the *Abhinaya Darpaṇa*. Facial expressions, hand gestures and body movements are used to suggest a certain feeling, an emotion or one of the nine *rasas*.

The techniques of movement are built around the two basic postures of the *cowk* (a position imitating a square – a very masculine stance with the weight of the body equally balanced) and the *tribhaṅga* (a very feminine stance where the body is deflected at the neck, torso and the knees). There are a variety of gaits for doing pirouettes and jumps and also certain postures inspired by the sculptures.

The opening item is *maṅgalācaraṇa* (invocation) where the dancer slowly





enters the stage with flowers in her hands and makes an offering to Mother Earth. This is followed by an invocation to the deity of the dancer's choice. Generally, Ganeśa is called upon to grant an auspicious beginning. The item ends with a *nṛtta* sequence with salutations to God, the guru and the audience.

An Oḍissī dancer is adorned in elaborate Odiya silver jewellery. The dancer wears a *coker* (a longer necklace), armlets, bracelets, a belt, anklets, bells, earrings, each placed on the bun, and a *sīnthī* (a piece placed on the hair and forehead). She sports an elaborate hair-do in a knot adorned with the *tahiya* (part of the crown), which represents a temple tower. Palms and soles are painted with *āltā*, a red dye. The head ornament is called *maṭhami*. The dancer also wears the ear covers, bangles on the wrists, armlets and an elaborate belt. On her ankles are bells strung together on a single cord. A *padaka-tilaka* (a necklace with a locket) rests on her chest.

### Sattriya



Sattriya  
(source: [musicaindiana.wordpress.com](http://musicaindiana.wordpress.com))

Sattriya, recently included among principal classical Indian dance traditions, has been a living tradition in Assam since its creation by the founder of Vaiṣṇavism in Assam, the great saint Śrīmanṭa Śaṅkaradeva in 15<sup>th</sup>-century Assam. This dance form originated in monasteries and then moved to the metropolitan stage. Śaṅkaradeva introduced this dance form by integrating different elements from various treatises and local folk dances with his own rare outlook. Conventionally,

this dance form was performed only by *bhokos* (male monks) in monasteries as part of





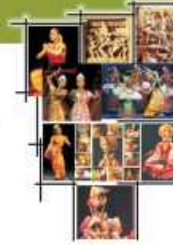
their daily rituals or to mark special festivals. In the modern days, Sattriya is performed on stage by women and men. It is governed by strictly laid down principles in respect of *mudrās*, footwork, *āhāryas* (costume), music etc. It is performed with *borgīts* (musical composition) which are usually based on classical *ragas*. For tradition performance, the instruments that are used are *khole* (drums), *tālas* (cymbals) and the flute. Some of the recent additions are the violin and the harmonium. The dress is typical of Assam as the silk that are worn are produced in Assam, woven with meticulous designs.

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### Comprehension

1. What is the significance of *abhinaya* in dance?
2. What are hand gestures called in dance? Are they common to all dances?
3. Explain *aṅg*, *upāṅg*.
4. Explain the four kinds of *abhinaya*.
5. Describe the structural composition of Bharatanāṭyam.
6. What are the steps and body movements called in Maṅipuri?
7. What is the technique used to balance the movements in *thang ta* and *pungcholan* to avoid any injury?
8. Explain the basic technique in Oḍissi. Where in India do you find sculptures depicting this style?





Activity 1

- Identify the classical dance forms on the Indian stamps.



- Mention two eminent performers/groups/*gharanās* related to each dance form.

Activity 2



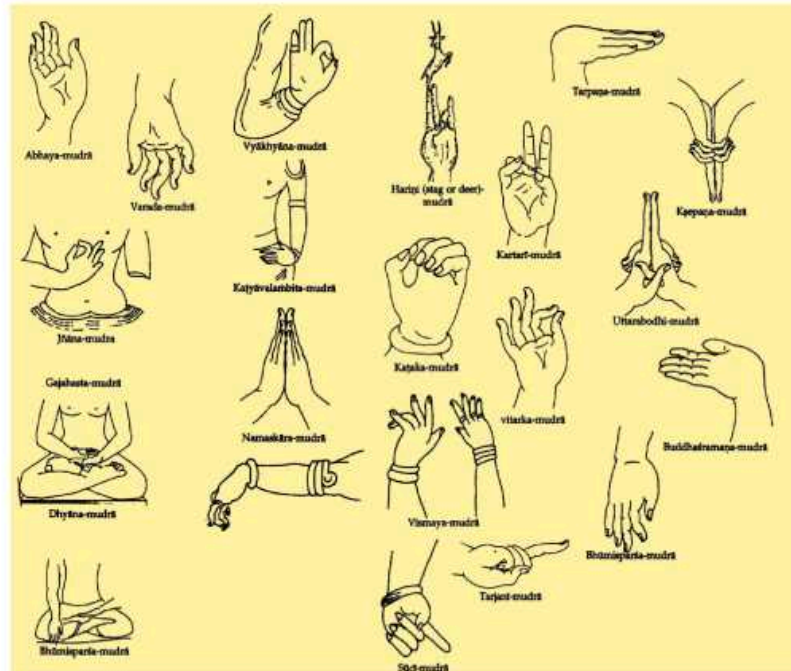
- Identify the various postures of Kathak present in the composite above.



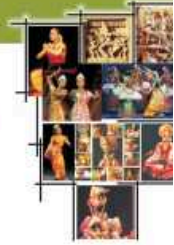


Activities

- Try to imitate the *mudrās* (hand gestures, illustrated below) with your class.



- Collect some videos of *cārī* and *maṇḍala* movements of various classical dance forms of India. Watch with the class and try to identify the name depicted in *Nāṭyaśāstra*.
- Collect videos of *vandana* / *ṛtta* being performed in the initial part of a classical dance performance.



### Project ideas

- Visit a nearby museum/heritage site and explore the evidence of dance in the sculptures and various painting styles of India. Act as a team of journalists and click pictures. Prepare a report of your visit and present in front of your class like a team of reporters.
- Arrange a visit to the nearest cultural centre / amphitheatre / auditorium. Try to understand the stage, curtain system, entry–exit for participants and audience, light and sound system, capacity and seating arrangement. Document all information along with photographs and sketches. Submit your project after sharing with class.
- Prepare a PowerPoint presentation with various *mudrās* and facial expressions. Let the students imitate the gestures while presenting in the class.
- Sketch the jewellery / ornaments and various props used in various dances; label them and exhibit your work.
- Prepare a semi structured interview for a legend / a master performer in any form of Indian dance. Present your report to your class.
- Collect images as evidence of dance from the traditional painting styles of various states of India. Pay attention to the costume and jewellery worn by the dancers and also the accompanying instruments illustrated in the painting.
- Search and explore the UNESCO world heritage sites in India. Find the sculptures that seem similar to any dance form / features depicted by Bharata. Get to know about the place, period and dynasty when these marvels of architecture were built. Present a slide show in class with all the collected information.





#### Extended activities

- Create a tableau of dances with colour, costumes, sounds, music, beat and songs. Perform them at your school annual function.
- Identify the students of your school who are learning various classical dances. Involve them in your group. Collect basic information on any particular dance form. Present all the information in lecture from cum demonstration style or a self-choreographed dance show during a public function or celebration at school.
- Study the biography of a renowned dancer of India. Focussing on the early years of his / her life, try to find what made him / her a legend.
- Arrange a visit to a nearest cultural centre to view a live dance show.
- Interview a classical dance guru at his / her place and observe the lifestyle. Share your views with class.
- Invite a master of dance to school for a lecture-cum-demonstration class to explain the nuances of dance to the students of your school.

#### Further Reading

1. Bharata, *The Nāṭyaśāstra, A Treatise on Hindu Dramaturgy and Histrionics*. Manmohan Ghosh, tr. Calcutta: Manisha Granthalaya, 2<sup>nd</sup> ed., 2 vols, 1967.
2. Bhatkhande, V.N. *The Hindutānī Sangīt Paddhati: Kramik Putak Mallikā*. Allahabad: Sangīta Sadan Prākāśana, 2003.
3. Gautam, M.R. *The Musical Heritage of India*. Delhi: Abhinav Publications, 1980.
4. Gouri Kuppaswami and Hariharan. *Indian Music: A Perspective*. Delhi: Sandeep Prakashan, 1982.
5. Nandikeśwara. *Abhinaya Darpaṇa*. Tr. Manmohan Ghosh, Calcutta: Metropolitan Printing & Publishing House, 1934.
6. Ranade, G.H. *Hindustānī Music*. Delhi: S Lal & Co. 1989.
7. Vātsayana, Kapila. *Indian Classical Dance*. New Delhi: Publication Division, Ministry of Information and Broadcasting, Government of India, 1974.



8. *Viṣṇudharmottarapurāṇa*. Khaṇḍ III. Tr. Priyabala Shah. Delhi: Parimal Publications, 2002.

#### Internet Resources (all URLs accessed in May 2013)

- Demonstration of gaits of animals and birds in Manipur dance traditions by Guru Bipin Singh – a legend and maestro of Manipuri dance:  
[www.youtube.com/watch?v=QD9rraCwI-Q](http://www.youtube.com/watch?v=QD9rraCwI-Q)
- Manipuri Dance by Rinku Bhattacharya Das (disciple of Guru Bipin Singh):  
[www.youtube.com/watch?v=RSogQYsFTnl](http://www.youtube.com/watch?v=RSogQYsFTnl)
- Pung Cholam dance from Manipur: [www.youtube.com/watch?v=ndPcNgupCdM](http://www.youtube.com/watch?v=ndPcNgupCdM)
- Kathak by Uma Sharma: [www.youtube.com/watch?v=jssQvY9INU](http://www.youtube.com/watch?v=jssQvY9INU)
- Kathak Surya Namaskar (Shovana Narayan and group):  
[www.youtube.com/watch?v=PG5-DTTYkdk](http://www.youtube.com/watch?v=PG5-DTTYkdk)
- 'Subhadraharanam' (Kathakali) enacted by Kalamandalam Gopi:  
[www.youtube.com/watch?v=MH50TuGHWM8](http://www.youtube.com/watch?v=MH50TuGHWM8)
- Raudrabheeman (Dushasanavadham) Padmasree Kalamandalam Gopi Ashan, 2 parts:  
[www.youtube.com/watch?v=OkCJqaNqvcs](http://www.youtube.com/watch?v=OkCJqaNqvcs) & [www.youtube.com/watch?v=V5kM1Ockjv8](http://www.youtube.com/watch?v=V5kM1Ockjv8)
- Kucipudi Dance Concert, part 1/8. Performed By Raja Radha Reddy  
[www.youtube.com/watch?v=92qGxUj7sxx](http://www.youtube.com/watch?v=92qGxUj7sxx)
- Oḍissi Mangalacharan Sujata Mohapatra : [www.youtube.com/watch?v=1wX5yHh6DHc](http://www.youtube.com/watch?v=1wX5yHh6DHc)
- Sattriya by Mahapurush Srimanta Sankaradeva the great Vaiṣavite Guru of Assam in 15<sup>th</sup>-16<sup>th</sup> century: [www.youtube.com/watch?v=mcRQs7uy1U4](http://www.youtube.com/watch?v=mcRQs7uy1U4)
- Sattriya: [www.youtube.com/watch?v=YJ15-lRx\\_dA](http://www.youtube.com/watch?v=YJ15-lRx_dA)





## Primary Texts on Dance in India: A Selection

### *Nāṭyaśāstra* (tr. Manomohan Ghosh)

Brahmā writes the first play [*Amṛtamanthana*, a *samavakāra*, a category of play] and gets this performed.

Then all the [Bhūtas] and Gaṇas were pleased to see actions and ideas familiar to them, and Śiva too was pleased and said to Brahmā:

“O the high-souled one, this drama (*nāṭya*) which is conducive to fame, welfare, merit and intellect, has been well-conceived by you.

Now in the evening, while performing it, I remembered that dance made beautiful by *aṅgaḥāras* [dance postures] consisting of different *kaṇas* (the combined movement of hands and feet). You may utilize these in the *pūrvaraṅga* (preliminaries) of a play.”

... the preliminaries which you have [just] performed are called “pure” (*śuddha*). [But] when these dances will be added to them [pure preliminaries] they will be called “mixed”. (4:11-16)

**Note:** Here a suggestion for adding dance to a dramatic performance has been made by Śiva to Brahmā.

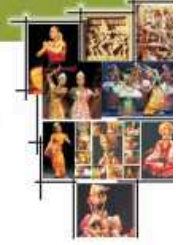
### *Nāṭyaśāstra*

One who will perform well this dance created by Maheśvara (Śiva) will go [at his death] free from all sins to the abode of this deity. (4:327)

### *Nāṭyaśāstra*

The classical dance *taṇḍava* a dance that symbolises destruction is an adoration of gods, but its gentler form [*lasya*] (*sukumāra-prayoga*) expresses tender sentiment.





... [The Gentle Dance] should be the procedure in performing the *āsārīta* songs. Now consider [all] that relating to... adoration of... [and tender sentimentation] the Gentle Dance (*sukumāra*).

The Gentle Dance with the tender sentiment [relates to] a dialogue between a man and a woman when they are in love. (4:272,309-10)

**Note:** Here dance has been explained in terms of 'class dance' and 'gentle dance'.

### *Nāṭyaśāstra*

Experts should apply dance when the principal words of a song [in a play] as well as its [ornamental adjunct known as *varṇa* comes to a close or when any character attains good fortune [in a play].

And dance should take place on an occasion in a play when something connected with love occurs between a married couple, for it (the dance) will be a source of joy.

Dance should also take place in any scene of a play when the lover is near and a [suitable] season or the like is visible. (4:312-314)

**Note:** It is an account of occasions in plays when dance should be introduced in the course of songs.

### *Nāṭyaśāstra*

The combined [movement of] hands and feet in dance is called the *karaṇa*: Two *karaṇas* will make one *mātrkāś*, and two, three, or four *mātrkas* will make up one *aṅghāra*. Three *karaṇas* will make a *kalāpaka*, four a *śaṅḍaka*, and five a *saṅghātaka*. Thus the *aṅghāras* consist of six, seven, eight or nine *karaṇas*. (4:30-34)





### Nāṭyaśāstra

I shall now speak of the hand and feet movements making up these (*karaṇa*). The *karaṇas* are one hundred and eight in number. ...

[These *karaṇas* will be used in dance], fight, personal combat, walking as well as movement in general. Foot movements which have been prescribed for the exercise of *sthānas* [standing postures] and *cārīs* [foot and leg positions], will apply also to these *karaṇas*. (4:55-56)

### Nāṭyaśāstra

I shall now describe the four *recakas* [moving a limb round or drawing up or its movement of any kind separately] ... Among the *recakas* the first is that of the foot (*pada*), the second is that of the waist (*kaṭi*), the third is that of the hand (*hasta*) and the fourth is that of the neck (*grīvā*). (4:246-247).

*Padarecaka* [movement related to foot]: going from side to side with wavering feet or with differently moving feet, is called their *recaka*. (4:249)

*Kaṭi-recaka* [movement related to waist]: raising up the *trika* and the turning of the waist as well as its drawing back, is called the *kaṭi-recaka*. (4:250)

*Hasta-recaka* [movement related to hands]: raising up, throwing out, putting forward, turning round and drawing back of the hand is called its *recaka*. (4:251)

*Grīvā-recaka* [movement related to neck]: raising up, lowering and bending the neck sideways, and other movements of it are called its *recaka*. (4:251)

Seeing Śaṅkara (Siva) dance with *recakas* and *aṅgahāras*, Pārvatī too performed a Gentle Dance (lit. danced with delicate forms) and this dance was followed by the playing of musical instruments ... (4:253-54)





**Note:** *Nṛtta* technique of Indian dance is the law and methodology of human movement. It encompasses both the technique of rendering *tāla* (rhythm) through movements and the important features of projecting specific poses within a given rhythmic cycle. The above selections from the *Nāṭyaśāstra* describe components and forms of dance such as thirty two *aṅgahāra* [dance postures], one hundred eight *karaṇas* [postures / movements of hands], *cārī* [footwork], *maṇḍala* [circular movements].

### *Nāṭyaśāstra*

As the *cārīs* prescribed by rules and connected with [different] limbs relate to ... one another they constitute (lit. are called) a *vyāyāma* (system).

*Cārī*: the movement [mainly] with a single foot, is called the *cārī*.

*Karaṇa*: the two feet moving [together] is called the *karaṇa*.

*Khaṇḍa*: a combination of the [three] *karaṇas* is called the *khaṇḍa*. Three or four *khaṇḍas* combine to make up the *maṇḍala*. ...

There following sixteen are the earthly (*bhaumī*) *cārīs*: *samapādā*, *sthitāvartā*. ...

*Samapādā*: the two feet close together, the nails [of the toes] meeting, and standing on the spot.

*Sthitāvartā*: one *agratalasañcāra* foot drawn up to cross the remaining foot and this movement repealed with another foot after separating the two. ...

The aerial (*ākāṣiki*) *cārīs* are sixteen in number: *atīkrānta*, *apākrānta*, *pārśvakrānta*. ...

*Atīkrānta*: a *kuñcita* foot thrown up, put forward and caused to fall on the ground.





*Apakrānta*: the *valana* posture of the two thighs, a *kuñcita* foot raised and thrown down sideways.

*Pārsvakrānta*: one foot *kuñcita* and another thrown up and brought near the side. (11:1-4, 8-14, 29-31)

**Note:** Here the movements of *cārī* (moving simultaneously feet, shanks and hip) are explained.

### Nāṭyaśāstra

... [Now] learn about the *maṇḍalas* (circular movements) arising out of a combination of the *cārīs* [the aerial *maṇḍalas* and the earthly *maṇḍalas*]

#### The aerial *maṇḍalas*

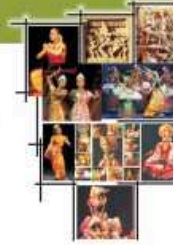
*Atikrānta*: the right foot [to be moved successively] in the *janitācārī* and [the *śakaṭāsyācārī* in which the breast is] *udvāhita*, the left foot in the *alātācārī* and the right foot in the *pārsvakrāntācārī*. ...

#### The earthly *maṇḍalas*

*Bhramara*: the right foot [to be moved] in the *janitācārī* and the left foot in the *syanditācārī*, then the right foot in the *śakaṭāsyācārī* and the left foot to be stretched, (next) the right foot in the *bhramarīcārī* [by turning the *trika*], again the left foot in the *skandita* (*askandita*) and the right foot in the *śakaṭāsyācārī*, then the left foot in the *apakrāntā* (*apasarpī*) *cārī* and the *bhramarīcārī* by turning about the back. (12:6-9, 42-44)

**Note:** Here Bharata gives definitions of the *maṇḍala* movements.





**Comprehension**

1. What do you understand by *maṇḍala* movements?
2. What is the significance of dance in preliminary activities of *nāṭya*?
3. According to Bharata when should a 'gentle' dance take place in *nāṭya*? Do we still find this tradition in India? You may quote some beautiful dance pieces from old films.





## Dance: A Survey (2) Folk Dance Forms

Indian folk dances and the dances of small forest and hill communities are simple dances, and are performed as a part of some community celebration or observance. These dances are performed for every possible occasion: to celebrate the arrival of seasons, the birth of a child, a wedding and festivals, social activities such as hunting and food gathering.

There is a large body of non-classical dance forms. The only thing common among these dance forms is their rural origins. Most of them are extremely simple with a minimum of steps or movements. But they are very vigorous and energetic – they burst with verve and vitality. Men and women perform some dances separately, while in some performances they dance together. On most occasions, the dancers sing themselves, while being accompanied by artists on the instruments. Each form of dance has a specific costume. Most costumes are flamboyant with extensive jewels. While there are numerous ancient folk and tribal dances, many are constantly being improved. The skill and the imagination of the dances influence the performance.

Let us have short glimpses of some popular folk dance forms of India.

### Chāū

Chāū is a popular folk dance of Bihar. Since masks form an important feature of this dance it is called *Chāū*, which means mask. All the Chāū performers hold swords and shields while performing. The stages are decorated and brightly lit by torches, lanterns and

*There are three kinds of Chāū based on place of origin and development: Seraikella Chāū, Mayurbhanj Chāū and Purulia Chāū. Find the states to which these belong.*





flickering oil lamps. The musical instruments used are the *dhol* (a cylindrical drum), *nagārā* (a huge drum) and *śehnai* (reed pipes). This dance is performed by men and boys. It is full of energy and strength. It is interesting to note that the entire body of the dancer is engaged as a single unit. This body language of the dancer has to be poetic and powerful.



Chhāu (source: [www.indianetzone.com](http://www.indianetzone.com))

### Bihū

Bihū is a most colourful and gay folk dance from Assam. It is an integral part of the Bihū festival which is celebrated in mid-April, during the harvesting time, and lasts for about a month. Young men and women take part and dance to the lilting music of the Bihū songs which are often mildly erotic in import. The songs consist of short couplets of love which are constantly repeated. Musical accompaniment includes the *dhol*, the *pati-tala* (cymbals), *taka* or *takka* (the bamboo clappers), *gagana* (a kind of jew's harp) and a buffalo horn pipe. The dance begins in a circle, but soon breaks up into parallel lines. The dancers execute beautiful figures of intertwined semi-circles.





## Knowledge Traditions and Practices of India

Dance-2 Folk

The drummer is the natural leader; he often utters the *bol*s (mnemonics) first and then plays them on the drum, sometimes dancing with fantastic skill with his drum.



*Bihū* (source: [www.assamspider.com](http://www.assamspider.com))

### Rauf

Rauf is also a simple folk dance of Kashmir. It is performed with a chorus by girls at spring time. The performers divide themselves into two rows facing each other. Only one step of the swinging constitutes the movement-content of the dance. The girls hold each other by putting arms around the necks of



Group of Kashmiri girls performing Rauf  
(source: <http://eastizeast.wordpress.com>)

those standing next. The formation glides forward and backwards. The torsos are lightly and delicately bent forward along with the step.



### Padayānī

Padayānī is a popular dance of southern Kerala. It is associated with the festival of certain temples, called Padayānī or Paddenī. Such temples are in Alleppey, Kollam, Pathanamthitta and Kottayam districts. The main *kolams* (huge masks) displayed in *padayānī* are Bhairavī (Kālī), Kalan (god of death), Yakṣaṇī (fairy) and *paḳṣī* (bird).



### Dollu Kunitha



Dollu Kunitha (source: [www.indianetzone.com](http://www.indianetzone.com))

Dollu Kunitha is a popular drum dance of Karnataka. The songs used in this dance usually have religious and battle fervour. Large drums are adorned with coloured cloths and hang around the necks of men. The main emphasis is on quick and light movement of the feet and legs. Dollu Kunitha forms a part of the

ritualistic dances of the *dodavāsīs* of Karnataka

### Dāndiyā

Dāndiyā is an energetic, vibrant folk dance originating in the state of Gujarat. The dancers use polished sticks. It represents a mock fight between the goddess Durgā and the mighty demon-king Mahiśāsura.





### Ghūmar

Ghūmar is a traditional women's folk dance of Haryana. It is performed by groups of women in swirling robes. This folk dance gets its name from *ghūmanā* (the pirouetting) which displays the spectacular colours of the flowing *ghāgharā* (the long skirt of Haryanvi women). There is an amazing grace as the skirts flare slowly while the women twirl in circles, their faces covered with the help of the veil. They dance in measured steps and graceful inclinations of body, beating palms or snapping fingers at particular cadences, while singing some lilting songs.





### Kālbeliā

Kālbeliā is performed by the women of the Kālbeliā community. The main occupation of the community is catching snakes and trading snake venom. Hence, the dance movements and the costumes bear resemblance to that of the serpents. Dancers attired in traditional black swirling skirts sway sinuously to the plaintive notes of the *bīn* (the wooden instrument of the snake charmers).



Kālbeliā (source: [www.podarhavelimuseum.org](http://www.podarhavelimuseum.org))

### Chauñflā

Chauñflā is one of the important dances of Garhwal, Uttarakhand. It is a spinning dance performed by all sections of the community at night. This is performed by both men and women standing opposite each other. Here the movements of men and women form separate circles, moving in opposite directions. The dancers pirouette around their own axis, with a marked movement of the hip, as in a swing. Thus there is a marked rotating movement of



Chauñflā (source: [www.uttarakhand.ws](http://www.uttarakhand.ws))



individual dancer, and a revolving of the entire formation. In between, the dancers clap each other's hands. All dancers also sing and keep rhythm through clapping.

### Bhaᅅgrā

Bhaᅅgrā is the most popular and vigorous of the community dances of the villages of Punjab, closely linked with the ritual importance given to wheat. After the wheat crop is sown, the young men gather together in some open field under the light of the full moon in response to the beat of the drum. The dancers begin to move in a circle. The rhythm of the dance is simple 2/4 and 3/4 and the song is also a simple



Bhaᅅgrā (source: [www.bhavanaaustralia.org](http://www.bhavanaaustralia.org))

melodic tune. The words are couplets from Punjab's traditional oral poetry called *bolī*. The dancers begin with a slow rhythm, with an abrupt jerky movement of the shoulders and a hop step. This is followed by many vigorous movements of the whole body and the raising of both hands to the shoulders or above the head level. After the circle has been well established and the tempo of the dance has accelerated, the main dancers dance within the ring in a kind of duet. The costume is the usual dress of the Punjabi peasant, comprising a lower *tahmat* or *lungī*, a *kurtā* and a waist coat, and a colourful *pagdī* (turban).



### Giddhā

Giddhā is an exclusively women's dance of Punjab, a counterpart of the men's Bhaṅgrā. It is an ancient ring dance with simple graceful movements without crisp jerks and abrupt turns and twists so characteristic of Bhaṅgrā. The dance begins with a circle, which is then broken up into two semi circles and



Giddhā (source: [www.indiastudychannel.com](http://www.indiastudychannel.com))

sometimes into groups of four or six. Pairs emerge from the circle to perform different variations on a theme. The couplet describes their daily chores ranging from cleaning of the wheat to thrashing and to spinning, weaving and embroidery. The sound of the spinning wheel, the village well, the gurgling of the water, the beauty of the fields, and the tension between the mother-in-law and daughter-in-law, love of the brother-in-law for the sister-in-law are woven into the fabric of the song. The dance ends in women pairing to do a spin. Extend arm cross and hold the other dancer and the two together a *kikali*.

### Garbā

Garbā is customarily performed by women; the dance involves circular patterns of movement and rhythmic clapping. It popularly performed during *navarātri*. The word comes from 'garbhādīpa' which is translated as either



Garbā (courtesy: Wikipedia)





light in the inner sanctum of the temple or lamp inside a perforated earthen pot which is often used in the dance.

### Lāvaṇī

Lāvaṇī is a genre of music popular in Maharashtra and a combination of traditional song and dance, which particularly performed to the beats of *dholki*, a percussion



Lāvaṇī (source: [www.thepunekar.com](http://www.thepunekar.com))

instrument. Lāvaṇī is noted for its powerful rhythm and erotic sentiment. It has contributed substantially to the development of Marathi folk theatre. In Maharashtra and southern Madhya Pradesh, it is performed by the female performers wearing nine-yard long saris. The songs are sung in a quick tempo.

### Bamboo Dance

Bamboo dance is the heart and soul of the Nāgās. It is a participatory action performed by both men and women, dressed in traditional attire. The dance involves a gentle jump over bamboo sticks, placed horizontally in parallel spacing over the vertically placed bamboo sticks to form interface. Two persons sit on either side of the ground and slide the sticks over the vertically placed bamboo sticks. The dance is followed with a rhythmic music as '*hih-hoh*' with the help of which dancer adjust their steps. The sliding of the bamboo stripes jig the whole environment and gives a picture-perfect scene.





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**Comprehension**

1. Enlist occasions where folk dance plays a vital role in India.
2. Describe the relevance of Bihū dance.
3. Explain the technique used in Bhaṅṅrā.
4. List down various musical instruments / accompanied in all the folk dances.
5. Classical dances strictly follow the rules, technique and grammar of dance, yet the simplicity and spontaneity of the music and songs of folk dances attract anyone to perform naturally. Comment.
6. Complete the table:

FOLK DANCES IN INDIA	
North	
South	
East	
West	





### Project ideas

- Collect stamps related to folk and tribal dances of India.
- Explore and prepare a PowerPoint presentation on the costumes, jewellery and make-up of the folk dances covered in this unit.
- Invite folk dance artists of your locality to perform in your school. Request them to help your class to prepare a folk dance performance.

### Further Reading

1. Bharata. *The Nāṭyaśāstra, A Treatise on Hindu Dramaturgy and Histrionics*. Manmohan Ghosh (ed.). The Royal Asiatic Society of Bengal, 1950.
2. Gautam, M.R. *The Musical Heritage of India*. Delhi: Abhinav Publications, 1980.
3. Anand, Mulk Raj (ed.). *Classical and Folk Dances of India*. Bombay: Marg Publications, 1965.
4. Ranade, G.H. *Hindustānī Music*. Delhi: S. Lal & Co. 1989.
5. Vatsayana, Kapila. *Traditions of Folk Dance*. London: Faber & Faber, 1967.

### Internet Resources (all URLs accessed in May 2013)

- Puruliā Chāū: [www.youtube.com/watch?v=ojkj37wzOnc](http://www.youtube.com/watch?v=ojkj37wzOnc)
- Giddhā-Boliyan: [www.youtube.com/watch?v=fwYWRK5TRvE](http://www.youtube.com/watch?v=fwYWRK5TRvE)
- Giddhā (Folk): [www.youtube.com/watch?v=Sb\\_PRsqTjWM](http://www.youtube.com/watch?v=Sb_PRsqTjWM)
- Dāndiyā Raas-Mer-Gujarat Folk Dance: [www.youtube.com/watch?v=BBvZKMFRECQ](http://www.youtube.com/watch?v=BBvZKMFRECQ)
- Dollukunīthagokula: [www.youtube.com/watch?v=U2C\\_zXejjzM](http://www.youtube.com/watch?v=U2C_zXejjzM)





## Education: A Survey Systems & Practices

India has always had a well developed system of education. Scholars from as far as Tibet, Java, Sumatra, China, Mongolia, Japan and Korea were attracted by it and journeyed to study in Indian centres of learning. The Chinese monk Fa-Hien (Faxian) who travelled in India between 399 and 414 CE spoke of how the fame of Indian education had spread far beyond India.

### Goals of Indian Education

Indian education aimed at both the inner and the outer dimension of a person. Truth, patience, regularity, self-mastery, humility, self-denial, purity of self (*sattvaśuddhi*), cognition of the underlying unity of life, nature and environment, reverence for all beings were the inner values cultivated by Indian education. Learners were taught to grow by pursuing the realisation of *puruṣārtha catuṣṭaya* (four ends of life), *dharma* (righteousness), *artha* (material well-being), *kāma* (enjoyment), and *mokṣa* (liberation from worldly ties). Pupils were trained to guide their life in consonance with *dharma*, the modelling principle for the individual, the family and the society. *Dharma* required all, including students, to perform their duties towards parents, teachers, people and gods. The outer goal of mastering a discipline, history, art of debate, law, medicine etc., was also assiduously pursued but this 'outer goal' of gaining knowledge could not be divorced from the inner dimension as all knowledge in the tradition is ethically inflected.

Physical education was important and students participated in *kṛīḍa* (games, recreational activities), *vyāyāma prakāra* (various types of exercises), *dhanurveda*



(archery, sword play etc.) for acquiring martial skills, and *yoga-sādhanā* (*prānāyāma*, *āsana*, *nāḍīśuddhi* etc.) for developing control over the sense organs. Examinations had a different form in the Indian system. In order to demonstrate what they had learnt, students engaged in the exercise of learned debates (*śāstrārtha*) and defended their position. Advanced students were often called upon to teach beginners and in the process acquired some valuable teaching experience as well.

### Teaching and Learning

In Indian tradition, all knowledge is one but for the purpose of education is codified or divided into various disciplines. These disciplinary formations can be described in a hierarchy. The first division is made between *Śāstra* (learned disciplines) and *Kāvya* (imaginative literature). The *śāstras* are classified into *apauruṣeya* (disciplines dealing with knowledge not contingent on individuals) and *pauruṣeya* (disciplines whose knowledge is contingent on the individual). *Apauruṣeya* texts are *Vedas* and *Vedāṅgas*. *Vedas* also includes the *Upaniṣads*. The word 'vedāṅga' literally means limbs of *Vedas*, sciences auxiliary to *Vedas*. They are six: *śikṣā* (phonetics), *kalpa* (social thought), *vyākaraṇa* (grammar), *nirukta* (exposition of words, etymology), *chanda* (metrics), *jyotiṣa* (astronomy) and *alaṅkāraśāstra* (study of figures of speech) may also be enumerated as such.

Under *pauruṣeya* there are at least nine disciplines. This body of literature is also described as *smṛiti* literature in opposition



A teacher instructing disciples, a bas-relief at Konarak (source: R.K. Mookerjee, *Ancient Indian Education*)



to *Vedas* and *Vedāṅgas* that are called *śruti* literature. The *pauruṣeya* disciplines are: *purāṇa*, including *itihāsa* (record of ancient events), *anvikṣiki* (logic), *mimāṃsā* (analysis/interpretation), *dharmaśāstra* (sociology), *kāvya vidyā* (literary theory), *kāmaśāstra* (erotics), *śilpaśāstra* (architecture), *arthaśāstra* (polity) and *vārtā* (agriculture, animal husbandry, trade and commerce). There is another category of discipline known as *upavedas* – their status as knowledge texts is between *apauruṣeya* and *pauruṣeya* as they all deal with applied knowledge. The disciplines of *itihāsaveḍa* (science of history), *dhanurveda* (science of warfare), *gandharvaveda* (music) and *Ayurveda* (medicine) fall under this category. Teaching was teacher-centred and text-centred and the process of teaching depended on the exposition of the knowledge by a learned teacher.

Learning had three distinct stages. In the *Bṛhadāranyaka Upaniṣad* we are told that the path to knowledge consists of three stages. In the first stage, *śravaṇa*, students listened intently to the teacher; in *manana*, they thought, reflected and removed any doubts that may arise. In the third stage, *nidhidhyāsana*, students observed carefully, remembered minutely and meditated on what they had acquired.

Teaching was in the oral mode and students were also expected to gain firsthand experience of what they were taught in the class.

### The Teacher and the Student

A given teacher-student relationship obtained in Indian culture. The teacher, the *guru*, the *ācārya*, was highly honoured and was seen as the guide who helped students escape the darkness of ignorance and attain the light of knowledge. The teacher's house was the centre of the *ācāryakula*, the *gurukula*. The student and the teacher had a symbiotic relationship and students were treated as members of the teacher's family.





Teacher instructing students in an *āśrama* (bas-relief from Bharhut, Madhya Pradesh, 2<sup>nd</sup> century BCE, colour added)

Students living with the teacher led a life of self-control, abstinence, obedience and devotion and regulated their lives by adhering to *yama* (self-restraint) and *niyama* (five observances), that is, *śauca* – purity of body, mind, thought; *santoṣa* – positive contentment; *tapas* – austerity; *svādhyāya* – self-study, introspection; and *īśvarapraṇidhāna* – faith in and surrender to the gods.

### Centres of Education

Education in India started in the village itself in the home and in the temples. From there the aspiring student moved to *gurukulas*, centres of learning around great teachers and from there the aspiring scholar went to *vihāras* and universities. After that, the best of them became teachers-in fact *parivrājakas* who walked around the country village to village, promoting *loksaṅgraha*, general welfare, by imparting right values and *jñāna*.

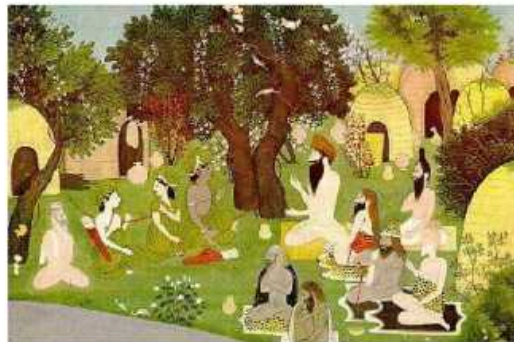


### Temples as First Schools

Temples, and later mosques, in villages were the first schools for children. Many temples sustained educational institutions and maintained students within their precincts. The famous Saltogi inscription of Bijapur district of northern Karnataka describes a temple during the reign of the Rāṣtrakūṭa monarch Kṛṣṇa III (939-97 CE) that housed a college with twenty-seven hostels for students from different parts of the country. The inscription also details how the temple supported students, teachers and how the centre was maintained by endowments. Another inscription of the period of the great monarch Rājendra Colā I (1012-1044 CE) mentions how a village made an endowment for establishing an education centre that would provide free boarding and teaching to at least 340 students. Hostels and educational institutions attached to temples were looked after by the people and villages supplied daily provisions to hostels while temples provided ghee, milk and curd.

### Gurukulas

The secluded, often forested areas, where *gurukulas* were generally located were known as *āśramas*. These *āśramas* bore the name of the *guru*. Ancient texts mention many such *āśramas* where pupils gathered and lived with the teacher. Among such centres were the *āśrama* of Ṛṣi Kaṇva, in the



*Bharadvāja Āśrama* (source: Wikipedia)

forest of Nandana on the banks of the river Malini, in today's Uttarakhand, the famed teacher Śaunaka's *āśrama* in the Naimiṣa forest, the great teacher Agastya's near the





river Godavari, and Bharadvāja's on the banks of the Yamunā. Women had access to education; a few women savants of the age, such as Gargī, Maitreyī or Lopāmudrā, find mention in the Upaniṣads as leading *ācāryās* and dialecticians.

### ***Vihāras* and Universities**

During the Buddhist period, *viḥāras* (monasteries) emerged as the chief centres of learning. Buddha encouraged the setting up of *viḥāras*, for monks and nuns to meditate and the learned to pursue their quest. Gradually the *viḥāras* grew into centres of education that attracted students from far and wide.



A partial view of the university of Taxila  
(source: Wikipedia)

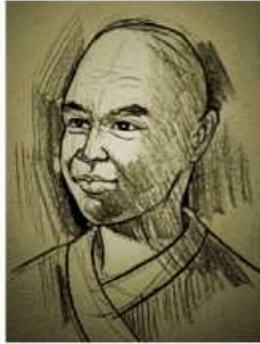
The great Indian universities of Nālandā, Vikramaśilā and Valabhi may have evolved around *viḥāras* and the initiative of creating these came entirely from the society.

Taxila or Takṣaśilā (c. 600 BCE–500 CE) near Rawalpindi in present-day Pakistan, Nālandā (5<sup>th</sup>–12<sup>th</sup> CE) and Vikramaśilā (8<sup>th</sup>–12<sup>th</sup> CE) in present-day Bihar, and Valabhi (5<sup>th</sup>–12<sup>th</sup> CE) in Gujarat were among the world's first universities. Taxila University's different Schools taught many subjects. Medicine was given special attention; there were also schools of painting, sculpture, image-making, handicrafts and astronomy. Tradition has it that the legendary Indian grammarian Pāṇini (7<sup>th</sup>–6<sup>th</sup> cent BCE) was a student there, as was Cāṇakya (c. 3<sup>rd</sup> cent BCE) the well-known exponent of statecraft. Jīvaka (5<sup>th</sup> BCE) one of the most renowned physicians in ancient India, is also said to have learnt medicine at Taxila.





The Chinese scholars I-tsing (Yijing, *left*) and Hsüan-tsang (Xuanzang, *right*) visited Nālandā in the 7<sup>th</sup> century



CE. According to them, the university had eight separate halls, 300 apartments, meditation halls and classrooms, all surrounded by lakes and parks. Education was free and there were more than 5,000 students and 1,500 teachers. A hundred lectures were conducted every day and the practice of learning through debates and discussions was highly developed.



A view of the ruins of the ancient Nālandā University, Bihar (courtesy: Michel Danino)





Nālandā had an imposing library called 'Dharmagañja' which consisted of three multi-storey buildings, 'Ratnasāgara', 'Ratnarañjaka' and 'Ratnodadhi', the last being nine-storey high; it contained lakhs of manuscripts. The university was set on fire in 1193 by Bakhtiyar Khilji. By then, it had had great teachers such as Nāgārjuna, Sthiramati, Śīlabhadra and Śāntaraṣita whose fame travelled as far as Tibet and China.

### Community-Supported Education

Education in India was supported by the community. A gift in support of education was seen as the highest donation (*dāna*). All members of society supported the cause of education by offering food, gifts, shelter, etc. The wealthier sections of society substantially supported education by building hostels and making educational endowments (*adhyāyanavṛttis*).

Education was free and no fee was levied. It is recorded that wealthy students who came to study at the University of Nadiā in Bengal supported themselves while the university supported those of limited means. Kings supported the centres of learning through grants. In the South, whole villages, known as *agrahārams*, were dedicated to learning and teaching.

### The Continuing System

The Indian education system had such resilience that it continued to function till the pre-colonial age. British administrators documented the wide network of schools and institutions of higher learning in various parts of India. William Adam's reports on indigenous education, collated between 1835 and 1838, record how the system was even then supported by local resources, including voluntary donations from interested and wealthy citizens, with even illiterate peasants pitching in their bit.





An Indian school, Agra, 1871 (source: British Library Online Gallery).

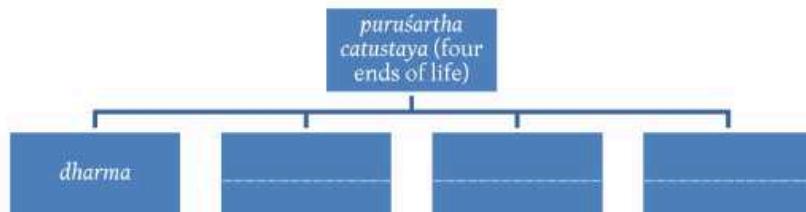
These records reveal that in Bengal and Bihar alone, indigenous village schools numbered between 100,000 to 150,000. In the 1820s, the Collector of Cuddapah (Kadapa in Andhra Pradesh) noted how villagers supported students who came to study under teachers in the vicinity. There were many institutions of higher learning in most districts of Bengal and southern India: the district of Coimbatore alone had over 700 indigenous schools. Significantly, in many districts of south India 78% to 80% of the students in such village schools were from the disadvantaged sections of society.

In summary, the Indian concept of education was not focused on the intellect alone: it focused on the students' inner as well as outer development and prepared them to face the vicissitudes of life. In many ways, the wide and decentralized network of education centres was the foundation of India's rich cultural contributions in intellectual, artistic and spiritual spheres.

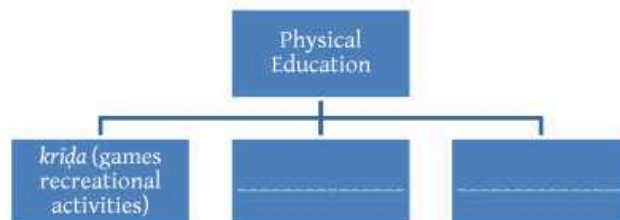
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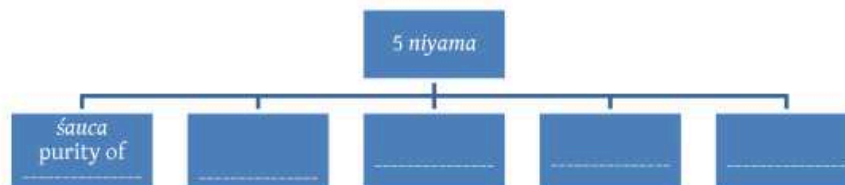
1. What were the goals of education in ancient India? Complete the visual below with information from the text.



2. Examine the following table highlighting aspects of physical education. You may need to modify the chart. After you have completed the table, discuss the merits of physical education.



Complete the table below listing the 5 *niyama* / observances of *brahmacārins*:





3. What processes did the guru use to teach his students? Make a list and comment on the appropriateness of these processes.
4. It is often said that rote learning is the bane of education today. Was rote learning the foundation of learning in ancient India? Give evidence from the text to support your argument.
5. Reflect upon your own education right from the initial stages to the completion of class 10, i.e. secondary level. Complete the table below by jotting down ideas about each of the two periods (you may like to add to the list of features).

Features of education systems	ancient	modern
objectives / motto		
curriculum		
pedagogy (teaching methodology)		
teacher-student relationship		
process of teaching-learning		

- Compare and contrast the two systems of education. Do you think some features of the ancient education system could be incorporated into the modern education systems? Give specific points.
- During this stage your Group Reporter will make your presentation in front of the whole class. You may like to make a collaborative multimedia presentation wherein each member gets an opportunity to participate actively.





### Activities

- Make a list of mottos of various schools / universities / educational institutes. Your group has been given the task of designing a motto complete with the logo for a new model school you are setting up. The new school will use features of the ancient Indian education system as well as of the modern education beliefs and systems.
- Do you have a Roll of Honour to recognise deserving students / alumni? What is the criterion for selection? Who were the eminent scholars of the ancient Indian universities? In what ways was their contribution remarkable?
- Name a few of the dignitaries and foreign visitors to ancient Indian universities. Find out more about their life and work and findings about the India.
- Imagine that some of the ancient education traditions of the *guru-śiṣya paramparā* are to be integrated in today's system. You have been given the responsibility of framing two sets of suggestions: one for the Student's Handbook and one for the Teacher's Handbook. These will be incorporated as valuable advice for students and teachers. Using the information from the survey article to write the two sets of suggestions.

### Extended Activity

- What were the findings of the British reports on the existing Indian education system? List three main features. Do they have any relevance to the issues that we face in education today?
- What considerations led the British to introduce the English education system in the 19<sup>th</sup>-20<sup>th</sup> centuries?
- In your opinion what have been the long-term implications of the British system of education in India?





### Project Ideas

- Find out about some major policy decisions on education taken by the Indian government from 1980. How far have they been successful? Give reasons for their success or failure. Make constructive suggestions on how the situation can be improved. You may like to consider some of the following:
  - New Education Policy
  - Value-based education (inner dimension / outer dimension)
  - Sarva Shiksha Andolan
  - Opportunities for the economically disadvantaged sections / girl child / women.
- Organize a seminar on 'Indian Education Today: The Road Ahead'.
- An International Summit on Education in the 21<sup>st</sup> century is being held. Leading educationists are to present their views on education. Find out more about other leading educational philosophies.
- You are a representative of one of the four ancient Indian universities. Highlight the salient features of your university: its philosophy, goals, ethos, faculty, student profile, infrastructure etc. Explain your university's contributions to the society around.

### Further Reading

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## Primary Texts on Education in India: A Selection

### Two Types of Knowledge and the Right Pupil

Śaunaka, the great householder, approached Angiras in the proper manner and said: Revered sir, what is that by the knowing of which all this becomes known?

To him he said: Two kinds of knowledge must be known – that is what the knowers of Brahman tell us. They are the higher knowledge and the lower knowledge.

Of these two, the lower knowledge is the Rig Veda, the Yajurveda, the Sāmaveda, the Atharvaveda, *śikṣhā* (phonetics), *kalpa* (rituals), *vyākaraṇa* (grammar), *nirukta* (etymology), *chandas* (metre) and *jyotiṣ* (astronomy); and the higher knowledge is that by which the imperishable Brahman is attained.

To that pupil who has duly approached him, whose mind is completely serene and whose senses are controlled, the wise teacher should indeed rightly impart the Knowledge of Brahman, through which one knows the immutable and the true Purusha. (*Muṇḍaka Upaniṣad*, 1.3.4.5.13, tr. Swami Nikhilananda)

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### Mere Intellectual Knowledge Is Not Enough

A mere intellectual apprehension of truth, a reasoned conviction, is not sufficient, though it is necessary as the first stage as a sort of mark at



which to shoot. (*Muṇḍaka Upaniṣad*, II.2.24, tr. Radha Kumud Mookerjee, *Ancient Indian Education*)

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### The Link between Teacher and Pupil

With reference to knowledge – the preceding word is the teacher, the following word is the pupil, their union is knowledge, and their link is instruction. (*Taittirīya Upaniṣad* I. 3, tr. Patrick Olivelle, *Early Upaniṣads*)

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### Teachers Invite Students to Come to Them

May *brahmacārins* (students) come to me variously!

May *brahmacārins* come to me!

May *brahmacārins* practise self-control!

May *brahmacārins* enjoy peace!

As waters flow downward, as the months merge in the year, so may *brahmacārins* come to me from all directions! (*Taittirīya Upaniṣad* IV, 2, 3, tr. Swami Nikhilananda)

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### Controlling the Mind and the Senses: the Goal of Indian Education

When a man lacks understanding, and his mind is never controlled;

His senses do not obey him, as bad horses, a charioteer.

But when a man has understanding, and his mind is ever controlled;





His senses do obey him, as good horses, a charioteer.

(*Katha Upaniṣad* III 5, 6, tr. Patrick Olivelle, *Early Upaniṣads*)

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### Teacher's Directives to Students on their Completion of Study

After the completion of ... study, the teacher admonishes his resident pupil:

"Speak the truth. Follow *dharma*. Do not neglect your private recitation of the Veda. After you have given a valuable gift to the teacher, do not cut off your family line. ... Do not neglect the truth. Do not neglect the *dharma*. Do not neglect your health. Do not neglect your wealth. Do not neglect your private and public recitation of the Veda. Do not neglect the rites to gods and ancestors. ... Treat your mother like a god. Treat your father like a god. Treat your teacher like a god. Treat your guests like gods. ...

"You should give with faith, and never without faith. You should give with dignity. You should give with modesty. You should give with trepidation. You should give with comprehension."

(adapted from *Taittirīya Upaniṣad*, I. 11, 1, 2, 3,  
tr. Patrick Olivelle, *Early Upaniṣads*)

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### What Is a Useful Life?

[One who leads a useful life is one] who in all his lifetime thinks of the well-being of others, considers others' wealth as of no consequence





(*tuccha*), is possessed of acknowledged virtues (*sadguṇa*), such as truth-telling, acts thoughtfully, respects those who are worthy of respect, is indifferent (*udasīna*) to others, serves, devotedly the learned and the aged, controls his passions, is constantly involved in sharing his knowledge, his wealth, sees all beings in his own self, accepts good advice.” (*Cāraka Saṃhita*, 1.30.23, 26)

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### Hsüan-tsang’s (Xuanzang) Impressions of Indian Education

To educate and encourage the young, they are first taught [led] to study the book of twelve chapters [*siddhavastu*].

After arriving at the age of seven years and upwards, the young are instructed in the five *vidyās*, *sāstras* of great importance. The first is called the elucidation of sounds [*śabdavidyā*]. This treatise explains and illustrates the agreement [concordance] of words, and it provides an index for derivatives.

The second *vidyā* is called *kiau-ming* [*śilpasthanavidyā*]; it treats of the arts, mechanics, explains the principles of the *Yin* and *Yang* and the calendar.

The third is called the medicinal treatise [*cikitsāvidyā*]; it embraces formula for protection, secret charms, [the use of] medicinal stones, acupuncture, and mugwort [a medicinal plant].

The fourth *vidyā* is called the *hetuvidyā* [logic]; its name is derived from the character of the work which relates to the determination of the true and false, and reduces to their last terms the definition of right and wrong.





The fifth *vidyā* is called the science of *adhyātmavidyā* ["the interior"]; it relates to the five vehicles, their causes and consequences, and the subtle influences of these. ...

[Role of the Teachers:] The teachers [of these works] must themselves have closely studied the deep and secret principles they contain, and penetrated to their remotest meaning. They then explain their general sense, and guide their pupils in understanding the words which are difficult. They urge them on and skilfully conduct them. They add lustre to their poor knowledge and stimulate the desponding. ... When they have finished their education, and have attained thirty years of age, then their character is formed and their knowledge ripe. When they have secured an occupation they first of all thank their master for his attention. There are some, deeply versed in antiquity, who devote themselves to elegant studies and live apart from the world, and retain the simplicity of their character. These rise above mundane present, and are as insensible to renown as to the contempt of the world. Their name having spread afar, the rulers appreciate them highly, but are unable to draw them to the court. (From: Hsüan-tsang (Xuanzang), *Buddhist Records of the Western World*, Vol. I. Translated by Samuel Beal. London: Kegan Paul, Trench, Trübner, 1906)

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#### Hsüan-tsang's (Xuan Zang) Description of Nālandā University

The whole establishment is surrounded by a brick wall, which encloses the entire monastery from without. One gate opens into the great college, from which are separated eight other halls, standing in the middle (of the *Saṅghārāma*). The richly adorned towers, and the fairy-like turrets, like





pointed hilltops, are congregated together. The observatories seem to be lost in the vapours (of the morning), and the upper rooms tower above the clouds. From the windows one may see how the winds and the clouds (produce new forms), and above the soaring eaves the conjunctions of the sun and moon. And then we may add how the deep, translucent ponds, bear on their surface the blue lotus, intermingled with the Kie-ni (*kanaka*) flower, of deep red colour, and at intervals the Āmra groves spread over all, their shade.

All the outside courts, in which are the priests' chambers, are of four stages. The stages have dragon projections and coloured eaves, the pearl-red pillars, carved and ornamented, the richly adorned balustrades, and the roofs covered with tiles that reflect the light in a thousand shades, these things add to the beauty of the scene. The *saṅghārāma* (monasteries) of India are counted by myriads, but this is the most remarkable for grandeur and height. The priests, belonging to the monastery, or strangers (residing therein) always reach to the number of 10,000, who all study the Great Vehicle (a major Buddhist sect), and also (the works belonging to) the eighteen sects and not only so, but even ordinary works, such as the Vedas and other books, the *hetuvidyā* (logic), *śabdavidyā* (grammar), the *cikitsāvidyā* (medicine), Atharvaveda (the works on Magic), the *Sāṅkhya* (a major system of philosophy); besides these they thoroughly investigate the "miscellaneous" works. There are 1,000 men who can explain twenty collections of *sūtrās* and *śāstras*; 500 who can explain thirty collections, and perhaps ten men, including the Master of the Law, who can explain fifty collections. Śīlabhadra alone has studied and understood the whole number. His eminent virtue and advanced age have caused him to be regarded as the chief member of the community. Within the Temple





they arrange every day about 100 pulpits for preaching, and the students attend these discourses without any fail, even for a minute (an inch shadow on the dial). The priests dwelling here are, as a body, spontaneously dignified and grave, so that during the 700 years since the foundation of the establishment, there has been no single case of guilty rebellion against the rules. (Adapted from *The Life of Hiuen Tsang* by the Shaman Hwui Li, Samuel Beal, ed., Kegan Paul, Trench & Trübner, London, 1911)

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### **Narratives of Indian Education in the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> Centuries**

#### **An Italian Explorer's Record of Indian Education in the 17<sup>th</sup> Century**

They [Indians] are particularly anxious and attentive to instruct their children to read and to write. Education with them is an early and an important business in every family. Many of their women are taught to read and write. The Brahmans are generally the schoolmasters, but any of the castes may, and often do, practice teaching. The children are instructed without violence, and by a process peculiarly simple. The pupils are the monitors of each other, and the characters are traced with a rod, or the finger on the sand. Reading and writing are acquired at the same time, and by the same process. This mode of teaching however is only initial. If the pupil is meant to study the higher branches of learning, he is removed from these primary schools, where the arts of reading, writing and accounts are acquired, and placed under more scientific





masters. It is to these elementary schools that the labouring classes in India owe their education. ...

I entertained myself in the porch of the temple, beholding little boys learning arithmetic after a strange manner, which I will here relate. They were four, and having all taken the same lesson before the master, to get that same by heart, and repeat likewise their former lessons, and not forget them, one of them singing musically with a certain continued tone (which has the force of making a deep impression in the memory) recited part of the lesson; as for example, "one by itself makes one"; and whilst he was thus speaking, he wrote down the same number, not with any kind of pen, nor in paper, but (not to spend paper in vain) with his finger on the ground, the pavement being for that purpose strewed all over with fine sand; after the first had wrote what he sung, all the rest sung and wrote down the same thing together. Then the first boy sung, and wrote down another part of the lesson; as, for example, two by itself makes two, which all the rest repeated in the same manner; and so forward in order. When the pavement was full of figures, they put them out with the hand, and if need were, strewed it with new sand from a little heap which they had before them wherewith to write further. And thus they did as long as exercise continued; in which manner likewise they told one, they learnt to read and write without spoiling paper, pens or ink, which certainly is a pretty way. I asked them, if they happen to forget or be mistaken in any part of the lesson, who corrected and taught them, they being all scholars without the assistance of any master; they answered me, and said true, that it was not possible for all four to forget or mistake in the same part, and that they thus exercised together, to the end, that if one happened to





be out, the other might correct him. Indeed a pretty, easy and secure way of learning.

**Note:** From Pietro Della Valle's account of education and literature in Malabar. Pietro Della Valle (1586-1652) was an Italian explorer who travelled in India between 1623 and 1624 and visited Surat, Goa, and the Malabar coast. Source: Dharampal, *The Beautiful Tree*.

### A Description of Indian Education in the 18<sup>th</sup> Century

The education of youth in India is much simpler, and not near so expensive as in Europe. The children assemble under the shade of a coconut tree; place themselves in rows on the ground, and trace out on the sand, with the fore finger of the right hand, the elements of their alphabet, and then smooth it with the left when they wish to trace out other characters. The writing master ... who stations himself opposite to his pupils, examines what they have done; points out their faults, and shows them how to correct them. At first, he attends them standing; but when the young people have acquired some readiness in writing, he places himself cross-legged on a tiger's or deer's skin, or even on a mat made of the leaves of the coconut-tree, or wild ananas [pineapple], which is called Kaida, plaited together. This method of teaching writing was introduced into India two hundred years before the birth of Christ, according to the testimony of Megasthenes, and still continues to be practised. No people, perhaps, on earth have adhered so much to their ancient usages and customs as the Indians.





### The Teacher's Subsistence

A schoolmaster in Malabar receives every two months, from each of his pupils, for the instruction given them, two Fanon or Panam. Some do not pay in money, but give him a certain quantity of rice, so that this expense becomes very easy for the parents. There are some teachers who instruct children without any fee, and are paid by the overseers of the temple, or by the chief of the caste. When the pupils have made tolerable progress in writing, they are admitted into certain schools, called Eutupalli, where they begin to write on palm leaves (Pana), which, when several of them are stitched together, and fastened between two boards, form a Grantha, that is, an Indian book. If such a book be written upon with an iron style, it is called Granthavari, or Lakya, that is, writing, to distinguish it from Alakya, which is something not written.

### Respect for the Teacher

When the Guru, or teacher, enters the school, he is always received with the utmost reverence and respect. His pupils must throw themselves down at full length before him; place their right hand on their mouth, and not venture to speak a single word until he gives them express permission. Those who talk and prate contrary to the prohibition of their master are expelled from the school, as boys who cannot restrain their tongue, and who are consequently unfit for the study of philosophy. By these means the preceptor always receives that respect which is due to him: the pupils are obedient, and seldom offend against rules which are so carefully inculcated.





### Physical Education and Sports

The management of the lance, fencing, playing at ball and tennis, have been introduced into their education on good grounds, to render their youth active and robust, There are particular masters for all these exercises, arts and sciences; and each of them, as already mentioned, is treated with particular respect by the pupils. Twice a year each master receives a piece of silk, which he employs for clothing; and this present is called Samanam.

**Note:** Extracts from Fra Paolino Da Bartolomeo's *Voyages to the East Indies* (1796). Da Bartolomeo (1748-1806), an Austrian Carmelite missionary and author of the first Sanskrit grammar published in Europe, came to Malabar in India in 1774 and spent the next fourteen years there. (From Dharampal, *The Beautiful Tree*)

### Description of the University at Navadveep (Nuddeah) in Bengal in 1791

The grandeur of the foundation of the Nuddeah University is generally acknowledged. It consists of three colleges – Nuddeah, Santipore and Gopulparrah. Each is endowed with lands for maintaining masters in every science. When ever, the revenue of these lands, prove too scanty for the support of pandits, and their scholars, the Rajah's treasury supplies the deficiency: for the respective masters have not only stated salaries from the Rajah, for their own support; but also an additional allowance for every pupil they entertain. And their resources are so ample, there are at present eleven hundred students, and one hundred and fifty masters. Their numbers, it is true, fall short of those in former days. [Earlier] ... there were at Nuddeah, no less than four thousand students, and masters in proportion.





The students that come from distant parts, are generally of a maturity in years, and proficiency in learning, to qualify them for beginning the study of philosophy, immediately on their admission; but they say, that to become a real pundit, a man ought to spend twenty years at Nuddeah, in close application.

Any man that chooses to devote himself to literature will find maintenance at Nuddeah, from the fixed revenues of the university, and the donation of the Rajah. Men in affluent circumstances, however, live there at their own expense, without burdening the foundation. By the pundits system of education, all valuable works, are committed to memory; and to facilitate this, most of their compositions, even their dictionaries are in metre. But they by no means trust their learning entirely to this repository: on the contrary, those who write treatises, or commentaries on learned topics, have at Nuddeah, always met with distinguished encouragements and rewards.

Their method of teaching is this; two of the masters commence a dialogue, or disputation on the particular topic they mean to explain. When a student hears anything advanced, or expressed that he does not perfectly understand, he has the privilege of interrogating the master about it. They give the young men every encouragement, to communicate their doubts, by their temper and patience in solving them.

It is a professed and established maxim of Nuddeah, that a pundit who lost his temper, in explaining any point to a student, let him be ever so dull and void of memory, absolutely forfeits his reputation, and is disgraced.

(From Dharampal, *Archival Compilations*, vol. 9)

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### Love of Learning and Support for Education among Indians

Respect for learning has always been the redeeming feature of 'the East'. To this the Panjab has formed no exception. Torn by invasion and civil war, it ever preserved and added to educational endowments. The most unscrupulous chief, the avaricious money-lender, and even the freebooter, vied with the small landowner in making peace with his conscience by founding schools and rewarding the learned. There was not a mosque, a temple, a dharmasala that had not a school attached to it, to which the youth flocked chiefly for religious education. ... There was not a single villager who did not take pride in devoting a portion of his produce to a respected teacher. ... The lowest computation gives us 3,30,000 pupils (against little more than 1,90,000 at present [1882]) in the schools of the various denominations who were acquainted with reading, writing, and some method of computation.

Note: Extract from G.W. Leitner's report, *History of the Education in Panjab since Annexation*, 1882. G.W. Leitner (1840-1899), a British Orientalist appointed principal of the Lahore Government College in 1864, was involved with Indian education and studied Indian culture until his retirement from service in 1886. (From Dharampal, *The Beautiful Tree*)

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### A Widespread Pre-Colonial Network of Indigenous Schools

The estimate of 100,000 such schools in Bengal and Bihar is confirmed by a consideration of the number of villages in those two Provinces. Their number has been officially estimated at 150,748 of which, not all, but most have each a school. If it be admitted that there is so large a proportion as





a third of the villages that have no schools, there will still be 100,000 that have them. ... The system of village schools is extensively prevalent; that the desire to give education to their ... children must be deeply seated in the minds of parents even of the humblest classes. (Extracts from William Adam's report on the State of Education in Bengal 1835-38, in Dharampal, *The Beautiful Tree*)

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I need hardly mention ... that there is hardly a village, great or small, throughout our territories, in which there is not at least one school, and in larger villages more; many in every town, and in large cities in every division, where young natives are taught, reading, writing and arithmetic, upon a system so economical from handful or two of grains, to perhaps a rupee per month to the school master, according to the ability of the parent, and at the same time so simple and effectual, that there is hardly a cultivator or petty dealer who is not competent to keep his own accounts with a degree of accuracy, in my opinion, beyond what we meet with the amongst the lower orders in our own country; whilst the more splendid dealers and bankers keep their books with a degree of case conciseness, and clearness I rather think fully equal to those of any British merchants.

(Note by G.L. Prendergast, senior council member of the Bombay Presidency, House of Commons Paper: 1831-32, vol. 9. From Dharampal, *The Beautiful Tree*)

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### Comprehension

1. What were the virtues that Indian students were encouraged to inculcate and adopt in ancient times?
2. What are the chief features of India's school systems recorded by European travellers / officials before or at the start of the colonial era?

### Extended Activity

1. Based on your reading of the primary texts, highlight the fundamental principles of education in ancient India through the use of drama and PowerPoint presentations.
2. Work in groups. Each group must:
  - have a *sūtradhāra* or narrator;
  - introduce the theme / event / situation;
  - provide a commentary on individual episodes;
  - give a suitable conclusion.

#### Suggestions for dramatization:

- Teacher's farewell speech to students on completion of their study
- Tapping Hsüan-tsang's impressions for an improvisation; situation: a principal / headmaster addressing parents on the education offered to the student
- A Student teacher's valedictory address highlighting the role of a teacher
- PowerPoint presentations on records of Indian education in the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> centuries.





## Ethics: Individual and Social

Ethics (*nītiśāstra*) is a branch of philosophy that deals with moral values. The word 'ethics' comes from the Greek *ethikos*, which means a set of moral principles. The word is sometimes used to refer to the moral principles of a particular social or religious group or an individual. It studies human character and conduct in terms of good and bad, right and wrong. What are the attributes of good character? What type of human behaviour is evil or bad? How should one act in life? These are some of the fundamental questions of ethics.

The moral code of the people is an indicator of their social and spiritual ways of life. The true essence of human life is to live amidst worldly joy and sorrows. Ethics is primarily concerned with the moral issues of the world. True religion lays stress on moral virtues. People are required to discharge their duties according to the moral code of ethics. A true knowledge of ethics would be attained if one practices and imbibes these moral values. Ethics is of two kinds, individual and social. Individual ethics is indicative of the good qualities that are essential for individual well-being and happiness. Social ethics represents the values that are needed for social order and harmony.

In the knowledge traditions of India, ethics has an ancient origin in philosophical thinking. From time immemorial, various religious faiths have flourished here. Every religion and every philosophical system of India has a prominent ethical component. Ethics is the core of all these systems. In every religious tradition, good moral conduct is considered essential for a happy and contented life. Without following the path of righteousness no one can attain the supreme goal (*mokṣa*) of life. For this, one has to perform good deeds and avoid wrong-doing.





### The Cosmic Order

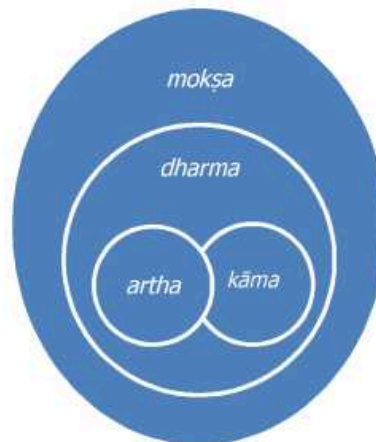
India has a very ancient history of thinking about ethics. Its central concepts are represented in *Rgveda*, one of oldest knowledge texts not only of India but of the entire world. In *Rgveda*, we come across the idea of an all-pervading cosmic order (*ṛta*) which stands for harmony and balance in nature and in human society. Here *ṛta* is described as a power or force which is the controller of the forces of nature and of moral values in human society. In human society, when this harmony and balance are disturbed, there is disorder and suffering. This is the power or force that lies behind nature and keeps everything in balance.

In Indian tradition, the concept of *ṛta* gave rise to the idea of *dharma*. The term *dharma* here does not mean mere religion; it stands for duty, obligation and righteousness. It is a whole way of life in which ethical values are considered supreme and everyone is expected to perform his or her duty according to his or her social position and station in life. In Buddhism, for ethics the word *dhamma* is used, which is the Pāli equivalent of the Sanskrit word *dharma*. The guidelines and rules regarding what is considered as appropriate behaviour for human beings are prescribed in the *Dharma Śāstras*. These are sociological texts that tell us about our duties and obligations as individuals as well as members of society.

In the Hindu way of life, every individual is expected to perform his or her duty appropriate to his or her caste (*varṇa*) and stage of life (*āśrama*). This division of one's life into the four *āśramas* and their respective *dharmas*, in principle, provides fulfilment to the person in his social, moral and spiritual aspects, that would lead to harmony and balance in the society. The four *āśramas* are: (1) *brahmacarya*, stage of studentship; (2) *gṛhastha*, stage of the householder; (3) *vanaprastha*, life in the forest; and *saṁnyāsa*, renunciation.



Apart from *āśrama*, the concept of four ends of life (*puruṣārthas*) is also very important. These four ends of life are the goals which are desirable in them and also needed for fulfilment of human aspirations. These are (1) righteousness (*dharma*); (2) material well-being (*artha*); (3) fulfilment of desires (*kāma*); and (4) liberation from all worldly ties (*mokṣa*). The fulfilment of all of these four ends of life is important for man. In this classification, *dharma* and *mokṣa* are most important from the ethical point of view. They give right direction and purpose to human life. For instance, acquiring wealth (*artha*) is a desirable objective, provided however it is in conformity with *dharma*, that is, the welfare of the society.



One possible mutual relationship of the *puruṣārthas*:  
*artha* and *kāma* within *dharma*, and *mokṣa* beyond.

In the *Bhagavad-Gītā*, selfless action (*niṣkāma karma*) is advocated. It is an action which is required to be performed without consideration of personal consequences. It is an altruistic action aimed at the well-being of others rather than for oneself. In Hinduism this doctrine is known as *karma yoga*.





A depiction on cloth of Kṛṣṇa's discourse to Arjuna in the *Gītā*.

The concept of right and wrong is the core of the *Mahābhārata* which emphasizes, among others, the values of non-violence, truthfulness, absence of anger, charity, forgiveness and self realization. It is only by performing one's righteous duties or *dharma* that one can hope to attain the supreme path to the highest good. It is *dharma* alone that gives both prosperity (*abhyudaya*) and the supreme spiritual good (*niśryas*).

Similarly, the importance of ethics and ethical values is highlighted in epics and philosophical texts like, *Upaniṣads*, *Rāmāyaṇa*, *darśana-śāstras* and *dharma-śāstras*. The *darśana śāstras* are philosophical texts, which provide rational explanations of the ethical issues; the universal moral problems faced by man in daily life are placed in a philosophical context. In the *dharma-śāstras*, emphasis is on the social ethics. In these





texts the inter-personal and social relations are placed in an ethical framework for guidance. In these texts the ethical problems are discussed in an indirect manner. Apart from these some of the texts directly deal with ethical issues:

1. *Viduranīti*: Attributed to Vidura, the great *Mahābhārata* character. A rich discourse on polity and *dharma-śāstra*.
2. *Kamandakīya Nītisāra*: A Sanskrit work belonging to c. 700-750 CE.
3. *Nītvākyamṛtam*: Literally the 'nectar of science of polity' contains thirty-two discourses in simple Sanskrit prose by a Jain scholar, Somadeva Suri.
4. *Ḷaghu Arhanīti*: A small manual in Prakrit verse (c. 1088-1172 CE) on civil and criminal laws by Hemachandra, a Jain scholar.
5. *Śukranītisara*: An abridged Sanskrit text on polity which is attributed to Śukrācārya but believed by scholars to be a work of the early mediaeval period of history.
6. *Nītikalpatarū*: A Sanskrit treatise attributed to King Bhoja, available in manuscript only.
7. *Nīti Śatakam*: Bhartṛhari's hundred verses on ethics.

### Buddhist Ethics

Buddhism also gives primary importance to ethics. Sometimes it is called an ethical religion as it does not discuss or depend on the existence of God (the Supreme Being with form and attributes) but instead believes in alleviating the suffering of humanity. The ethical values in this faith are based on the life and teachings of the Buddha.

These moral instructions are included in Buddhist scriptures or handed down through tradition. According to Buddhism, the foundation of ethics is the *pañcaśīla* (five rules), which advocates refraining from killing, stealing, lying, sexual misconduct and intoxicants. In becoming a Buddhist, a lay person is encouraged to take a vow to abstain from these negative actions.



A fresco depicting Buddha addressing the people.

In Buddhism, the two most important ethical virtues are compassion (*karuṇa*) and friendliness (*maitrī*). One should have deep sympathy and goodwill for the suffering people and should have the qualities of a good friend. The most important ethical value is non-violence or non-injury to all living beings. Buddhist ethics is based on Four Noble Truths. These are: (1) life is suffering, (2) there is a cause for suffering, (3) there is a way to remove it, and (4) it can be removed (through the eight-fold path). It advocates the path of righteousness (*dhamma*). In a way this is the crux of Buddhist morality.

### Jain Ethics

Jainism is another important religion of this land. It places great emphasis on three most important things in life, called three gems (*triratna*). These are: right vision (*samyaka dṛṣṭī*), right knowledge (*samyaka jñāna*) and right conduct (*samyaka cāritra*). Apart from these, Jain thinkers emphasize the need for reverence (*śraddhā*). There are other moral principles governing the life of Jains. Most important of these are ideas of *punya* (merit) and *pāpa* (demerit). Meritorious deeds are very important from





the ethical point of view. *Pāpa* is the result of evil deeds generated by vice and *puṇya* is the result of good deeds and virtuous conduct. One should take up the path of a virtuous life to lead the way to spiritual growth. Ultimately, one transcends both virtue and vice. Right conduct is necessary for the spiritual progress of man. The most important thing in Jainism is the practice of non-violence (*ahimsā*), or abstaining from inflicting injury on any being. It is required that the principle of *ahimsā* should be followed in thought, word and deed. In Jainism, the other cardinal virtues are: forgiveness, humility, simplicity, non-covetousness, austerity, restraint, truthfulness, purity, renunciation and celibacy.



A hand with the word *ahimsā* inside a wheel: a symbol for the Jain vow of non-violence.

### Sikh Ethics



During the battle of Anandpur Sahib in 1704, Bhai Kanhaiya, a follower of Guru Gobind Singh, was often seen carrying a *mashka* of water to quench the thirst of the wounded, whether they were Sikhs or soldiers of the Mughal army. This exemplifies the values of non-enmity, service and compassion.

Sikhism, the most recent faith in Indian tradition, also lays great stress on ethics in human life. In the words of its founder, Guru Nanak, "Truth is higher than everything else, higher still is truthful conduct." The cardinal virtues according to *Guru Granth Sahib*, the Sikh scripture, are: compassion (*dayā*), charity (*dāna*), contentment (*santokha*), non-enmity (*nirvair*) and selfless





service (*sevā*). In addition to these one is also morally obliged to practise the general and eternal virtues.

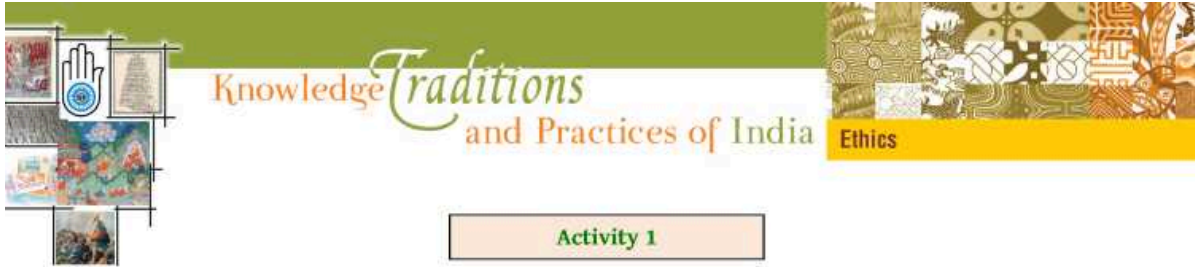
### The Bhakti Movement

During the middle ages, the Bhakti movement arose in India. It was an all-India movement of social reform and spiritual awakening. It played a very important part in reawakening the moral consciousness in India. Jayadeva, Nāmdēv, Tulsīdās, Kabīr, Ravidās and Mira are some of the prominent saints of this movement. Most of these saints came from the downtrodden sections of society. Rejecting the distinctions of caste, colour and creed, they spread the message of human equality. They were saint poets. In their *vāṇī* (poetic compositions) they propagated the ideals of love, compassion, justice and selfless service. These are the ethical values which we need even today.

### Comprehension

1. What are the two main elements necessary for a contented life?
2. Define *dharma* in terms of the cosmic order.
3. What does one need to do to attain the supreme goal [*mokṣa*]?
4. What are the four ends of life (*puruṣārthas*) required for fulfilling human desires?
5. What are the differences between individual and social ethics?
6. One of the noble truths of Buddhism is that all human suffering has a 'cause'. What is the cause of suffering?
7. Explain the *triratnas* of Jainism.
8. What are the important sources of ethical thought in India?





### Activity 1

While the concept of right and wrong is the core of the Mahābhārata, the epic emphasizes, among others, the values of non-violence, truthfulness, charity, absence of anger, forgiveness and self realization. Select a value, discuss it in peer groups and then perform it in front of the class through:

- role plays
- miming a real life situation
- singing a song
- acting out a scene or scenes from the Mahābhārata illustrating those values.

### Activity 2

Indian traditions offer various styles of narratives. Use any one form to depict a story on **honesty**. The selection of stories could be from different faiths/religions. The following can be used to highlight your presentation: painting, props, *sūtradhāra*, music, costumes or any other visuals.

### Activity 3

Collect information on Bhakti poets and extracts of their poetry in audio form. Listen in the class and have a discussion on the virtues /values being sung in their poetry.

### Activity 4

Read the following *Jātaka kathā*:

The Starving Tigress

*A Tale of Compassion, Selflessness, and Generosity.*



Born into a family renowned for their purity of conduct and great spiritual devotion, the Bodhisattva became a great scholar and teacher. With no desire for wealth and gain, he entered a forest retreat and began a life as an ascetic. There, one day he encountered a tigress who was starving and emaciated from giving birth. She was about to die and her own newborn cubs were also on the verge of death due to starvation. With no other possible food in sight, the Bodhisattva, out of infinite compassion, offered his own body as food to the tigress, selflessly forfeiting his own life for the sake of the tigress and the two cubs.



A 19<sup>th</sup>-century painting from Mongolia narrating the story of the starving tigress (source: Shelley & Donald Rubin Foundation, Himalayan Art, [www.himalayanart.org/image.cfm/50191.html](http://www.himalayanart.org/image.cfm/50191.html))

Key events in the story:

- The Bodhisattva sees a starving tigress.
- The tigress is about to die and so are the cubs.
- The Bodhisattva offers his own body.

Now think of a story that you have heard in your childhood which left an impression in your mind. Share it with your partner.





### Activity 5

Have a discussion on any of the following topics, justifying your stand with appropriate examples:

- Moral values are irrelevant in today's world.
- Truthfulness and humility make a person successful.
- Killing of animals is ethical.

### Project ideas

1. Visit a *matha* / *vihāra* [monastery] and make notes on how early education is imparted in the making of monks. Elucidate your project with pictures.
2. Prepare a wall magazine depicting at least four virtues from among the following: selfless service, non-enmity, forgiveness, truthfulness, humility, simplicity, righteousness, austerity, restraint, non-covetousness, purity, contentment, compassion.
3. Collect stories from various faiths / religions that illustrate Indian ethics. Your presentation must contain a biographical sketch of the author and related pictures / paintings.

### Extended activities

1. Visit the nearest *gurudwāra* and observe how the four cardinal virtues are practised there. Offer your *seva* in the *langar* (community kitchen).
2. Our traditional performing arts have always been a medium of entertainment as well as education and social reforms. Attend a performance of folk theatre like *Rāmāilā*, *Jātrā*, *Yakṣagāna*, *Nautānī*, *Swāṅg*, puppet shows, etc. Identify the ethical values depicted in the performance.



3. Create a tale treasure of your own for your junior classes / siblings, keeping the following in mind:
  - stories that have a message / moral value;
  - stories that are a part of any Indian literature;
  - You may refer to stories from *Jātaka* tales; *Hitopadeśa*; *Pañcatantra*; *Kathāsaritsāgara*; *Singhasan Battisi*.
4. Find some contemporary Indians – from India's freedom struggle to today – who were / have been able to bring about changes in the society through ethical values. Read their life story and identify the values practised by them which made them embodiments of Indian ethics. You could also explore examples around you.

#### Further Reading

- *Kathopaniṣad*
- *Mahābhārata* (especially *Vana Parva*)
- *Bhagavad-Gītā* (especially chapter 16)
- *Rāmāyaṇa* (especially *Uttarkhand*)
- Tīruvalluvar's *Kural* (especially first two parts)
- *Jātaka Kathayein*
- *Pañcatantra*
- Kabīr's *Dohās*
- *Carakasamita*, 4.2
- The edicts of Aśoka

#### Internet Resources (all URLs accessed in May 2013)

- *Kathāsaritsāgar / Brhatkathā*: <http://archive.org/details/oceanofstorybein01somauoft>





- *Hitopadeśa*: Sanskrit text & English translation, W. Ainapure, ed., & B.T. Dravid (1908):  
<http://archive.org/details/hitopadesaofnr00vasuuoft>
- Tales of *Hitopadeśa*: [www.chandiramani.com/tohe.html](http://www.chandiramani.com/tohe.html)
- Tales of *Hitopadeśa*: [www.culturalindia.net/indian-folktales/hitopadesha-tales/](http://www.culturalindia.net/indian-folktales/hitopadesha-tales/)
- Story of Dadhichi: <http://en.wikipedia.org/wiki/Dadhichi>
- *Jātaka* tales: <http://www.himalayanart.org/image.cfm/50191.html>
- *Jātakamālā* or "Garland of Birth" stories:  
[www.buddhanet-de.net/ancient-buddhist-texts/English-Texts/Garland-of-Birth-Stories/01-The-Story-of-the-Tigress.htm](http://www.buddhanet-de.net/ancient-buddhist-texts/English-Texts/Garland-of-Birth-Stories/01-The-Story-of-the-Tigress.htm)
- English translation of *Pañcatantra* by Arthur W. Ryder (1925):  
<http://archive.org/details/ThePanchatantraEnglish-AwRyder>
- *Pañcatantra* tales:  
<http://www.culturalindia.net/indian-folktales/panchatantra-tales/>





## Primary Texts on Ethics: Individual and Social A Selection

### From Jain Granthas

An old man is fit for neither laughter, or playing, nor pleasure, nor show.  
So a man should take to the life of piety, seize the present, be firm, and  
not let himself be deluded an hour longer, for youth and age and life itself  
all pass away. ... (*Ācārāṅga Sūtra*, 1.2.1)

\*

If a man kills living things, or slays by the hand of another, or consents to  
another slaying, his sin goes on increasing. (*Sutrakṛtāṅga*, 1.1.1.1-5)

He who carelessly destroys plants, whether sprouted or full grown,  
Provides a rod for his own back.

He has said, "Their principles are ignoble  
Who harm plants for their own pleasure." (*Sutrakṛtāṅga*, 1.1-9)

\*

Cows are of many different forms and colors;  
Their milk is always white.  
The path of virtue, like milk, is one.

\*

The sects that teach it are manifold. (Naladiyar, 1118)

\*

Heroes detached and strenuous, subduing anger and fear,





Will never kill living beings, but cease from sin and are happy.  
(*Sutrakṛtāṅga*, 1.2.1)

\*

Without neglecting the virtues of tranquility, indifference, patience, zeal for salvation, purity, uprightness, gentleness, and freedom from care, with due consideration he should declare the Law of the Monks to all that draw breath, all that exist, all that have life, all beings whatever. ...  
(*Ācārāṅga Sūtra*, 1.6.5)

\*\*\*

### From Buddhist Granthas

Gautama has given up injury to life ... has given up taking what is not given ... has given up unchastity ... has given up false speech ... has given up slander ... has given up harsh speech ... has given up frivolous talk ...  
(*Dīghanikāya*, 1.4 ff)

\*

But by charity, goodness, restraint, and self-control man and woman alike can store up a well-hidden treasure — a treasure which cannot be given to others and which robbers cannot steal. A wise man should do good — that is the treasure which will not leave him. (*Khuddakapatha*, 8)

\*

As a mother cares for her son,  
Her only son, all her days,  
So towards all things living  
A man's mind should be all-embracing.  
Friendliness for the whole world,





All-embracing, he should raise in his mind,  
Above, below, and across,  
Unhindered, free from hate and ill-will. (*Sutta Nipata*, p. 143 ff)

\*

Never in this world is hate  
Appeased by hatred;  
It is only appeased by love –  
This is an eternal law (*sanatana-dhamma*). ...

\*

Above victory or defeat  
The calm man dwells in peace. (*Dhammapada*, 3-5, 201)

\*

The friend who is a helper,  
The friend in weal and woe,  
The friend who gives good counsel,  
The friend who sympathizes – these the wise man should know  
As his four true friends,  
And should devote himself to them. ... (*Dighanikāya*, 3.180 ff)

\*

He will give up his body and his life ... but he will not give up the Law of  
Righteousness.  
He bows humbly to all beings, and does not increase in pride.  
He has compassion on the weak and does not dislike them.  
He gives the best food to those who are hungry.  
He protects those who are afraid.





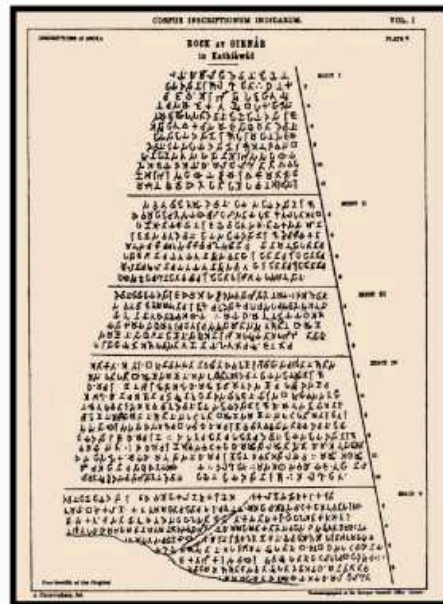
He strives for the healing of those who are sick.  
 He delights the poor with his riches.  
 He repairs the shrines of the Buddha with plaster.  
 He speaks to all beings pleasingly.  
 He shares his riches with those afflicted by poverty.  
 He bears the burdens of those who are tired and weary. (*Tathāgataḡuhyā Sūtra, Śikṣāsamuccaya, p. 274*)

**From Aśoka's Edicts**

Father and mother should be obeyed, teachers should be obeyed; pity ... should be felt for all creatures. These virtues of Righteousness should be practiced. ... This is an ancient rule, conducive to long life. (From a minor Rock Edict, Maski version)

\*

This world and the other are hard to gain without great love of Righteousness, great self-examination, great obedience, great circumspection, great effort. (From the First Pillar Edict)



\*\*\*





**From the Kural (tr. P.S. Sundaram)**

Always aim high – failure then  
Is as good as success. (596)

The world gives up those who give up;  
Stick to your task. (612)

To the persistent belongs the pride  
Of doing good to others. (613)

A weakling's philanthropy is a sword  
In a eunuch's hand. (614)

Do not do what you will regret; and if you do,  
Do not regret. (655)

Do not do what the wise condemn  
Even to save your starving mother. (656)

Goods gained with others' tears are lost with one's own:  
Well-got, even when lost, help hereafter. (659)

To stock ill-got wealth is to store  
Water in unburnt clay. (660)

Don't despise by looks: the linchpin holds  
The huge wheel in place. (667)

However great the hardship,  
Pursue with firmness the happy end. (669)

In prosperity, bend low;  
In adversity, stand straight. (963)





Comprehension

1. Select a piece of primary text from above. Identify the value depicted and correlate it with the preceding survey article.
2. "Values are caught not taught." How far do you agree with this statement? Reflect on some values you have acquired from your
  - family
  - friends
  - school
  - surroundings / society
  - any other source.
3. What message do you draw from the extracts below:
  - If a man kills living things, or slays by the hand of another, or consents to another slaying, his sin goes on increasing.
  - He who carelessly destroys plants, whether sprouted or full grown, provides a rod for his own back.
  - Above victory or defeat, the calm man dwells in peace.
4. Read the text from *Tathāgataguhyā Sūtra*, *Śikṣāsamuccaya*, and complete the following table:

What to do	What not to do





5. Study the picture given below. If you were to write a story based on the picture, which values would you emphasize? Why?



ॐ ॐ





## Martial Arts Traditions: A Survey

'Martial Arts', as the name suggests, are popular art forms that give training in different kinds and dimensions of fighting – fighting with a spear or a sword, physical combat, resisting cavalry attack, single combat or combat with many, etc. As such, the martial arts apart from being sources of popular entertainment also provide training in skills required by professionals, including soldiers.

India has an ancient tradition in diverse martial arts. Nearly every part of India has evolved one or the other form of a popular martial art.

The Japanese and the Chinese trace the origins of their popular martial arts, karate and kung-fu, to India. Notably, according to Chinese texts and tradition, an Indian sage, Bodhidharma (5<sup>th</sup> or 6<sup>th</sup> century CE), who travelled from south India to north China and settled at the Shaolin Monastery in the Sung Mountain, meditated there for nine years and imparted some early techniques of Indian martial arts to his follower monks.

### Texts

Ancient Indian texts and the epics describe various martial arts that were then popular in the subcontinent. The *Dhanurveda*, an ancient treatise on the science of archery and the art of warfare, enumerates the rules of archery, rules of bow- and arrow-making, and describes the uses of weapons and the training of the army. The treatise also discusses martial arts in relation to the training of warriors, charioteers, cavalry, elephant warriors, infantry and wrestlers.

The *Yajurveda* highlights the importance of the science of archery and praises those who are well versed in it. Sections of the *Mahābhārata* describe wrestlers and wrestling and boxing bouts, such as Bhīma's famous fights with Jarāsaṁdha and with



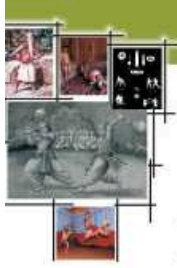
Duryodhana. According to the *Harivaṃśa Purāṇa*, both Sri Kṛṣṇa and his brother Balarāma were masters of the art of wrestling. *Śarira bala* (physical strength) was gained through various *kriḍa* (games) including the martial arts. Various disciplines such as *śastravidyā*, knowledge of arms, *dhanurvedyā*, archery, *khaḍgavidyā*, *aśvārohaṇa*, horse riding and fighting on horseback, and *gajarohaṇa*, fighting on elephant back, were widely practised. The *gadā* or mace was also used during these bouts.



A depiction of the battle between Bhima and Duryodhana  
(source: Gorakhpur Geeta Press & Wikipedia)

*Mallayuddha* or wrestling was accorded the status of a respectable sport, pastime and method of warfare with a set of rules prescribed by the Mallas, a warrior clan mentioned in the *Mahābhārata* and the Buddhist texts. *Mallayuddha* enjoyed royal patronage and was one of the sixty-four arts that all could learn. So popular was





wrestling that a treatise, *Mallapurāṇa*, which was probably composed in Gujarat, listed various types and techniques of wrestling, besides giving detailed information on the arena, rules of engagement or the wrestlers' diet and training regime. Martial arts in India were perfected between the 6<sup>th</sup> and 11<sup>th</sup> century CE when the Gurjara-Pratihāra, a warrior dynasty, ruled much of north India. Cālukyan king Someśvara III in his 11<sup>th</sup>-century treatise *Mānasollāsa*, an encyclopaedic work in Sanskrit, gives detailed information about various types of wrestlers and their training methods.

### Practice of Martial Arts

There were specific arenas for the practice of each martial art. The *Dhanurveda* describing the ground for weapons training says that such a ground should be free from ash, bones, dust, stones, thorns and thorny bushes and should be spacious and sufficiently broad in dimension and surrounded with a compound wall.

The wrestling arena was known as the *mallaśālā*. The *Manasollāsa* gives a detailed description of the wrestling pit and says that it should be filled with smooth village soil free from pebbles and other hard objects and should be levelled and kept slightly wet. The ground for combat was known as *khalaka*; it was to be high, round, even and strong and surrounded by a *vīkṣaṇamaṇḍapa* (visitor's gallery). *Mallakriḍāmahotsava* or grand wrestling festivals were popular and periodically organized.

Apart from wrestling there were other exercises that were recommended in order to increase physical strength as a preparation to the mastering of martial arts. These exercises were, *bhāraśrama* or weightlifting both by hands and feet, *bhramaṇaśrama*, walking and running and taking brisk walks in the morning, *salilaśrama*, swimming in a tank, lake or river, *bāhupellanakaśrama* was done to increase the strength of the grip of hands through friction by contacting the arms with the arms of a partner. *Stambhaśrama* was performed on a wooden pole (*stambha*)





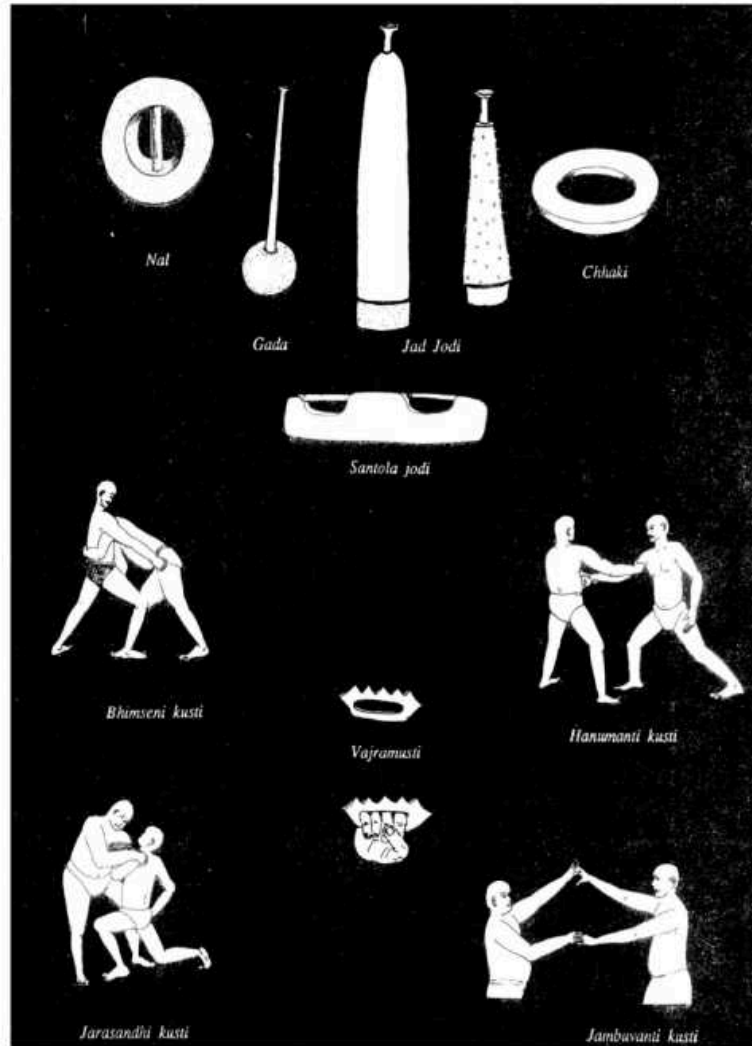
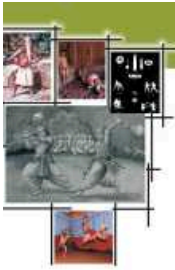
firmly fixed on the ground; the pillar had to be smooth and sliding, sufficiently thick for grasping and as high as the raised arm of the wrestler. The wrestler would grasp the pillar with his arms and legs, lift his body and encircle the pillar with twisting movements. This pillar exercise is prevalent even today and is known as *mallakhamba*.

There were other martial exercises that were popularly practised such as *śastrāśrama*, performed with various weapons or *dhanuśrama*, performed with the bow: pulling the bow string several times, bending the heavy bow and fixing the string to the bow were all considered heavy exercises (remember the story of Rama shattering the mighty Śiva bow?). The other exercises performed with weapons were *asiśrama* (with a heavy sword), *śaktiśrama* (with short spears), *cakraśrama* (with a weapon called *cakra*), *sellakalā* (with heavy lances) and *parśuśrama* (with an axe, *parśu*).

Varanasi was known since ancient times as a centre for wrestling and *muṣṭi-yuddha*, a traditional form of boxing. *Aṅkavinoda*, duel or combats, were also popular martial sports in India. A person fighting another who carried the same weapon was known as *aṅka*. The fights in this category were at times fierce, leading to bloodshed.

Several warrior clans in India were adepts at martial art. Thus the Jyeṣṭhimalas ('great fighters') of medieval India were experts in a style of wrestling called *vajra-muṣṭi*, which was performed with knuckle-dusters; they were spread mainly over Gujarat, Rajasthan and Maharashtra. The Paikas of Odisha were fierce warriors who developed a particular martial technique called the *paika ākhādā*. The Meitis of Manipur practised a distinct martial technique called *thang-ta*, which remains a popular martial art in Manipur and in which a spear and a sword are the primary weapons.





A few weapons and postures used in traditional Indian wrestling  
(source: Vaidya V.B. Mhaiskar, Vyayam Jnan Kosh)



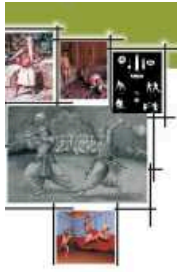
Living traditions of wrestling and combat survive in *kuṣṭi* (also called *pehlwani*), which has inputs from *mallayuddha* as well as Persian wrestling. *Kuṣṭi* remains widely practised in north India.



(Right) An Indian *kuṣṭi* wrestler exercising with clubs near Varanasi (source: John Hill & Wikipedia)

(Below) *Kuṣṭi* wrestlers training in a gymnasium, Maharashtra (source: Peter Adams & National Geographic)





### Stick Combat

*Lāthi khela*, stick play, is a very popular martial art, especially in north India. A polished stick typically six to eight feet long and at times metal-tipped is used to ward off the enemy through various wielding techniques, steps and posturing. At one time very popular in the Bihar and Bengal (including what is now Bangladesh), the sport has seen a decline over the years. The wielder of the *lāthi* is known as a *lethel* or *lāthiāl*. In *Nāṭyaśāstra* (Chapter 1), there is a reference to *jarjarā*, a staff used to control unruly sections of an audience.

Similar to *lāthi khelā* is *silambam*, literally 'bamboo fight', a popular martial art of south India. *Silambam* was originally practised with bamboo sticks and later with steel swords and shields. The bamboo staff used is usually 5 feet in length and is swirled while attacking the enemy. It is also one kind of training in javelin or spear fighting.

Another popular martial sport of the region is *kurunṭāḍi*, which is played with short bamboo sticks roughly of two-palm length. *Kurunṭāḍi* is performed to the accompaniment of drums and music and each stroke is aimed at a particular *varṇam* or vital spots of the human body. It is an art that gives training in physical combat.

*Valari vīcu* uses a kind of boomerang made of wood, ivory or iron. It is a training in remote resistance of or attack on an enemy. It was very popular in the medieval period in the southern districts of Tamil Nadu and continued to be practised till the late 18<sup>th</sup> century. This particular weapon was very useful in resisting medieval cavalry charges.

*Gatkā* is one of the most popular and ancient martial art in the region of Punjab. A wooden stick and a shield are usually used in the sparring match and points are scored when vital spots in the body are touched. Swords and shields are also used in *gatkā* which is in fact a training in the professional use of swords. The





Sikh Gurus, many of whom were proponents of martial training, encouraged the growth of various martial arts techniques. Guru Gobind Singh was an adept at martial arts and established the martial tradition among the Sikhs. The Mughal Emperor Akbar, it is said, practised *gatkā* with sword and shield.

### Kalarippayattu

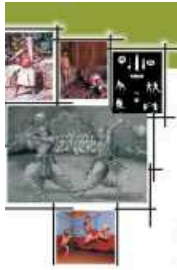
*Kalarippayattu* is believed to be one of the oldest martial arts in existence and to have originated in Kerala, where it flourished.

A *kaḷari* or 'gymnasium' is actually an underground training hall (of about 13 x 6.5 m). Its entrance is from the east with a prayer area consisting of seven steps in the south-west corner; students are initiated through a ceremony in front of this area known as *pūttara*. All the postures and exercises include offering prayers at this place. *Payattu* means to fight, exercise or practise. Therefore, *kaḷarippayattu* means the combat that is practised inside the traditional gymnasium called *kaḷari*.

In Kerala, three styles of *kaḷarippayattu* developed in different regions, the northern, southern and central styles, with distinct beliefs, practices and methods. The northern style traces its origin to Paraśurāma and its experts are called Gurukkaḷ. The southern style traces its origin to Agastya; its experts are referred to as Āśāns. The central style is practised on floor paths known as *kaḷams*.

The practice of *kaḷarippayattu* takes place in at least five stages. In the first, the focus is on body fitness. In the second, the student is trained in stick combat. In the third stage, the student is taught how to handle weapons. A student is initiated into the fourth stage only after he has been tested and proved to be trustworthy; this stage consists of training in hand combat. The final stage of training involves Ayurvedic treatments for body and mind, techniques of *marma* (vital points) and therapeutic massages. The student learns how to treat injuries and diseases resulting





from trauma. After the training, the *kaḷari* expert also becomes a healer. Oiling the body is a prerequisite of *kaḷari* training, especially in phases that involve physical exercises.



*Kalarippayattu* fighters. Note the *pāttara* or the seven-step prayer area in the corner behind them (courtesy: Arya Vaidya Pharmacy, Coimbatore).

*Kalarippayattu* brings tremendous flexibility to the body and fine tunes one's reflexes to such an extent that it is believed that the entire body of the trained person becomes his eyes, as it were (*meikkannu*). The practice of *kaḷari* involves training with sharp and dangerous weapons such as dagger, mace, sword, spear, fist dagger, deer horn dagger and the like. *Urumi* or the curling sword is worth a special mention: this flexible long sword made of steel is sharp enough to cut flesh but at the same time thin enough to be rolled into a coil. The training in wielding this weapon is given only in the end considering the danger involved to both the wielder and the opponent.





*Kalarippayattu* is not merely physical combat for self-defence. It is a complete personal development programme that aims to develop good physical and mental health and enhance agility, reflexes and skills for self-defence. The *kalari* training is a discipline for both body and mind, the goal being to gain control over one's aggressive tendencies and remove one's defects (*kuttam thirkkal*). The master of *kalari* is one who can withdraw at will even when he can strike a helpless opponent.

Often *kalarippayattu* was a preparation for advanced training in art forms like Kathakali. The flexibility gained from *kalarippayattu* would enable the student to develop the subtle skills required in other disciplines. It was also common for medical practitioners to train in *kalarippayattu*. In fact, there has been a vigorous exchange of medical knowledge, especially concerning *marmas*, massage and trauma management, between the traditions of Ayurveda and *kalarippayattu*.

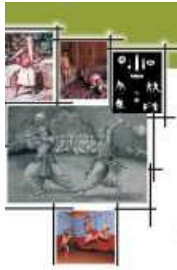
Interestingly, *kalarippayattu* was not confined to men; women were also admitted for training and folklore tells stories of accomplished women warriors.

Schools of *kalarippayattu* still exist in Kerala although the popularity of this ancient system of physical combat is on the decline. It is an irony that other martial art forms like karate and judo have become more popular in Kerala, the land of *kalarippayattu*. On the other hand, *kalari* experts offer medical treatments for sprains and sports injuries in different parts of Kerala even today. There is great scope for promoting *kalarippayattu* in the field of sports. The great flexibility of the body, agility and sharp reflexes that are developed through its practice can make an individual excel in any kind of sports.

\*

India's rich martial arts traditions lend weight to the view that Indians have been a martial people who evolved martial arts as popular sports besides being a part of the training of professional players and soldiers.





### Further Reading

1. Balakrishnan P. *Kalaripayattu: The Ancient Martial Art of Kerala*. Trivandrum CVN Kalarī, 1995
2. Elgood, Robert. *Hindu Arms and Ritual: Arms and Armour from India 1400-1865*. Eburon Publishers, 2005
3. Majumdar, D.C. *Encyclopaedia of Indian Physical Culture: A comprehensive survey of the physical education in India profusely illustrating various activities of physical culture, games, exercises, etc., as handed over to us from our forefathers and practised in India*. Baroda: Sree Ram Vijaya Printing Press, 1950
4. Tilak, Moses. *Kalaripayat and Marma Adi (Varmam)*. Madras: Neil Publications, 1982
5. Zarilli, Philip B. *When the Body Becomes All Eyes*. New Delhi: Oxford University Press, 2000

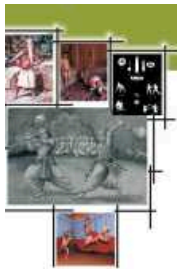
### Internet Resources (all URLs accessed in May 2013)

- Extracts and images from D.C. Mujumdar's *Encyclopedia of Indian Physical Culture*: [www.sandowplus.co.uk/India/IndianClubs/clubs01.htm](http://www.sandowplus.co.uk/India/IndianClubs/clubs01.htm) etc.
- Documentary on *pehlwani* in Punjab: [www.youtube.com/watch?v=9ZURev5VAT4](http://www.youtube.com/watch?v=9ZURev5VAT4)
- *Kuṣṭidangal* : [www.youtube.com/watch?v=nWhbBLC2XX0](http://www.youtube.com/watch?v=nWhbBLC2XX0)
- *Kuṣṭi* exercises: [www.youtube.com/watch?v=Km2Y4oVZipE](http://www.youtube.com/watch?v=Km2Y4oVZipE)
- *Mallakhamba* (Malkhamb): [www.youtube.com/watch?v=R1yp89VKPXQ&list=TL45ffyCvDamfUAnN0TexdcyPtW-Rj8\\_1j](http://www.youtube.com/watch?v=R1yp89VKPXQ&list=TL45ffyCvDamfUAnN0TexdcyPtW-Rj8_1j)  
[www.youtube.com/watch?v=6FTBrtifKYQ](http://www.youtube.com/watch?v=6FTBrtifKYQ)
- *Kalaripayattu* (Doordarshan): [www.youtube.com/watch?v=CvOYtq3FaFw](http://www.youtube.com/watch?v=CvOYtq3FaFw)
- *Kalaripayattu: Unique martial art of Kerala* (Kerala Tourism): [www.youtube.com/watch?v=DCmcw5nynmQ](http://www.youtube.com/watch?v=DCmcw5nynmQ)



Comprehension

1. Which ancient treatise mentions the rules of the art of warfare? Enumerate some of those rules.
2. In the *Mahābhārata*, who are the two individuals considered to be the masters in the art of wrestling (*śarira bala*)?
3. List out the names of famous Indian boxers and wrestlers.
4. Which were the popular physical disciplines practised in classical times?
5. If you wanted to be a wrestler, which treatise would you refer to and why?
6. What are the basic rules to be followed while preparing a training ground for martial arts?
7. To master the art of *dhanuśrama*, name any two heavy exercises to be performed with the bow.
8. Define *kaṭarippayattu*. Explain the three types of *kaṭarippayattu* and list their differences.
9. Define the following *śramas*:
  - *salilaśrama*
  - *bhāraśrama*
  - *bāhupellanakaśrama*
  - *stambhaśrama*
  - *śastrāśrama*
  - *dhanuśrama*
  - *śaktiśrama*
  - *cakraśrama*
  - *sellakalā*
  - *parśuśrama*
  - *aṅkavinoda*



### Activities

- Complete the table by providing the required information:

Sport	Rules and key features	Eminent personalities	Brief history (origin, state etc.)

- List a few warrior clans in India and discuss their respective techniques/styles of dual fights. Examine the changes that have set in the sporting tradition.
- Hold a debate on the topic: Age-old traditions of various martial arts are obsolete / relevant in present times.
- Make a table of various italicized terms used in the Survey text. Define them and try to figure out their synonyms in your mother tongue.

### Projects

- *Lathi*, a polished bamboo stick is used to ward off the enemy through various wielding techniques, steps and posturing. Document how wielding this staff has been used as a distinct martial art in different parts of India.
- Make a project on *kalariipayattu*. Collect pictures of various stages of training and prepare a presentation. You may also download videos to share the information with your class.
- The roots of *mallakriḍa* are found in villages. Have you ever visited any *mallakriḍamahotsava* / *kuṣṭidangal* fair? Make field visits to get first-hand





information. Prepare a project on *śarira bala* and investigate what efforts are being made by the Sports Authority of India to promote this sport.

- Many traditional games and sports are still practised today. Select any one such game and collect information for your project using the following hints:
  - training ground
  - kits or material used
  - famous Indians associated with it
  - elaborate your project with pictures and interviews.
- Make a project on awards and honours for achieving the highest standards in the field of sports and games in India or elsewhere. Apart from name, fame and monetary gains, what other facilities do the sports persons enjoy with their high-achiever profiles? Elaborate your project with various examples and case studies.

#### Extended Activities

- Explore the potential of martial arts to popularize fitness, physical strength and self-defence skills among the youth. Make a poster highlighting the advantages.
- Identify well-known experts of various martial arts in your locality. Involve them and create a martial arts club in your school or nearby community centre to learn and promote the ancient traditional activities of fitness and strength.





## Martial Arts Traditions: A Selection from Primary Texts

### Wrestling in the *Mahābhārata*

The *Mahābhārata* has several long descriptions of physical combat. Here is the fight between Bhīma, one of the Pāṇḍavas, and Jarāsaṅdha, the powerful king of Magadha:

... Then the monarch possessed of terrible prowess, addressing Bhīma, said, "I will fight with you. It is better to be vanquished by a superior person." And saying this, Jarāsaṅdha rushed with great energy at Bhīmasena ... And the mighty Bhīmasena, on whose behalf the gods had been invoked by Kṛṣṇa, that cousin of his, advanced towards Jarāsaṅdha, impelled by the desire of fight. Then those tigers among men, those heroes of great prowess, with their bare arms as their only weapons, cheerfully engaged themselves in the encounter, each desirous of vanquishing the other. And seizing each other's arms and twining each other's legs, they slapped their arm-pits, causing the enclosure to tremble at the sound. And frequently seizing each other's necks with their hands and dragging and pushing it with violence, and each pressing every limb of his body against every limb of the other, they continued to slap their arm-pits. And sometimes stretching their arms and sometimes drawing them close, and now raising them up and now dropping them down, they began to seize each other. And striking neck against neck and forehead against forehead, they caused fiery sparks to come out like flashes of lightning. And grasping each other in various ways by means of their arms, and kicking each other with such violence as to affect the innermost nerves, they struck at each other's breasts with clenched fists. With bare arms as their only weapons, roaring like clouds, they grasped and struck



each other like two mad elephants encountering each other with their trunks. Incensed at each other's blow, they fought on dragging and pushing each other and fiercely looking at each other like two wrathful lions. And each striking every limb of the other with his own and using his arms also against the other, and catching hold of each other's waist, they hurled each other to a distance. Accomplished in wrestling, the two heroes clasping each other with their arms and each dragging the other unto himself, began to press each other with great violence. The heroes then performed those grandest of all feats in wrestling called *prṣṭabhanga*, which consisted in throwing each other down with face towards the earth and maintaining the one knocked down in that position as long as possible. And employing his arms, each also performed the feats called *sampūrṇa-murccha* and *pūrṇa-kumbha*. At times they twisted each other's arms and other limbs as if these were vegetable fibres that were to be twisted into chords. And with clenched fists they struck each other at times, pretending to aim at particular limbs while the blows descended upon other parts of the body. It was thus that those heroes fought with each other. The citizens consisting of thousands... [including] women and the aged, O tiger among men, came out and gathered there to behold the fight. And the crowd became so great that it was one solid mass of humanity with no space between body and body. The sound the wrestlers made by the slapping of their arms, the seizing of each other's necks for bringing each other down, and the grasping of each other's legs for dashing each other to the ground, became so loud that it resembled the roar of thunder or of falling cliffs. Both of them were foremost of mighty men, and both took great delight in such encounter. Desirous of vanquishing the other, each was on the alert for taking advantage of the



slightest lapse of the other. And the mighty Bhīma and Jarāsaṅdha fought terribly on in those lists, driving the crowd at times by the motions of their hands like Vṛtra and Vāsava of old. Thus two heroes, dragging each other forward and pressing each other backward and with sudden jerks throwing each other face downward and sideways, mangled each other dreadfully. And at times they struck each other with their knee-joints. And addressing each other loudly in stinging speeches, they struck each other with clenched fists, the blows descending like a mass of stone upon each other. With broad shoulders and long arms and both well-skilled in wrestling encounters, they struck each other with those long arms of theirs that were like maces of iron. That encounter of the heroes commenced on the first (lunar) day of the month of Kārttika (October) and the illustrious heroes fought on without intermission and food, day and night, till the thirteenth lunar day. It was on the night of the fourteenth of the lunar fortnight that the monarch of Magadha desisted from fatigue. ...

... Kṛṣṇa, desiring to encourage that hero to accomplish the death of Jarāsaṅdha without any delay, answered, "O Bhīma, exhibit today upon Jarāsaṅdha the strength you have luckily derived, the might you have obtained from (your father), the god Māruta." Thus addressed by Kṛṣṇa, Bhīma, that slayer of foes, holding up in the air the powerful Jarāsaṅdha, began to whirl him on high. And, O bull of the Bhārata race, having so whirled him in the air full hundred times, Bhīma pressed his knee against Jarāsaṅdha's backbone and broke his body in twain. And having killed him thus, the mighty Vṛkodara [Bhīma] uttered a terrible roar. And the roar of the Pāṇḍavas mingling with that death knell of Jarāsaṅdha, while he was being broken on Bhīma's knee, caused a loud uproar that struck fear into





the heart of every creature. (*Mahābhārata*, adapted from tr. K.M. Ganguly, Sabha Parva, sections 23-24)

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### *Mallapurāṇa*

The *Mallapurāṇa* contains a wealth of information on the wrestling traditions of the Jyeṣṭhīmallas (see Survey text). The following extracts from the introduction by the editors of this Sanskrit text give the gist of *śramas* or exercises, combat techniques as well as details of diet, training regime, etc.

#### *Raṅgaśrama*

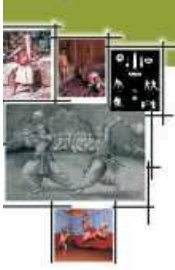
This is the wrestling proper and occurs in all the lists. It is considered to be the highest type of exercise as it leads to glory and wealth. Wrestling indeed is difficult and in traditional Indian Gymnasium far more weight is placed on the proficiency in this art, which requires courage, strength, skill and stamina. ...

#### *Sthambhaśrama*

It is the type of exercise on smooth wooden pillars of a number of varieties. To-day the *sthambhas* are either fixed in the ground or are left hanging. The hanging *sthambhas* have about four varieties. One is similar to that fixed on the ground. Other is a very small size *sthambha* almost like a baton. Its variant has two pairs hanging near each other. The fourth type is a long cane on which exercises are performed.

The *mallasthamabha* exercises are many but the *Mallapurāṇa* summarises them under the title *Stambhādhirohaṇam*. It takes place in three ways—





first by the strength of the arm, second by twisting the body and third by means of legs. (X. 16 ff.)

Exercise on *mallasthamabha* requires strength and stamina. It lays great emphasis on the turning and twisting of body and develops toughness. *Mallapurāṇa* notes that it develops the strength of the body, specifically shoulders, hands, arms, thighs, waist, leg-joints and makes the body tough and slim. ...

#### ***Goṇitaka***

... *Goṇitaka* is divided in two varieties, the large and the small. ... This traditional stone ring occurs in two varieties. ... It requires to be lifted, swung, put on head etc. This large *goṇitaka* is useful in developing thigh, neck and the whole body. (XI. 16 ff.)

#### ***Pramadā***

... The heavy *gadā*, *mudgara*, *kārelā* and other types of clubs are used for exercising arms, shoulders, wrists.

#### ***Jalaśrama***

... Swimming is a good form of exercise, but it was not developed to a highly competitive stage to which it has reached to-day. It was more or less a complimentary exercise which developed chest and arms. This idea seems to exist as only the underwater breast-stroke, dog paddle, or the over-arm trudgen and back strokes were known. ...

#### ***Kuṇḍakāvartana***

This seems to be a form of exercise in which circular movements are entailed. The *vajramuṣṭi* exercises have a number of calisthenics in which





circular movements, tumbling etc. are involved and these exercises seem to have been noted here as their effects such as development of thighs, waist, building up wind-power and strengthening of heart are specially mentioned. The *vajramuṣṭī* circular movements are quite fast and they are something like the circuit exercises that are recently developed.

#### ***Svāsapreraṇikāśrama***

This does not seem to be any specific exercise, but it suggests the quality of exercises which develop stamina. These are running, skipping and related types that induce heavy breathing and train an individual to work hard under the conditions of 'oxygen debt'.

#### ***Uhāpohaśrama***

This is no exercise at all. It is only at the most discussion, planning and thinking. Even though this activity does not require any gymnastic or athletic ability, it is an extremely important part of the preparation. Instructions are given and plans are drawn for success in a meet. This activity includes a major part of theory and coaching hints.

#### ***Āmardakīśrama***

This exercise seems to indicate the effects of massage on the massagist. This inference is made possible because massage is noted as *mardanā* and a derivative from it may be the *āmardakīśrama*. It is well-known to the massagists that giving massage is quite a strenuous form of exercise. It might also mean the passive form of exercises felt while undergoing massage.





### *Anyatkṛtakarāśrama*

This seems to indicate the exercises in pairs. They are different from wrestling proper and include pulling, pushing and other movements. ...

Physical exercises are not suitable at all times and in some cases may endanger health and life. The *mallas* have, therefore, enjoined, the following persons not to take exercise: *pinasa* (persons having nasal disease), *sofavān* (having swelling), *kāsa* (having dry coughing), *śvāsa* (having heavy breathing), *kṣudhātura* (hungry), *bhuktavān* (one who has eaten), *akṣam* (weak), *kṣīṇa* (emaciated), *vyagra, cintātura* (worried), *ajirṇavāna* (dyspeptic), *durbala* (without strength), *strisukṣīṇa* (weakened by sexual relation), *madapiḍita* (intoxicated), *sirorogārta* (troubled by disease of head), *bhrānta* (mad), *kshudhāviṣṭo* (very hungry). Some of these disabilities are temporary and others of longer duration.

### *Alpaśrama*

*Alpaśrama* is noted as light exercise and it is defined as that form which does not lead to perspiration or heavy breathing. This definition suggests the amount rather than the type of exercises.

Such *alpaśrama* leads to the development of strength, improves digestion, feeling of lightness and enthusiasm, stops old age, keeps muscles firm and leads to general development (*bṛhaṇa*).

This is recommended for children, old people, persons weakened by fever, wounded people, man with eye-disease, sick, weak and suffering from weak digestion, *vāta*, heat and overwork. It is also recommended for persons, who have insufficient blood, who have observed fast and have deformed body (*kuśarīra*).



### ***Ardhaśrama***

*Ardhaśrama* is more strenuous than *alpaśrama*. It is defined as the exercise which leads to perspiration on the neck, face, armpits, hand and leg-joints and develops rather hard breathing.

*Ardhaśrama* develops pleasant mind (*saumanasa*), strength, nourishment, enthusiasm, joy, happiness and builds up strength and stamina. It removes fainting, fat, bile etc.

### ***Pūrṇaśrama***

This form leads to heavy perspiration all over the body and the eyes become red. It causes heavy breathing and may result in parching of throat, giddiness, fainting, thirst, loss of strength, vomiting, bleeding, burning in heart and even fever.

The good effects of this form of exercise is health, strength, destruction of diseases of heart, bile, worms, *kuṣṭa*. It leads to courage, endurance, good appetite and destruction of diseases. ...

### ***Time of exercise***

Daily exercises are recommended to be taken in the morning. The seasonal variations are also noted in *Mallapurāṇa*. The winter is recommended for *Pūrṇaśrama* (December-April). In the summer (May-June-July) only *Ardhaśrama* is recommended, whereas in monsoon light exercises are recommended.

Some days of rest are also enjoined. Specially *Aṣṭamī*, *Caturdaśī*; the lost *tithī*, the days of *Sutaka*, *Mahāṣṭamī*, *Srāddhapakṣa* (*Pitṛpakṣa*), *Akṣaya navamī*, eclipses, *Akṣayaṭṛtīyā*. These specifications generally mean that at least





once a week the rest day was observed and some times more days were observed as rest days, depending upon the situation.

#### **Arena**

The arena is also described in the *Mallapurāṇa*. It is not the mat as is used to-day. The arena is known as *ākhāḍhaka*. It is high, levelled and low. Its dimensions are three *devamāna* (101 *hastas* or cubits), *daityamāna* (50 *hastas*) and *martyamāna* (21 *hastas*). It is square, triangular and circular. The earth with kankar, iron, wood, stone, thorn etc. should be avoided. It appears that the general dimension was 21 *hastas* which is equal to about 30 feet, and the *devamāna* and *daityamāna* seem to be more for rhetorics rather than actual use.

The earth must be pleasing to see and as soft as that required for seed-laying and should be a hand high and levelled. It should be worshipped and Hari should be placed there and a *bhīṣapūraka* be placed in the centre of the arena. After worshipping 'Govinda' the king should see the wrestling.

#### **Wrestling**

The wrestlers should put on the *āyudha* on the fingers. It should be knitted with thread. When the opponent is broken (defeated) the *malla* becomes victorious.

The *vajramuṣṭī* wrestling is free fight which includes kicking, pressing with knee, boxing on head, temple etc., but a hit below the chest is a foul game.

The wrestling is divided in four types (1) *dharaṇīpāta*, (2) *āśura*, (3) *nara*, (4) *yuddha*.



### *Dharaṇīpāta*

*Dharaṇīpāta* is getting the opponent down on the earth. It is achieved by the force of palm, arm or by throwing one's self down and then bringing down the enemy. The fallen enemy is defeated.

*Dharaṇīpāta* type of wrestling seems to be the common wrestling where victory and defeat consists in turning the opponent on the back. The wrestling types such as *bhīmsenī* and *hanumanti* seem to be of this variety.

### *Āṣura*

This type is fiercer and seems to be a free-fight which includes injury to ear and nose, felling of teeth, biting, pulling of hair, throwing earth, scratching with nails, catching the neck, breaking of fingers, etc.

This type of wrestling is noted as *mathara*, *masura* also, it seems to be equivalent to the *jarāsandhī* variety known to-day. Such type leads to the fall of the *malla*, but he should not be killed. That is *dharmayuddha*. If a *malla* dies the king is responsible. Once a *malla* falls on the ground the wrestling is stopped. ...

### *Diet*

It is interesting to note that the *vajramuṣṭi* wrestlers of the present day are vegetarians. They take cereals, wheat, rice, bajri or jowar accompanied by pulses and green vegetables. They show special preference for milk, curds, ghee and other milk products. They used to consume large quantities of dry fruits both raw and as condiments in the food. Molasses are consumed with food or even as a drink by adding it in water. Similarly they use sugar and citrus fruits, specially lemon.





The *Mallapurāṇa* however clearly indicates their non-vegetarian diet by describing the qualities of a variety of meat. It is not known when the transition to pure vegetarian food habit took place.

They did not take either liquor or tobacco, and considered them injurious. (From Introduction to *Mallapurāṇa: A Rare Sanskrit Text on Indian Wrestling especially as practised by the Jyeṣṭhīmallas*, Bhogilal Jayachandbhai Sandesara and Ramanlal Nagarji Mehta, (eds), Baroda: Oriental Institute, 1964. Courtesy Prof. Siddharth Wakankar.)

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### *Marmaśāstram*

*Marmaśāstram* or the science of *marmas*, i.e., the body's vital points, is an integral part of *kaḷarippayattu*. This text describes an important *marma* and how it will react to a blow given in combat.

#### *Tilamarmam*

After the *Uccimarma* (crown of head, the anterior fontanelle), the next most important *marma* is *Tilamarmam*. The location of this *marma* is in the point where *Ājñācakra* is located in the science of Yoga. This is the second *marma* lying in the straight line drawn from the *Uccimarma*. Known by various names like *Sthapati*, *Poṭṭumarmam*, *Tilamarmam* and *Tilasakkālam*.

Location: This *marma* is located at a distance of one rice grain below the point of intersection of the centre of the eyebrows and the centre of the forehead. Above and below this point are the *Mūrtikkāla* and *Mīnvetṭi marmas*. And on either side are the *Mantrakkāla marmas*. The *Piṅgaḷā Nāḍī* originates from the point of *Uccimarma* and after reaching the *Tilasakkāla* connects with the *marmas* on the four sides.





**Injury:** If the impact is very strong, then the mouth of the victim opens wide and the eyes look upwards and the eyeballs become fixed. There will be shivering in the body and cramps in the sides of the rib cage. Within three and three fourth *nāḍikās* [one *nāḍikā* is equal to 24 minutes], death may occur.

One must assess the pulse, breath and eyes to confirm whether the victim is alive and if there are signs of life, then treatment may be done.

**Manoeuvre:** The physician should keep the victim in the sitting position and then hit hard on the *Uccimarma* with the left hand. The ears and neck should be massaged softly. The *Cuziyāḍimarma* located on the opposite side of the *Tilasakkālam* should be pressed hard with the thumb. The lower jaw should be pressed upward and held.

Chewing dry ginger, one must blow into the ears of the patient repeatedly. Gruel prepared out of old rice grains should be given mixed with dry ginger.

**Treatment:** The galangal root, dry ginger, long pepper, *celastrus* seeds, *khus khus* and *loban* should be made into a decoction and taken twice a day for four days. This will give relief from the pain. (From *Marmaśāstram* by Gaṅgādharan Āśān, 8<sup>th</sup> ed., Thiruvananthapuram, pp. 88-91, translated from the Malayalam by P. Ram Manohar)





## Language and Grammar

It is said that for the great Greek civilization, Geometry was the core science. For the older Indian civilization, Grammar (*vyākaraṇa*) is the core science. It was the first science to develop because it was needed to maintain and to understand the large body of intellectual texts such as the four knowledge texts, the Vedas, the numerous philosophical Upaniṣads, the prose Brāhmanas, the sociological Dharmaśāstras and the phonetic-linguistic Pratiśākhya.

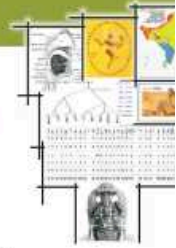
India has been a knowledge society since the beginning, and for the Indian people *jnāna*, knowledge, is superior to action (*karma*) and worship (*bhakti*) and is considered as the great purifier. However, another important view is that knowledge and action are equally important. As the *Yoga-Vāsiṣṭha* notes, for human beings knowledge and action are like the two wings of a bird, both indispensable.

As India has always attached the highest value to knowledge and as all knowledge is constituted in language (*jnānam sarvam śabdena bhāṣate* – Bhartṛhari's *Vākyapadīya*), great value has been attached to the study of language in all its dimensions: sounds, words, sentences, metres, etymology and meaning. As the world's first text, the *Rgveda*, avers:

*gaurīrīmāya salilāni takṣaty ...*

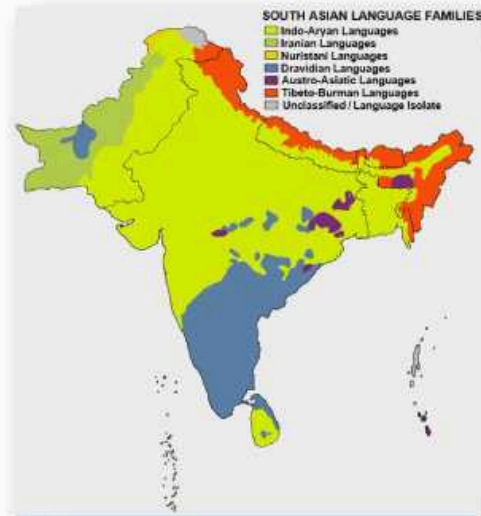
'language cuts forms in the ocean of reality ...' (1.164.41)

It is not surprising, given this primacy of language both as object and as means of knowledge, that there is a long-attested tradition of texts and grammarians in India.



### 1. Languages of India

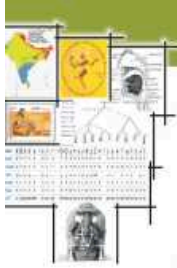
Indian languages may be grouped into two major language families: Indo-Aryan and Dravidian (see the map below). The largest one is that of Indo-Aryan languages spoken mainly in the northern part of India. The second largest is the Dravidian language family that includes languages spoken in the southern part of India, the chief ones being Tamil, Kannada, Telugu and Malayalam. Languages spoken by small communities in the North-East, the northern Himalayan regions and also in different small areas of Jharkhand, Chhattisgarh, Andaman etc. belong to the Austro-Asiatic family while Kashmiri belongs to the Dardic group.



Languages of India and neighbouring countries

While there are almost 1,600 languages spoken in India, the Eighth Schedule of Indian Constitution accepts twenty-two as the official languages of India.





India's languages use a number of scripts, though only about 30 of the 1,600 languages are written down. Some of the major scripts used in Indian languages, including inscriptions, are Brahmi, Kharoshthi, Sharada, Devanagari, Dravida, Old Tamil, Perso-Arabic.

Brahmi	𑀧	𑀘	𑀓	𑀭	𑀤	𑀡	𑀢	𑀣	𑀥	𑀦	𑀨	𑀩	𑀪	𑀫	𑀬	𑀮	𑀯	𑀰	𑀱	𑀲	𑀳	𑀴	𑀵	𑀶	𑀷	𑀸	𑀹	𑀺	𑀻	𑀼	𑀽	𑀾	𑀿
Bengali	অ	ব	গ	ঘ	ঙ	চ	ছ	জ	ট	ঠ	ড	ঢ	ণ	ত	থ	দ	ধ	ন	প	ফ	ব	শ	ষ	স	হ	ল	ল	ল	ল	ল	ল	ল	ল
Devanagari	अ	ब	ग	घ	ङ	च	छ	ज	झ	ञ	ट	ठ	ड	ढ	ण	त	थ	द	ध	न	प	फ	ब	भ	म	य	र	ल	व	श	ष	स	ह
Tamil	அ	ஆ	இ	ஈ	உ	ஊ	஋	஌	஍	ஞ	ஐ	ஓ	ஔ	஖	ங	ஐ	ஓ	ஔ	஖	ங	ஐ	ஓ	ஔ	஖	ங	ஐ	ஓ	ஔ	஖	ங	ஐ	ஓ	ஔ
Kannada	ಅ	ಆ	ಇ	ಊ	ಋ	ಌ	಍	ಞ	ತ	ಥ	ದ	ಧ	ನ	ಪ	ಫ	ಬ	ಭ	ಮ	ಯ	ರ	ಲ	ವ	ಶ	ಷ	ಸ	ಹ	ಲ	ಲ	ಲ	ಲ	ಲ	ಲ	ಲ
Telugu	అ	ఆ	ఇ	ఊ	ఋ	ల	ఱ	ఢ	త	థ	ద	ధ	న	ప	ఫ	బ	భ	మ	య	ర	ల	వ	శ	ష	స	హ	ల	ల	ల	ల	ల	ల	
IAST	a	ba	ga	dha	dha	va	da	ḍa	tha	ṭha	ya	ka	ca	la	ma	na	ṇa	ṣa	pa	pha	sa	kha	cha	ra	ṣa	ta	ta	ta	ta	ta	ta	ta	ta

Table showing the main letters of Indian languages, written in different scripts, starting with the first Indian script, Brahmi. (IAST stands for International Alphabet of Sanskrit Transliteration.) (Adapted from Wikipedia.)

## 2. Study of Language in India

2.1. In *Rgveda*, language is described as a revealer of true knowledge. Bhartr̥hari (5<sup>th</sup> century CE), the great grammarian, says that knowledge and language are interwoven. J.F. Staal has rightly observed that the Indian mind is obsessed with language and philosophy.

And indeed language has been studied since ancient times, aspects and issues such as:

- (i) what is language,
- (ii) speech-sounds (*varṇamālā*) and sound patterns (*dhvani karma*),
- (iii) formation of words (*pada-racanā*),
- (iv) classification of words (*pada-jāti*),
- (v) process of derivation of a grammatical form of words,
- (vi) meaning and interpretation of words and texts,
- (vii) language of literary compositions,



- (viii) meaning in / of a literary work,
- (ix) relation between a word and the object it denotes, and
- (x) *śabda* as the creative principle.

The study of language arose from the need to understand the knowledge texts such as the *Ṛgveda*. These texts have been transmitted orally from teacher to disciples for millennia. Though India had a scientific phonetic script (see table on Sanskrit consonants further below), still knowledge was stored and transmitted orally. Six disciplines known as *vedāṅgas* developed to articulate and interpret texts: *śikṣā* (phonetics), *nirukta* (etymology), *vyākaraṇa* (grammar), *chanda* (prosody), *kalpa* (ritualistic performances) and *jyotiṣa* (astronomy). Out of these six disciplines, the first four pertain to language, its sounds, words and forms, etymology and metre. These four are today part of modern linguistics.

What is the Indian definition of language? Three features of language are:

- (i) It is primarily speech. Consider our words for language: *bhāṣā*, *vāk*, *vāṇī*, *bolī* etc. All assert that language is speech (writing is secondary as it represents speech).
- (ii) It is the means of thought – thinking is not possible without language.
- (iii) It constructs for each of us things, experiences, emotions and ideas by naming them. With these we know things that are not present physically. Someone utters the word 'cow' and we see in our mind the picture of a particular animal and can describe it at length.

2.2. Many statements have been made about language in the early texts. The *Ṛgveda* distinguishes between ordinary language (*bhāṣā*) and good speech (use of language) that should be used to speak the truth (5.44.6) and to say what one sees (10.35.8; 9.95.2; 8.59.3). A good speech is characterised by originality and creativity (not just imitative) (6.76.12). It is sweet to hear (1.182.4; 2.21.6; 8.59.3), lucid, fluent





(*pravāhamaya*) and clearly articulated (4.58.6; 10.98.35; 5.63.6). It should be used purposefully (1.164.10) and should be rich in meaning (4.58.6). It should be thoughtful and capable of ensuring welfare of the people (8.100.11). Language is 'a great gift of gods to men' and hence should be employed with care (7.18.1).

In the Brāhmaṇa texts, speech is rooted in the mind: 'Speech is preceded by the mind because speech expresses what is comprehended by the mind' (*Pañcaviṃśa Brāhmaṇa*). In the Upaniṣads, there are references to language about both the meaningful combination of speech-sounds (words) and the meaning associated with them. In many places, the Upaniṣads discuss the relationship of one's own self and language: 'The wise should merge the speech in the mind (*mana*), and that (mind) in the intellect (*buddhi*), the intellect in the Great Self (*mahāpuruṣa*), and that (Great Self again) in the Self of peace (*śānta-ātman*).'

### 3. Disciplines of Language Studies in India

Let us discuss in brief the four of the six *vedāṅgas* that deal with language: *śikṣā* (phonetics), *vyākaraṇa* (grammar), *nirukta* (etymology) and *chanda* (prosody).

#### 3.1 Śikṣā (Phonetics)

Phonetics, the science of speech-sounds, developed in response to the need to preserve and articulate accurately the Vedic hymns (*mantras*) in the oral tradition. Yāska refers to this in his *Nirukta*. Phonetic study produced a brilliant understanding and a highly sophisticated analysis of the speech-sound structure and sound patterns of human languages. Four aspects of the speech-sounds have been studied:

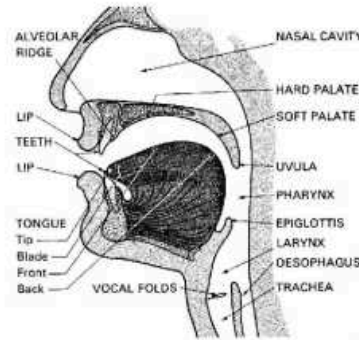
- (i) how speech-sounds are produced,
- (ii) listing and classification of speech-sounds (*varṇamālā*, garland of letters or speech-sounds, the alphabet),
- (iii) sounds in context (*sandhi*), and





(iv) how a sound changes when it is spoken along with other sounds.

The diagram below shows the places of articulation of speech-sounds in the oral and nasal cavities along with the articulators (active and passive):



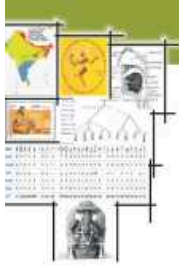
The *Pāṇiniya Śikṣā* describes the process of speech production involving both the mental and the physical faculties. When there is a desire to speak, a measured amount of the life breath (*prāṇa*) is retained in the lungs. Then this breath moves upwards in the form of air stream, passes through the vocal cords (*kaṇṭha*) and sets them vibrating. This vibration makes the sound audible. In the articulation of a vowel sound, the air stream is allowed to flow without any obstruction through the oral and nasal cavities. Different vowels are articulated through lowering or rising of the tongue and also through rounding or un-rounding of the lips. A consonant sound (*vyañjana*) is articulated by the contact of the active articulator (such as tongue and lips) and the passive articulators (marked above).

#### a) Places of articulation

According to Indian linguistic tradition, the places of articulation (passive) are classified as five. They are (see the table below for examples):

- *kaṇṭhya*: velar
- *tālavya*: palatal





- *mūrdhanya*: retroflex
- *dantya*: dental
- *oṣṭhya*: labial

Apart from that, other places are combinations of the above five places. They are:

- *dantoṣṭhya*: labial-dental (for example, /v/)
- *kaṅṭhatālavya*: diphthongs (for example, /e/)
- *kaṅṭhosthya*: labial-velar (for example, diphthong /o/)

The articulators (active) are four:

- *jihvāmūla*: tongue roots, for velar
- *jihvāmadhya*: middle of the tongue, for palatal
- *jihvāgra*: tip of the tongue, for cerebral and dental
- *adhoṣṭa*: lower lip, for labial

#### b) Efforts of articulation

Effort of articulation (*uccāraṇa prayatna*) is of two types for consonants:

##### (i) *Bāhya prayatna*: external effort

- *sprṣṭa*: plosive, i.e. a sound produced by the sudden release of air after a complete block (for instance, *pa*, *ka*),
- *īshatsprṣṭa*: approximant, i.e. when the tongue (articulator) is brought very close to the place of articulation (for instance, *ja*),
- *īshatsamvṛta*: fricative, when the articulator and the places of articulation are brought close together and the air is forced through (for instance, *va*).

##### (ii) *Ābhyantara prayatna*: internal effort

- *alpa-prāṇa*: unaspirated or slight aspiration (for instance, *ba*)
- *mahā-prāṇa*: aspirated (for instance, *bha*)
- *śvāsa*: unvoiced (for instance, *ka*)
- *nāda*: voiced (for instance, *ga*)





**c) Articulation of consonants**

Articulation of consonants will be a logical combination of components in the two *prayatnas*, effort. The table below gives a view upon articulation of consonants.

Sanskrit Consonants						
<i>Prayatna niyamāvalī</i>	<i>kaṅṭhya</i> ( <i>jihvāmūla</i> )	<i>tālāvya</i> ( <i>jihvāmadhya</i> )	<i>mūrdhanya</i> ( <i>jihvāgra</i> )	<i>dantya</i> ( <i>jihvāgra</i> )	<i>dantoṣṭya</i>	<i>oṣṭya</i> ( <i>adhosta</i> )
<i>sparśa, śvāsa, alpaprāna</i>	ka	ca	ṭa	ta	—	pa
<i>sparśam, śvāsa, mahāprāna</i>	kha	cha	ṭha	tha	—	pha
<i>sparśa, nāda, alpaprāna</i>	ga	ja	ḍa	da	—	ba
<i>sparśa, nāda, mahāprāna</i>	gha	jha	ḍha	dha	—	bha
<i>sparśa, nāda, alpaprāna, anunāsika, drava, avyāhata</i>	ṅa	ṅa	ṅa	na	—	ma
<i>antastha, nāda, alpaprāna, drava, avyāhata</i>	—	ya	ra	la	va	—
<i>ūṣman, śvāsa, mahāprāna, avyāhata</i>	<i>visarga</i>	śa	ṣa	sa	—	—
<i>ūṣman, nāda, mahāprāna, avyāhata</i>	ha	—	—	—	—	—

**Classification of Speech-Sounds**

Śivasūtra (also known as *Pratyāhārasūtra*) is believed to have originated from Śiva's dance. A text called *Nandikeśvara-kāśikā* of Nandikeśvara begins with the following verse:

*nṛtāvasane naṭarājrajo nanādaḍhakkāṅṅ navapañchavāram |  
uddharttukāmosanakādisiddhān etadvimarśe śivasūtrajālam ||*

At the end of His Cosmic Dance,  
Śiva, the Lord of Dance,  
with a view to bless the sages Sanaka and so on,





played on His *ḍamarū* [double-sided drum] fourteen times,  
from which emerged the following fourteen *sūtras*.



The table below is a classified list of Sanskrit speech-sounds that forms the first part of Pāṇini's *Aṣṭādhyāyī*. Sounds are grouped together (into sets) according to their properties and are referred to / summarized by the first sound and the last. For example, the three sounds of the first group are referred to as *aṅ* – such terms as *aṅ* are called *pratyāhāras* and are an economical way of referring to a large number of sounds.



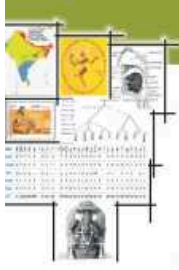


	Phonetic Transcription	Devanāgarī
1.	a i u ṅ	अइउण्
2.	r̥   k	ऋल्क्
3.	e o ṅ	एओङ्
4.	ai au c	ऐऔच्
5.	ha ya va ra ṭ	हयवरट्
6.	la ṅ	लण्
7.	ña ma ṅa ṅa na ṅ	त्रमङणनम्
8.	jha bha ṅ	झभञ्
9.	gha ḍha dha ṣ	घढधष्
10.	ja ba ga ḍa da ś	जबगडदश्
11.	kha pha cha ṭha tha ca ṭa ta v	खफछठथचटतव्
12.	ka pa y	कपय्
13.	śa ṣa sa r	शषसर्
14.	ha l	हल्

### 3.2. Nirukta (Etymology)

*Nirukta* is the science of study of the meaning of words used in texts. It was composed by Yāska (9<sup>th</sup> century BCE). It is a commentary on *Nighaṅṭu*, a classified list of Vedic words compiled by Yāska himself. The text is composed in the form of a discussion. By the time of Yāska, the language of the Vedas had become difficult to understand because many words had gone out of use and their meanings were no longer clear. So some scholars, such as Kautsa, argued that Vedic hymns are meaningless. So Yāska prepared a list of such difficult words (*Nighaṅṭu*) and then explained their origin and meaning (in *Nirukta*).





Yāska classifies all words into four classes: *nāma* (nouns and pronouns), *ākhyāta* (verbs), *upasarga* (prefixes) and *nipāta* (indeclinables).

**Method of explaining the meaning of words:** Yāska takes a word and derives it from a verb root (*dhātu*) on the basis of its phonetic and semantic similarities. For example, the word *pāka*, 'a cooked dish', is made from the root  $\sqrt{pac}$ , 'to cook'. He gives examples of such meanings by quoting examples of use from various works.

### 3.3. Vyākaraṇa (Grammar)

Grammar is valued as the most important discipline for the study of all other knowledge disciplines.

The first attested study of language is a kind of lexicography, list-building – there are many *pada-paṭha*, enumerations of the Vedic words. It is not possible to do this without a knowledge of the grammar of language. These are lists of verb roots, prefixes etc. This breaking-down of a continuous text into its parts such as sentences and words is not possible without some knowledge of *vyākaraṇa*, literally 'an instrument of division or analysis'. The scholars who prepared these lists of nouns or verbs were the first grammarians. In Sanskrit, several such lists have been made for both compositional / written (*vaidikī*) and spoken language (*laukikī*).

The tradition holds that there was a long tradition of grammatical thinking before Pāṇini. Pāṇini (7<sup>th</sup> century BCE) in the *Aṣṭādhyāyī* refers to the works of ten grammarians such as Āpiśali, Kāśyapa, Gārgya and others. Eighty-five grammarians before Pāṇini are known to us by name.

Pāṇini's *Aṣṭādhyāyī* is a grammar of both the spoken language (*laukikī*) and the compositional language (*vaidikī*). It is composed in the *sūtra* (abbreviated and exact) style and contains around 4,000 *sūtras*. As these *sūtras* are arranged into eight chapters, hence the text is called *Aṣṭādhyāyī* (*aṣṭa-adhyāyī*, 'eight chapters'). Then each chapter contains four subsections called *pāda* (so a total of 32 subsections). It is the



only complete, rule-bound and comprehensive description of a natural human language. For the later grammarians this grammar became a model for the analysis of many other languages.

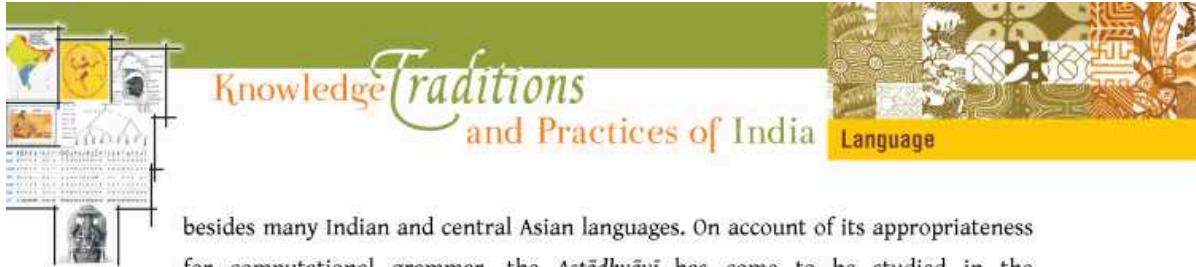
Indian grammar analyzes language as a structure of five levels. The first level is of *varṇa*, sound; the second level is *akṣara*, syllable. The third level is of *śabda*, words that are made of syllables. As in Yāska, in Pāṇini's grammar also, all words belong to four classes: *nama* (substantive, i.e., nouns and adjectives), *ākhyata* (verbs), *upasarga* (prefixes), *nipata* (indeclinables). *Upasargas* are words such as *pra-*, *pari-*, which are used in the beginning of some other word, a verb or a verbal derivative or a noun, to make a new word that means some activity. Thus 'anti-God' means 'not believing in God'. And *nipātas* such as *iva*, *na*, *ca* etc., are particles which possess no gender and number and do not change their form, words such as adverbs, conjunctions in English

The next level of organisation is *pada* (inflected words such as 'boys' which means 'boy + plural'). Formation of *pada* from *śabda* is in the scope of grammar. A *pada* is formed by a conjunction of *prakṛti* (base) and *pratyaya* (affix).

Word formation includes *derivation*. All *padas* are divided into two sets: those that are like nouns and those are like verbs. From verbs nouns can be formed and from nouns verbs can be formed with the help of affixes that are called in grammar derivational affixes, such as, *-er* in English which is used to change verbs into nouns: *drive* > *driver*. Thus in Sanskrit, from the verb root √*pac* (to cook), the noun *pācak* (cook) is derived by adding the affix *-ak*.

Sentences that meet the rules of Pāṇini's grammar are accepted as *siddha*, literally 'ripe' or 'mature'. In English grammar, we say the sentence is 'grammatical'. Pāṇini's grammar has influenced modern linguistics via Ferdinand de Saussure, who was a professor of Sanskrit at Geneva in the late 19<sup>th</sup> century. This grammar has also served as a model for grammars of many languages: Persian, Tibetan, Tamil, Prakrit,





besides many Indian and central Asian languages. On account of its appropriateness for computational grammar, the *Aṣṭādhyāyī* has come to be studied in the departments of Linguistics and Computer Science.

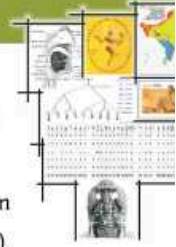
Leonard Bloomfield in his celebrated book *Language* acknowledged the contribution of Pāṇini in the advancement of human knowledge: 'The *Aṣṭādhyāyī* of Pāṇini is one of the living monuments of human intelligence.' (p. 11)



Depictions of Pāṇini (left) and Patañjali (right) (source: Wikipedia). Note that Patañjali's lower body is in the form of a snake, which stands for Śeṣanāga, the mythical guardian of treasure: Patañjali guarded knowledge, which is regarded as the highest treasure.

After Pāṇini, there was a succession of thinkers of language, grammar and philosophy of language: Kātyāyana (4<sup>th</sup> century BCE) who commented on Pāṇini's rules, Patañjali's (2<sup>nd</sup> century BCE) who composed *Mahābhāṣya* (literally, 'The grand commentary'), a commentary on *Aṣṭādhyāyī*, and Bhartṛhari (5<sup>th</sup> century CE) whose *Vākyapadīya* is a celebrated work of philosophy of language and grammar. Grammar influenced both philosophy and literary theory; thinkers such as Bharata (2<sup>nd</sup> century BCE), Bhāmaha (6<sup>th</sup> century CE), Vāmana (7<sup>th</sup>-8<sup>th</sup> century) and Abhinavagupta (9<sup>th</sup> century) composed works on language and the philosophy of literature. Buddhists and Jains were also deeply influenced by Pāṇini's grammar and composed *Cāndra*





*Vyākaraṇa* (4<sup>th</sup> century CE) and *Jainendra Vyākaraṇa* (5<sup>th</sup> century CE) respectively. In the long tradition of grammars and grammarians comes Nāgeṣh Bhaṭṭa (1670-1750), who wrote three books on the philosophy of grammar and is accepted as the final authority.

### Theory of Grammar

Patañjali distinguishes between the principal purpose and the ancillary purposes of the science of grammar. The chief purpose is to attain a mastery of the language. Other purposes are: understanding the texts, ability to argue and debate and articulate accurately the hymns and sacred verses. He also makes a distinction between widely acceptable linguistic forms, standard usage, and forms acceptable only in a specific region, dialectal usage. He accepts *loka* (the world of usage) as authority and accepts all varieties of usage. According to Patañjali, the goal of grammar is to lay down *dharma-niyama*, to show the standard usage. It restricts the choice to the best of the available possibilities. Just as furniture can be made of all kinds of wood but teak is to be preferred and hunger can be assuaged by eating the flesh of any animal but the flesh of only some animals is to be eaten and all water is water but only Ganga water is auspicious, in the same way, the intended meaning may be conveyed best by one of the forms.

The 'desired result' in language transaction is the successful transfer of meaning: this is the *dharma* of language and towards the attainment of this *dharma* it is the function of grammar to lay down *niyama* – *dharma-niyama*, restriction for an efficacious transfer of meaning. He also refers to (a) *mleccha-prayoga*, the usage of the non-native speakers, (b) *apaśabda*, any of the dialectal variants, and (c) *duṣṭaśabda*, an inaccurate usage due to physical infirmity or ignorance.

Grammar thus establishes *sādhu* words as *siddha* and *asādhu* words as *asiddha*, not accepted as standard.





After Patañjali comes the age of *prakriyā*, re-ordering the rules of Pāṇini's grammar to simplify it. The *Siddhānta-Kaumudī* of Bhaṭṭojidikṣita (17<sup>th</sup> century CE) is a *prakriyā* text.

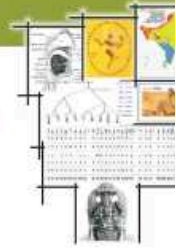
Sanskrit grammar is also accepted in India's intellectual tradition as a philosophy. Śrī Mādhavācārya (13<sup>th</sup> century) in his *Sarvadarśanasamgraha* has a chapter on 'Pāṇini Darśana', Pāṇini's philosophy, one of the sixteen philosophies explained in that important book. Bhartṛhari's *Vākyapadīya* (5<sup>th</sup> century) is the landmark work in the domain of philosophy of language. Apart from this, many grammarians such as the Buddhist Chandragomin, the Jain Hemachandracārya, Pali and Prakrit grammarians and Tamil grammarians (Tolkāppiyar and his *Tolkāppiyam*) have immensely enriched the traditions of language studies in India.

Today, Sanskrit Grammar is an important subject of study in most major world universities.

### 3.4. Chanda (Prosody)

The Vedas are also India's first literary compositions and the Vedic seers are the first poets. A major portion of the Vedic compositions is metrical. So the science of prosody also developed in India in very early times. In oral traditions, prosody also helps to maintain the text as it is. A change occurring in a versified text in course of time can be easily traced as it disturbs the rhythm (flow) of the text. Sage Piṅgala, supposed to be a contemporary of Pāṇini, had composed a prosody text called *Piṅgala-sūtra* or *Chanda-sūtra*. Of the many metrical arrangements, *anuṣṭubh* is the most frequently employed metre in the classical Sanskrit literature and the epics *Rāmāyaṇa* and *Mahābhārata* have used this metre. Tamil metres are described in the *Tolkāppiyam*. Apart from these, there are various local metres in different Indian languages.

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**Comprehension**

1. Discuss in your group the reasons for phonetics being a key aspect of language study in ancient India
2. What is the meaning of lexicon? Frame more words using 'lexis' as the root word.
3. What is the term given to one who works on compiling words?
4. Refer to the above image showing places of articulation of speech-sounds in the oral and nasal cavities: which of the six *vedāṅgas* do they represent?

**Activity 1**

➤ Complete the table with four key statements about Pāṇini:

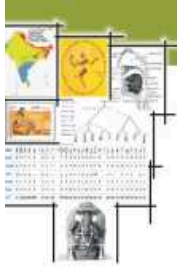
	Name	Meaning / Function
1.	Varna	
2.		
3.		
4.		
5.		

**Activity 2**

➤ What are the principles which convert Language units into structures?

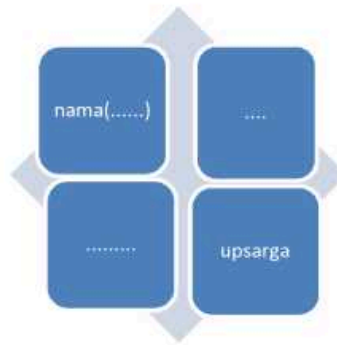
	Principle	Meaning
1.	Sequence and order	
2.		
3.		
4.		
5.		





Activity 3

- Complete the visual below with the correct terms four classes of *śabda*:



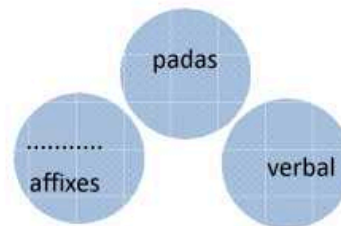
Activity 4

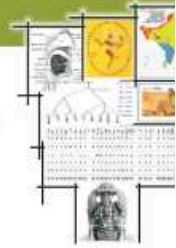
- What are the two aspects that complete a *pada*?



Activity 5

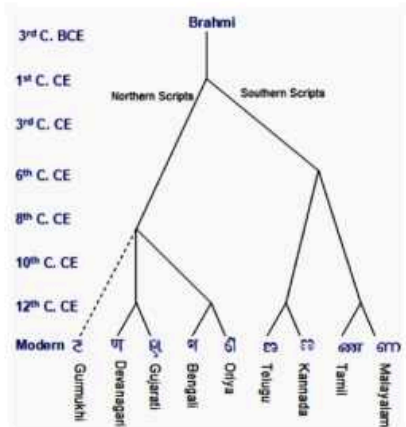
- What are the two sets of *padas*? Complete the visual given.





Activities

- Make a list of twenty words from your mother tongue and any other Indian language, which have nearly the same meanings / roots.
- Use the Internet to list the major stages of development between the following scripts (you may refer to the following diagram as a general guide):
  - Brāhmī and Devanāgarī
  - Brāhmī and Tamil script
- For the following pairs of concepts, list words from your mother tongue and at least two more Indian languages:
  - happiness – sorrow
  - success – failure
  - birth – death
- Pāṇini's *Aṣṭādhyāyī* explains grammar in a systematic manner. For example one of Pāṇini's *sūtras* on the places of articulation says, *akuḥavisarjanīyānām kanthaḥ*, which means letters a, kavarg (i.e. ka, kha, ga, gha, ṅa ), ha and visarga, are called *kaṇṭhya* or articulated in the throat). Now work in pairs or speak in front of the mirror to understand Pāṇini's *sūtra*. Refer to the table of Sanskrit consonants in the above article.





### Project Ideas

1. Prepare a multimedia presentation on the language families in use in India. Find out how many languages are spoken by each student of your class; work out the total number, and use this resource to make your presentation come alive with the diversity and richness of the Indian language scenario. What does it tell you about India and its people? How is the Indian linguistic scenario different from western countries?
2. Discuss the following questions with your class:
  - a) How many languages do you learn at school?
  - b) How many languages classified as 'mother tongues' exist in India?
  - c) What is referred to as the 'three-language formula'?
3. Look at the above map of India ('Languages of India and neighbouring countries') and make a list of the languages and, wherever possible, dialects spoken in different states of India. You may form groups for different states; at the end, compile information from all groups and draw your conclusions.

### Extended Activities

- You have invited Pāṇini and Yāska to preside over the Inauguration Ceremony of a debating society. As Secretary, write your speech introducing your guests of honour to the gathering. Make sure to highlight their contribution to the world of linguistics. At the same time, speak about the objectives of your debating society. Highlight the role of the society in providing opportunities to train learners in models of desirable speech as highlighted in the Rgveda.





### Further Reading

1. Yudhishthir Mimamsak, *Sanskrit Vyakaraṇasāstra Kā Itihāsa* (Students' edition in Hindi), Varanasi: Chowkhamba Publishers, 1998.
2. Suniti K. Chatterji, (ed.), *The Cultural heritage of India*, vol. 5: *Languages and Literature*. Kolkata: Ramakrishna Institute of Culture, 1978
3. *The Aṣṭādhyāyī of Pāṇini*, tr. Rama Nath Sharma, 6 vols, Delhi: Munshiram Manoharlal, 2002-2003.
4. Kapil Kapoor, *Dimensions of Pāṇini Grammar*, Delhi: DK Printworld, 2005.

### Internet Resources (all URLs accessed in May 2013)

- Languages and scripts of India: [www.cs.colostate.edu/~malaiya/scripts.html](http://www.cs.colostate.edu/~malaiya/scripts.html)
- Brahmi alphabet : [www.omniglot.com/writing/brahmi.htm](http://www.omniglot.com/writing/brahmi.htm)
- Major Indian languages: <http://theory.tifr.res.in/bombay/history/people/language/>
- Indian languages: <http://indiainsaga.com/languages/index.html>





## Primary Texts on Language: A selection

In the extracts below, references have been collected from Vedas, Upaniṣads, Brāhmaṇas, grammatical and philosophical and other foundational sources. They dwell upon the nature of language, levels and states of language, relationship of language and the world and thought, components of speech, purpose and function of *vyākaraṇa* (literally, instrument to analyse language, grammar).

### Reflections on Language from Vedic Sources

(In this the goddess of Vāk speaks in the first person:)

Through me alone all eat the food that feeds them – each man who sees, breathes, hears and the words outspoken.

They know it not, but yet they dwell beside me. Hear one and all the truth as I declare it.

... I make the man I love exceedingly mighty, make him a sage, a *ṛṣi* and a brāhmaṇa. (*Ṛgveda*, 10.125.4-5)

We shall discuss alphabet (letters-vowels and consonants), syllables, speech production, pitch and intonation – [all in this chapter] *śikṣā*. (*Taittiriyaopaniṣad*, 1.2)

These are ... *aparā* sciences – the six Vedas, *Rk-*, *Yaju-*, *Sāma-* & *Atharva-*, the six auxiliary disciplines of Vedas, Phonetic, Ritual, Grammar, Etymology, Metrics and Astronomy. These disciplines are not *para* knowledge which is the means for *moksha*, the ultimate liberation. (*Muṇḍakopaniṣad*, 1.5)



Sthavira Sākalya says that breath is a beam, and as the other beams rest on the main beam of the house, the eye, the ear, the mind, the speech, the senses, the body, the whole self rests on this breath. Of this self, the breath is like the sibilants, the bones ... the mutes, the marrow ... the vowels and flesh and blood, the fourth part, the semi-vowels, so says Harsva Mandukya. ... The human body is the divine lute. (*Aitareya Āraṇyaka*, III, 2, 1)

\*\*\*

In the extracts below, culled from various Vedic sources, first the four phases of language are identified (*Rgveda* 1.164.45). The subsequent three passages (ii-iv), describe the role of breath and mind in language. The fifth passage from *Chāndogyaopaniṣad* identifies speech as an index of life and describes how speech merges in breath in the dying moments. In the sixth passage, there is a prayer therefore that speech be preserved and the text goes on to identify speech as a means of knowledge.

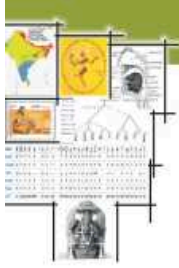
(i) Speech hath been measured out in four divisions; the Brāhmaṇas who have the understanding know them. Three kept in close concealment cause no motion; of speech, men speak only the fourth division.

Here are these four divisions or structures of the language:

- (a) *Parā*: speech as unitary thought
- (b) *Paśyanti*: collecting breath sufficient for projected utterance
- (c) *Madhyamā*: sequencing of speech and pushing the air column up
- (d) *Vaikhari*: manifest / articulated. (*Rgveda* 1.164.45)

(ii) Lord! May my speech rest in my mind and mind merge into my speech! O Lord, be visible and bring knowledge to my mind and speech. May the acquired knowledge never leave me and with self-study I bridge this day





and night. I will speak truth only. May the Lord defend me and my Teacher. (*Aitareyopaniṣad*, 1)

(iii) He created Prāṇa, from Prāṇa faith, sky, air, fire, water, earth, senses, mind and food strength, penance, *mantras*, *karma* and worlds and in the world names also. (*Praśnopaniṣad*, 4)

(iv) Thus the substantial part of the later food is transformed and gains the form of speech; mind originates from food, vital force from water, speech from the *tejas*. Thus what have I said is true. (*Chāndogyopaniṣad*, VI.4.5)

(v) A dying person recognizes the world until his speech merges into his mind; when his speech merges into mind, mind into vital force, the vital force into five and lastly this fire into the Supreme Deity. (*Chāndogyopaniṣad*, VI.15.1.2)

(vi) O Lord, preserve my life, preserve my *prāna*, guard my *apāna*, guard my *vyāna*. Preserve my eyes, preserve my ears. Strengthen my speech with good instructions. Satisfy my mind ... vouchsafe me light of knowledge. (*Yajurveda* 13.54)

\*\*\*

May our speech, the giver of pure food that enables us to acquire knowledge, possessing practical wisdom born of all sciences, be a purifier. May it desire and manifest the glory of arts and crafts and noble actions, helping us to associate ourselves with pure and righteous deeds. (*Rgveda*, 1.3.10)



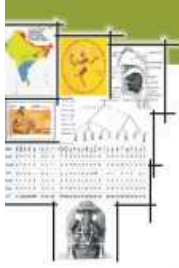
O men, just as a lady doctor well-versed in the science of medicine ... having mastery over Āyurveda ... stretches out the healing sacrifice, for prosperity with [her] speech, so should not ye do! (*Yajurveda*, 19-12)

O adorable and learned teachers and preachers as thou lead us on the path with nobility of thy mind, teach us exertion with thy sweet and joyful words, give us knowledge ... lay before us ... the noble arts performed by the sages through wisdom and truthful speech, hence thou art worthy of respect by us. (*Yajurveda*, 8.45)

O fair-tongued, preserver of various objects, make pleasant for all, the commendable paths of rectitude, with thy sweet sermon and excellent exposition. Develop the society and philosophical subjects with thy holy thoughts and strengthen our innocuous worship through learned persons. (*Yajurveda*, 29.26)

O Vedic speech, show us the path, so that observing the principle of unification, we may thrive. (*Atharvaveda*, 6.94.3)

Kauntharavya says speech is united with breath, breath with blowing air, the air with the all-gods, all-gods with the world of heaven, the world of heaven with Brahman. This is the gradual union ... By speech are Vedas composed, by speech these metres are strung. By speech friends are united. ... Now when we speak, breath is in speech — speech then swallows breath. When we are silent or in sleep, speech is in breath — breath then swallows the speech. They swallow each other. Speech indeed is the mother, breath the son. He, who knows this union obtains ... fame, glory. (*Aitareya Āraṇyaka*, III.1.6)



### Phonetics

#### *Pāṇinīya Śikṣā*, (tr. & ed., Manmohan Ghosh)

A text on general phonetics describes the process of articulation of speech sounds.

*Ātmā* (the self) with *buddhi* (intellect) perceives things and sets the mind to an intention of speaking; the mind (then) gives impetus to the fire within the body, and the later drives the breath out. (6)

(The breath which is thus) sent upwards and is checked by the roof of the mouth attains to the mouth and produces speech sounds (*varṇas*), which have a five-fold classification — according to their pitch, quantity, place of articulation, the primary effort (*prayatna* i.e. adjusting the articulator) and secondary effort (*anupradāna*, i.e. stiffening or loosening the vocal cords). So said those who were versed in (pronouncing) speech sounds. Learn this carefully. (9-10)

### Nirukta (Etymology)

The twin texts *Nighaṇṭu* and *Nirukta* of Yāska (9<sup>th</sup> century BCE) are the oldest extant work on dictionary and expounding its meaning. The following extracts are from *Nirukta* that tell about parts of speech and how a word is derived from its root (verbal).

#### *The Nighaṇṭu and the Nirukta of Śrī Yāskācārya* (tr. & ed., Lakshman Sarup)

A traditional list [of Vedic words] has been handed down to us. It is to be (here) explained. This same list is called *Ni-ghaṇṭavas*. From what (root) is (the word) *Ni-ghaṇṭavas* derived? They are words quoted from the Vedas (*ni-gamāh*). Having been repeatedly together from the Vedic hymns, they





have been handed down by tradition ...

Now what are the four classes for words? They are the following: noun and verb; and prepositions and particles. ... The verb has becoming as its fundamental notion, nouns have being as their fundamental notion. But both are dominated by becoming ...

... there are six modifications of becoming: genesis, existence, alternation, growth, decay, and destruction.

He is the bearer of a burden only, — the blockhead who, having studied, does not study the meaning of the Veda. But who knows the meaning obtains all good fortune and, with wrong act (*pāpa*) purged off by knowledge, attains heavens.

Whatever is learnt without its being understood is called mere cramming; like dry logs of wood on an extinguished fire, it can never illuminate. (1:1-5)

Now (we shall deal with) etymology.

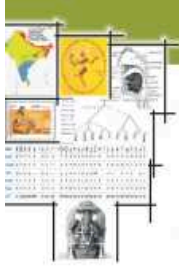
With reference to this, the words, the accent and the grammatical forms of which are regular and are accompanied by an explanatory radical modification, should be derived in the ordinary manner.

But the meaning being irrelevant, the explanatory radical modification being non-existent, one should always examine them with regard to their meaning, by analogy of some common course of action.

If there be no such analogy, one should explain them even by the community of a (single) syllable or letter;

But one should never (give up the attempt at) derivation. (2:1-4)





4. Patañjali's *Mahābhāṣya* (adapted from S.N. Dasgupta's translation)

Now commences the science of words.

1. Which words are meant here?
2. Both the current as well as the archaic.
3. Now, what constitutes the word in *gauḥ*? Is the word *go* that which constitutes the object (viz. the animal) possessed of a dewlap, a tail, hump, hoofs and horns?
4. No, says the Grammarian; it is verily the *dravya* i.e. the object.
5. Well, then, is the word *go* that which constitutes beckoning, moving and winking?
6. No, says the Grammarian; it is verily the action.
7. Well, now, is that, which constitutes the white or the blue, or the grayish or the brown, the word?
8. No, says the Grammarian; it is the quality, in fact.
9. Well, now, is the word that general feature, which remains unbroken although the things are broken or which remains uncut although the things are cut?
10. No; says the Grammarian, that is, in fact, the genus or the common form.
11. Well, what is the word in *gauḥ* then? Word is that which, when uttered, gives rise to the knowledge of objects possessed of dewlaps, tails, humps, hoofs and horns. Or, in other words, word is that sound from which there arises the knowledge of things in the affairs of the world. For instance, a person producing sound by mouth is addressed



as follows: go on with your words, or, do not talk words, or this boy is speaking words. It follows, therefore, that 'word' means sound or utterance of letters.

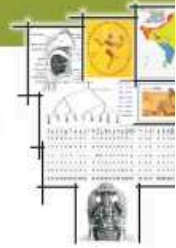
12. Now, what are the advantages of learning this Grammar of Science of words?
13. The advantages are: preservation of Veda, ability to change the case and gender affixes, the study of Veda, facility of knowing the sense of words, and lastly, removal of any ambiguity of sense.
14. Knowledge of changing the case-inflection, is also an advantage: the hymns of the Vedas are not uttered ... in all genders and cases. ... A man who does not know grammar is not able to use their forms with changed gender and case-affixes where necessary. Now ... there is a text that says that a Brahmin should, without any motive, devote himself to knowledge. ...
15. Grammar has also to be studied ... to know words with economy of effort.
16. Grammar has also to be studied for the removal of doubts .... If one is not a grammarian, one cannot determine the sense from the accents .... A Brahmin therefore should not speak incorrect words; an incorrect word is a bad word; we should study grammar so that we should not be utterers of incorrect words. ...
17. The sentence beginning with *duṣṭaḥ śabda* [the translator is referring to the Sanskrit sentence in the original text] means: a word with an incorrect accent or an improper letter, becomes improperly used, and does not therefore convey the required sense; such a word ...ruins the





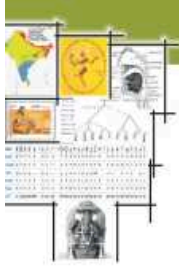
speaker.... Grammar should be studied so that we should not employ wrong accents.

18. The sentence beginning with *yadadhitam* means: words studied without the knowledge of their sense, being only mechanically uttered by the mouth, do not ... produce their effect, just as dry fuel does not burn unless it is put into fire. ... A man who, in his dealings, uses words in their correct sense, being cognizant of the nice distinctions in sense, is always victorious ... as he knows verily the proper use of words; if he, however, used incorrect words, he meets failure. ...
19. The stanza beginning with *saktumiva* means: at the place where learned thinkers with their intelligence purify speech as men sift barley from corn with a sieve, friends behave with a spirit of friendship having the blessed fortune staying inside their speech. ...
20. Which is the place referred to?
21. The place where they study Vedic speech and obtain knowledge.
22. Who are those learned thinkers?
23. Of course, the grammarians.
24. How do you say that they become fast friends?
25. Because blessed fortune dwells in their speech. The word *lakṣmī* (fortune) is derived from the root *laks* to shine.
26. Now the exposition of the Science of words has to be given. ... How that exposition has to be given – whether by expounding incorrect words, or correct words or both ..., which is the better method out of the two? ... Of course, the exposition of correct words on account of their small number. The exposition of correct words can be done with



a small effort; the exposition of incorrect words is a difficult task, as every one of the correct words can have many incorrect forms. ...

27. Well now, in giving the exposition of [correct] words, in order to know the correct words, should each word be taught individually?...
28. No, it is not necessary to do so, say the Grammarian. ...
29. Then how are these correct words to be taught?
30. There should be followed the method of laying down general principles and exceptions so that with a comparatively small effort, a man would learn bigger and bigger collections of words.
31. What could that method be?
32. Of course, the method of laying down general rules and exceptions. There should be first given a general rule and then its exception should be stated.
33. What kind of general rule should there be stated? So also what kind of exception should be given?
34. There should be stated a general rule with a wide application, ... then a specific exception to the rule should be given.
35. Well, now, what does a word mean? Does it mean the universal or particular?
36. Both, says the Grammarian, are possible.
37. How can it be known?
38. Because the preceptor *Pāṇini* has recited *sūtras* of both the kinds: He has laid down the aphorism[s] 'general form' as the sense of a word



[and] has written the aphorism[s] having in his mind 'an individual object' as the sense of a word.

39. Well, is word permanent or is it produced [at the time of utterance]?
40. The question whether word should be looked upon as permanent or produced, has been prominently discussed in his work *Samgraha* by the teacher Vyāḍi. The faults of both the views have been shown there as also the advantages of both the views. The decision given there, after all, is that in the Science of Words, Grammar has to be written either way, whether the word be assumed to be permanent or produced.
41. But, how is this Grammar of the great teacher Pāṇini composed? Is it composed by the grammarian with permanence of word in his mind or temporariness of word in his mind?
42. The *Vārttikakāra* [i.e., Kātyāyana, a 3<sup>rd</sup>-century BCE commentator of Pāṇini] ... lays down:
43. With word, its sense and their connection already given [the science of Grammar proceeds].
44. A word is not incorrect simply because it has gone out of use ....
45. All such unused words are found in some area of language use ... words [which are not used in a particular province] are in use in other provinces ... or in Vedic Literature ....
46. A man who uses words after studying the rules of the Science of Words viz. Grammar, gains merit. ... Rules and examples together constitute Grammar — usages or words that are to be explained, and rules that explain them.



### Grammar, Language and Knowledge

Bhartṛhari's *Vākyapadīya*, *Brahmakāṇḍa*, tr. K.A. Subramania Iyer

*Anādinidhanam Brahma śabdattvam yadaḥṣaram*

*Vivartate'rthabhāvena prakriyā jagato yataḥ (I.1)*

The Brahman who is without beginning or end, whose very essence is the word, who is the cause of the manifested sounds, who appears as the many objects, from whom the creation of the world proceeds.

4. In the words which are expressive, the learned discern two elements: one is the essential word in the mind which, the other, is used to convey the meaning.

45. That there is an essential difference between them is the view of some followers of tradition. Other hand, some think that they are one but appear to be different owing to difference in the point of view.

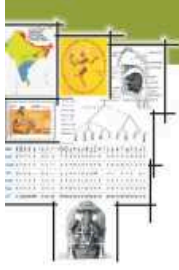
46. Just as the fire which is within the churn sticks is the cause of the other fire [which is kindled], similarly, the word which is in the mind [of the speaker] becomes the cause of the different expressive words.

48. Just as a reflection, found elsewhere [as in water] seems to have movement because of the movement of water, such is the relation between the word in the mind and the words actually spoken and heard.

49. Just as the mind of the speaker first turns towards the words, in the same way, the attention of the hearers also is first directed towards them.

50. Just as light has two powers, that of being revealed and that of being the revealer, similarly, all words have two distinct powers.





51. No meaning is conveyed by words which have not themselves become the objects of knowledge.

### Comprehension

1. Elaborate on the metaphor used by Sthavira Sākalya to describe centrality of breath.
2. What according to the *Ṛgveda* are the four divisions or structures of the language?
3. What are the objectives of studying grammar, according to Patañjali?
4. XYZ has to appear for a competitive examination. The vocabulary section has a list of 600 words. XYZ has memorized the meanings of the 600 words, but has not learned to use them in actual context. Refer to *yadadhitam* in Patañjali's *Mahābhāṣya* and comment.

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2. Dasgupta, S.N. (tr. & ed.), *The Mahābhāṣya of Patañjali (with Āhnikā 1-IV)*, (ed.), New Delhi: Indian Council of Philosophical Research, 1991.
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## Other Technologies: A Survey

When we deal with humanity's early stages, the word 'technology' applies to any man-made modification of the natural environment – from a stone tool to a woven piece of clothing or a construction. The modules **Chemistry in India**, **Metallurgy in India** (both in class XI) and **Agriculture** (class XII) cover several important technologies of ancient India. Here, we explore a few more.

### Harappan Technologies

One mainstay of the Indus or Harappan civilization (2600–1900 BCE for its urban or “Mature” phase) was agriculture. Along with it, ceramic technology developed and produced fine fired bricks as well as pots, which are required to carry water, store seeds and grain, and of course to cook food. Harappans produced wheel-turned pots in various shapes and sizes, some of them glazed or painted. Their pottery was generally covered with a red slip (produced from red ochre, that is, iron oxide), while floral, animal or geometric designs were painted in black. The black pigment was the result of mixing iron oxide with black manganese.



A few examples of classical Harappan pottery (courtesy: Archaeological Survey of India).





Harappan fired bricks had proportions of 1 x 2 x 4 (width equals two heights; length equals two widths) and, besides, were of such quality that those who first encountered them at Harappa and Mohenjo-daro thought they could not be more than two or three centuries old! There was a practical reason for the above proportions, as they permitted alternating courses and therefore stronger walls with the least quantity of bricks – the so-called “English bond” of masonry. Baked or mud bricks were not the only building material: at Dholavira, in the Rann of Kachchh, stone was also used on a huge scale. Harappan cities generally followed a grid plan and boasted a sanitation system that collected used waters from individual bathrooms into municipal drains; those were regularly inspected and cleaned, which testifies to a high level of civic order.



Massive stone work at Dholavira, northern gate of the 'Castle'  
(courtesy: Archaeological Survey of India).

While soft-stone beads are reported from many Neolithic sites (from about 7000 BCE), Harappan craftsmen took bead-making to a different level and perfected





techniques of polishing, colouring, glazing, drilling and bleaching. Their favourite semiprecious stones were carnelian, agate and jasper, but they occasionally made beads out of bone, terracotta or synthetic faience. The long perforated carnelian beads, in particular, were highly prized in royal families of Mesopotamia (see the large necklace *below*); their length-wise drilling with special drill bits represented a technological feat. So did the still mysterious manufacture of micro-beads of steatite (or soapstone), measuring just one millimetre in length and diameter (see just above the large necklace *below*).



A sampling of Harappan jewellery, including gold and semiprecious beads, micro-beads, gold bangles and fillets, and long carnelian beads (source: J.M. Kenoyer).

India's love for bangles is traceable to the Harappans' manufacture of large numbers of gold, bronze, conch-shell, glazed faience or humble terracotta bangles. Weavers used wheel-spun thread and, besides widely used cotton, evidence of silk has recently come to light at two sites. Other crafts included stone and ivory carving, carpet making and inlaid woodwork.





### Later pottery

After the Harappan age, major innovations in pottery shifted to the Ganges valley. The Painted Grey Ware (PGW, see an example *right*), from about 1200 BCE, is associated with iron-based cultures. A few centuries later, from around 700 BCE onward, the Northern Black-Polished Ware (NBPW), first found in today's Uttar Pradesh and Bihar, is found in the first cities of the Ganges valley. Both pottery types were produced on fast-spinning wheels using fine clay and fired to a high temperature in kilns under controlled conditions.

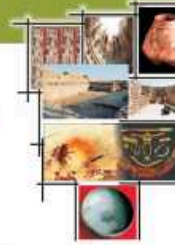


Other regions of India eventually produced many other types and styles of pottery, and pottery sherds remain a major source of information for archaeologists, who have meticulously documented all those types and tried to work out their chronologies and regional spreads.

### Glass

The first appearance of glass objects in India, according to current knowledge, is from the upper Ganga-Yamuna region and datable to the last centuries of the 2<sup>nd</sup> millennium BCE, coinciding with the above-mentioned PGW phase. At sites such as Bhagwanpura (Haryana), Kopia (U.P.), glass beads and bangles were found. In the following centuries, glass technology spread all over India. At Taxila (ancient Takṣaśīla, now in northern Pakistan), the Bhir mound yielded numerous glass beads of several shapes and colours dated to the 5<sup>th</sup> century BCE or so. Glass objects and ornaments have also come to light at places like Ujjain, Nasik, Ahichchhatra, Sravasti, Kolhapur, Kaundinya, Brahmagiri, and at several sites of Tamil Nadu (such as Arikamedu). The early Indian glass-makers were skilled at controlling the temperature of fusion, moulding, annealing, blotching and exquisite gold-foiling.





### Water Management

Water conservation and management is an area of great importance, and the great variety and sophistication of water structures in ancient India testify to the care with which people harvested and conserved water and managed its distribution.



Dholavira: the eastern reservoir, with the "Castle" in the background (courtesy: Michel Danino; next two photos: courtesy ASI).



Harappans invented trapezoid bricks to construct wells that would not collapse inward under the pressure of underground infiltrations. Dholavira, being located in an arid region, had to ensure enough water storage for its thousands of inhabitants to survive through the year. This was achieved by constructing a series of small dams across two nearby seasonal channels to divert their waters to the city's huge reservoirs; those were also fed

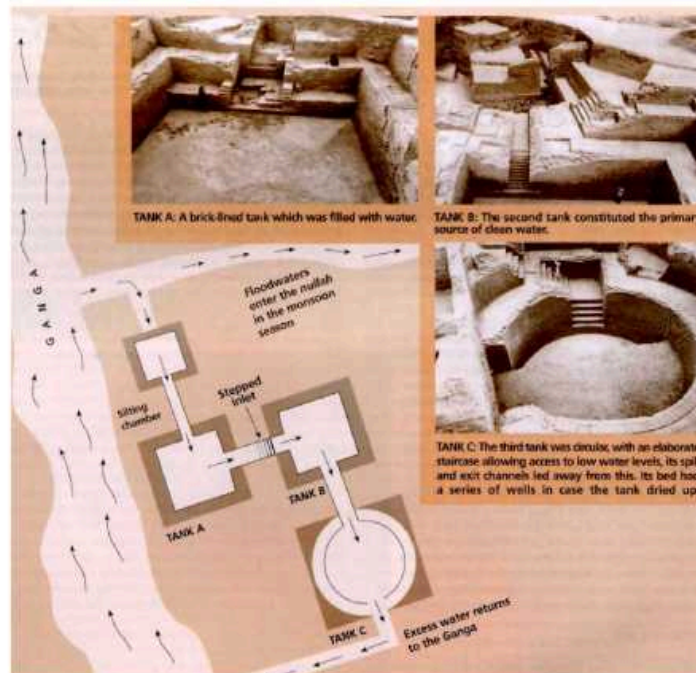




# Knowledge Traditions and Practices of India

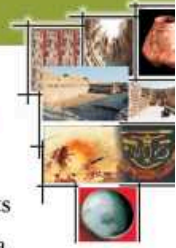


by large-scale water harvesting channelling rainwater through underground drains (above). The largest reservoir (above), to the east of the "Castle", measured 73 x 29 m and contained at least 20,000 m<sup>3</sup> of water when full. In addition, a step well (right) dug at the bottom provided for extended storage by recharging the water table during the monsoon.



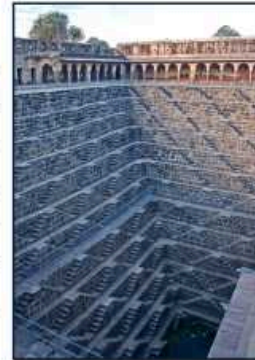
Series of interconnected reservoirs at Sringerapur (source: *Dying Wisdom*, Down to Earth, and Prof. B.B. Lal)





In later periods, we find such networks of reservoirs spreading to other parts of India. In the Ganges valley, excavations at Srīngaverapura (ancient Śrīngaverapura, see above) brought to light a simple but effective series of interconnected reservoirs, some of them with a well dug at the bottom. The reservoirs were fed by a channel from the Ganges, and the level of the last reservoir's overflow was so adjusted that any excess water would be returned to the Ganges.

Wells have been made in many shapes — circular, square, vertical or horizontal — and sizes, and with bricks, stone or terracotta rings. There is a long way from Dholavira's modest step well to those of classical times, especially in Gujarat and Rajasthan, which are not only engineering marvels but works of art. (Right: a step well at Chand Baori in Rajasthan, built in the 9<sup>th</sup> century; it has 3500 narrow steps in 13 levels.)



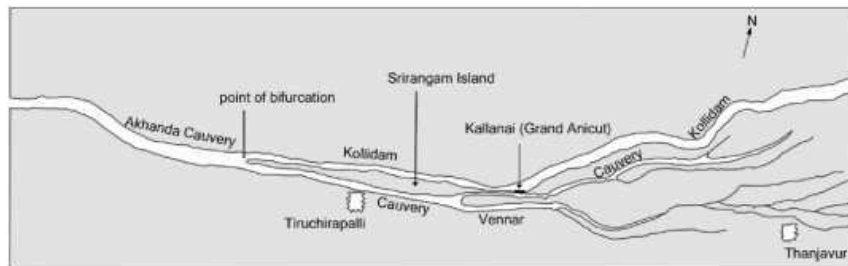
The Rani Ki Vav step well of Patan, Gujarat (courtesy: Michel Danino)

India also experimented with various kinds of dams, the simplest being the earthen embankment meant to contain a reservoir or divert a stream. In Tamil Nadu, some 1,800 years ago King Karikāla Cōla built a much more ambitious dam, the





*Kallanaï* or Grand Anicut on the Kāveri (Cauvery) river, downstream of the Srirangam island. Still visible today (in restored form), at 320 m long and 20 m wide, it is an ingenious device which stops the Kāveri from emptying itself into its own northern distributary, the faster and steeper Kollidam (or Coleroon), preserving much of the river's water for irrigation in the Kāveri's lower delta.



The *Kallanaï* or Grand Anicut in its restored form (above); a map highlighting its role in keeping the Kāveri and the Kollidam separate (above courtesy: Michel Danino; below courtesy: Chitra Krishnan & Srinivas Veeravalli).





The humblest but perhaps most important water structure was the village pond or reservoir. What made it important was not so much its ability to recharge ground water, but also its being connected to many neighbouring ponds – sometimes in networks extending over hundreds of kilometres, as in Karnataka and Tamil Nadu. Such networks, which enabled water-rich areas to contribute to less favoured ones, were maintained by village committees, which disappeared when the colonial administration took over – and so did most of the reservoirs in their care.

### Textile Technology

The Vedas refer to various types of garments as well as fabrics such as wool (*avi*, *śāmulya*) or silk (*tārpya*), also to weaving and looms. Later on, cotton appears (*karpāsa*) and we get some information on weaving skills from Buddhist literature: for instance, when Āmrapāli, a courtesan from the kingdom of Vaiśali, goes to meet Gautama Buddha, she is said to have worn a richly woven semi-transparent sari. The Ajanta paintings (see **Painting** module), among others, are also a rich source of information on clothes worn some 2,000 years ago and on the techniques of weaving, including different dyes, which have been related to vegetal as well as mineral pigments.



By the time trade with the Roman Empire reached its peak (see **Trade** module), India was a major exporter of textiles, specially cotton and silk. Such evidence has come, for instance, from recent excavations at Berenike, an Egyptian port on the Red Sea where goods from India were unloaded to be carried overland to the Mediterranean port of Alexandria for further sea transport. A little later (from the 5<sup>th</sup> century CE), hoards of fragments of cotton material from Gujarat were found in Egyptian tombs at Fustat (*left*). India exported





cotton to China, silk to Indonesia and all the way to the Far East. Indeed, until the colonial era, textile production was one of the chief sources of India's wealth.

Some of India's specialties in the field have been the following:

- **Muslin:** this thin, loosely woven cotton fabric is highly suitable for hot climates. It was introduced into Europe from Bengal in the 17<sup>th</sup> century, and one way to test its fineness was to pass a piece of it through a finger ring.
- **Calico** is a plain-woven textile made from unbleached cotton; it was originally from Kozhikode or Calicut (in Kerala), hence its name.
- **Chintz** (*right*) is a form of calico printed with floral and other colour patterns. From the 17<sup>th</sup> century, when it was first brought to Europe by Portuguese and Dutch traders, chintz became so popular – the so-called “Calico craze” – that some European mills suffered; as a result it was banned in France (1686) and England (1720).
- India also produced large quantities of coarser but very useful fabrics from fibres such as **hemp** (*bhānga* in early texts, extracted from the bark of cannabis), **flax** or **linen** (*kṣauma*, a plant widely cultivated for its linseed oil), and **jute** (cultivated especially in Bengal).





- Fabrics — especially cotton and silk — often provided supports for much painted, printed or embroidered artwork (see an example *right*, from Gujarat), whether the resulting piece was to be worn as a sari or brocade or hung as tapestry.



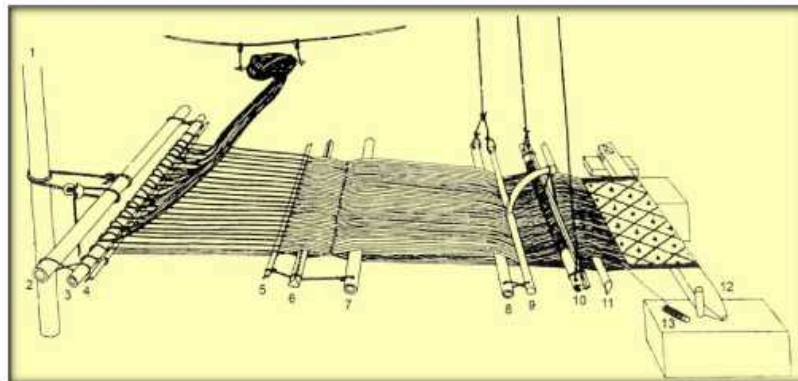
(Source for above three photos: Wikipedia)

Two important daughter technologies of textile deserve a brief mention: weaving technology, which saw the development of complex looms, with different regional characteristics, and dyeing technology, with dyes extracted from both vegetal and mineral sources: blue usually from indigo, red from various plants such as madder, yellow from turmeric, pomegranate rind or mango bark, black from iron acetate. With such a variety of textiles, it may appear surprising that relatively few types of dresses were woven, but that is because



Indians learned the art of wearing simple dresses in myriad ways. The sari, a case in point, is archaeologically attested a few centuries BCE, such as in this stone relief (*right*) from Vaiśālī.





A sketch of a *pāṭolā* loom used in many parts of India. Its parts are: (1) pole for fastening the loom; (2) warp beam; (3) ditto; (4) stick; (5), (6), (7) cross-mechanism with indented stick; (8) shed rod; (9) pressure bar with handle; (10) heddle rod mechanism and heddles; (11) sword; (12) breast beam; (13) shuttle. (Adapted from Lotika Varadarajan and Krishna Amin Patel.)

### Writing Technology

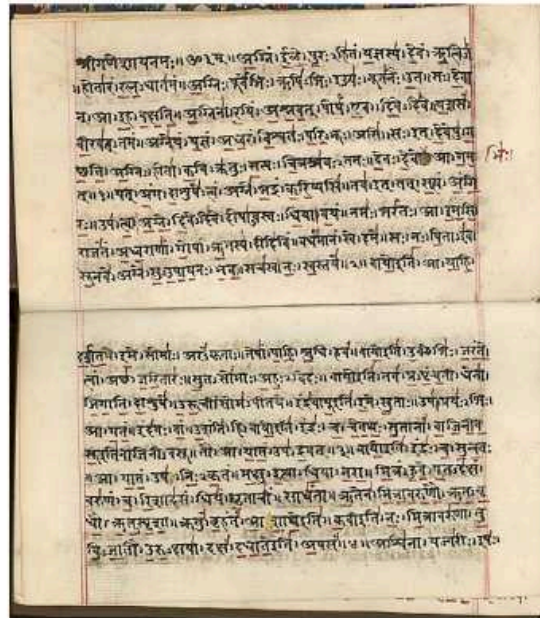
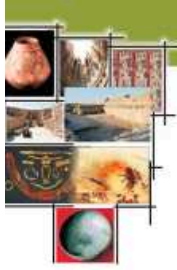
India even now possesses a wealth of manuscripts running into many millions. Traditionally, they were written on materials such as birch bark (*bhūrja pattra*) and palm leaves. Birch bark was mainly used for north Indian scripts, and the writing was done with ink made of finely ground charcoal powder in a medium of gum, or soot from oil lamps. With palm leaves, there was no ink; rather, a sharp point was used to tear the leaf's surface film; it would then be smeared with a paste of charcoal powder mixed in oil, and wiped off, leaving the charcoal to adhere to the incised characters. In both cases, considerable skills were developed to preserve manuscripts from insects and fungi. Even then, manuscripts could rarely be preserved for more than a few centuries; as a result, scholars regarded it as a duty to copy old manuscripts afresh every few generations.



(Left) A palm-leaf manuscript with its wooden protective cover (source: D. Udaya Kumar et al.);  
(Right) A manuscript from Kashmir, in Sharada script, painted on birch bark (source: Wikipedia).

The art of paper-making was introduced into India by the eleventh century CE, perhaps from China through Nepal. The earliest extant Indian paper manuscript (in the Ashutosh Museum, Kolkata) is datable to 1105 CE; it was made from the fibres of a mountain plant. By the latter half of the 15<sup>th</sup> century, Kashmir was producing paper of attractive quality from the pulps of rags and hemp, with lime and soda added to whiten the pulp. Sialkot, Zafarabad, Patna, Murshidabad, Ahmedabad, Aurangabad and Mysore were among the well-known centres of paper production. A British traveller to Surat in 1689, J. Ovington, described long scrolls of paper, 3 m in length and 30 cm in width, which were “smooth, slick and shining”. Several other European visitors from the 15<sup>th</sup> to the 18<sup>th</sup> century testify that Indian paper was of high quality and exported to countries like Persia. However, in the 19th century, production of hand-made paper declined with the emergence of paper mills.





A manuscript of the Rig-Veda inked on Indian paper, early 19<sup>th</sup> century (courtesy: Wikipedia)

### Pyrotechnics

Pyrotechnic practices, or fireworks, appear to have been current in India in the 13<sup>th</sup> or 14<sup>th</sup> century. Gunpowder became an article of warfare at the beginning of the 16<sup>th</sup> century: the Indian craftsmen were quick to learn the technique from the Mughals and to evolve suitable explosive compositions. A 16<sup>th</sup>- or 17<sup>th</sup>-century Sanskrit treatise contains a description of how the gunpowder can be prepared using saltpetre, sulphur and charcoal in different ratios for use in different types of guns.

From the 16<sup>th</sup> century onward, rockets too began being used in wars waged in India, as testified by military annals of the period. For instance, the Mahrattas are



reported to have fired rockets at the 1761 Battle of Panipat which they lost to the Afghans. Hyder Ali, the 18<sup>th</sup>-century ruler of Mysore, and his son and successor, Tipu Sultan, used rockets to great effect in the Anglo-Mysore Wars against the British East India Company, with a “rocket corps” of thousands of men. The rockets consisted of a tube of soft hammered iron about 20 cm long and 4 to 8 cm in diameter, closed at one end and strapped to a shaft of bamboo about 1 m long, with a sword often fitted at the other end. The iron tube contained well-packed black powder propellant. Though not very accurate, when fired en masse they could cause damage as well as panic among the troops. The British lost no time in taking a few rockets to England for closer study, which ended up boosting rocket technology in European warfare.



A painting by Charles Hubbell depicting Indian rockets raining down on East Indian Company soldiers in the 1780 Battle of Guntur (source: <http://history.msfc.nasa.gov/rocketry/11.html>).





### Cosmetics and Perfumes

Cosmetics and perfumes were an article of trade with the Romans (along with textiles, spices and timber) and are described at some length in Varāhamihira's *Bṛhat Saṃhitā*: scented water for bathing, scented hair oil, perfume for cloths, for the mouth, scented tooth sticks are among the described items. Varāhamihira also created a mathematical table (based on the same principle as Pascal's triangle) to combine fundamental scents in various ways, resulting in 1,820 combinations!

<i>Ghana</i>	<i>Vālaka</i>	<i>Saihya</i>	<i>Karpūra</i>
<i>Uśira</i>	<i>Nāgapuṣpa</i>	<i>Vyāghranakha</i>	<i>spṛkkā</i>
<i>Aguru</i>	<i>Madanaka</i>	<i>Nakha</i>	<i>Tagara</i>
<i>Dhānya</i>	<i>Karcāra</i>	<i>Coraka</i>	<i>Candana</i>

16			
15	120		
14	105	560	
13	91	455	1820
12	78	364	1365
11	66	286	1001
10	55	220	715
9	45	156	495
8	36	120	330
7	28	84	210
6	21	56	126
5	15	35	70
4	10	20	35
3	6	10	15
2	3	4	5
1	1	1	1

Varāhamihira's list of 16 fundamental perfumes, to be systematically combined in various proportions (from *Bṛhat Saṃhitā*).

Perfume making became increasingly popular and often catered to the needs of religious ceremonies and royal baths, the latter particularly during the Mughal period. The *Āin-i-Akbarī* speaks of the "Regulations of the Perfume Office of Akbar"; the *āttar* of roses was a popular perfume, the discovery of which is attributed to the mother of Nurjehan.

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The above is just a small sampling of technologies perfected in India. They are part of India's traditional knowledge systems. Some of them may no longer be applicable today, but even those remain important to understand the evolution of ideas and techniques. On the other hand, several traditional technologies remain relevant even today, for instance metallurgical techniques, ecological and agricultural traditions, water management, Ayurveda and various local health traditions. Besides, there remains considerable scope for documenting, testing, assessing and sometimes streamlining India's enormous wealth of traditional knowledge systems.

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### Further Reading

1. Anil Agarwal & Sunita Narain, (eds), *Dying Wisdom: Rise, Fall and Potential of India's Traditional Water-Harvesting Systems*, Centre for Science and Environment, New Delhi, 1997
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3. A.K. Bag, (ed.), *History of Technology in India*, Vol. 1: *From Antiquity to c. 1200 AD*, Indian National Science Academy, New Delhi, 1997
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5. Kalyan Kumar Chakravarty, Gyani Lal Badam, & Vijay Paranjpye, (eds), *Traditional Water Management Systems of India*, Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal, and Aryan Books International, New Delhi, 2006
6. Dharampal, *Indian Science and Technology in the Eighteenth Century*, Academy of Gandhian Studies, Hyderabad, 1971, republ. Other India Bookstore, Goa, 2000
7. K.V. Mital, (ed.), *History of Technology in India*, vol. 3: *From 1801 to 1947 AD*, Indian National Science Academy, New Delhi, 2001





**Internet Resources (all URLs accessed in May 2013)**

- "What the Ancients Did for Us: India", BBC TV series  
[www.youtube.com/watch?v=mSiuO-OzaKc](http://www.youtube.com/watch?v=mSiuO-OzaKc)
- "What The Ancients Knew: India", Discovery Channel Documentary  
<https://www.youtube.com/watch?v=ONX15cz5124>
- Centre for Indian Knowledge Systems: [www.ciks.org](http://www.ciks.org)
- Indian Journal of Traditional Knowledge:  
[www.niscair.res.in/sciencecommunication/ResearchJournals/rejour/ijtk/ijtk0.asp](http://www.niscair.res.in/sciencecommunication/ResearchJournals/rejour/ijtk/ijtk0.asp)
- Traditional Knowledge Digital Library:  
[www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng](http://www.tkdil.res.in/tkdil/langdefault/common/Home.asp?GL=Eng)

**Comprehension**

1. Mentioning a few technologies of ancient India, define the term 'technology' in your words.
2. Where do we find the earliest evidence of glass in India?
3. Write a note on each of the following findings from the Harappan civilization:
  - ceramics
  - pottery
  - beads
  - jewellery
4. Write a few sentences on water management in Harappan cities.
5. Prepare a brief note on the design and use of water reservoirs and dams in ancient India.
6. Naming a few fabrics, describe India's textile technology.
7. What do you understand by pyrotechnics?



### Activities

- List a few technologies of the Harappan period that you find are still in practice in various parts of India.
- Collect images of Harappan pottery and put up a display. Pay attention to the details of their sizes, shapes, colours and designs. Now work in groups, focusing on the following points:
  - Why are these pots in the shapes they are?
  - In what ways could those pots have been used in that period?
  - If you were to change their designs, shapes, sizes or uses, what would it be and why?
  - Sketch out similar or alternative designs.

### Projects

- Prepare a presentation on manuscripts and development of writing technology in India.
- Document the textile heritage of India. Elucidate your project with images of traditional weaves and prints of various parts of India. Collect information on the fading and dying textile traditions and also the scope of Indian textile treasure in the international market.

### Extended Activities

- Dipping water levels are matter of concern for all. Visualize the effects on future generations. Interact with senior citizens to ascertain the number of extinct wells and other water bodies in the surrounding area. You may also visit some ponds and *baories* to understand the rainwater storage system in your area. Document your information and prepare an action plan showing how the community can be involved and authorities be approached to restore the dilapidated water bodies of your area. Share your information with the school.





- In a group, visit a traditional crafts person in your area, for instance a traditional metal worker, handloom weaver or bead maker. Document his or her techniques, raw materials, finished goods as well as living conditions. In your report, include some thoughts on the future prospects of this particular craft.





## Other Technologies: A Selection from Primary Texts

### Gemmology

Kauṭilya's *Arthaśāstra* attached great importance to the qualities and properties of various gems and minerals as a source of wealth for the state. Here are some examples of listed semiprecious stones:

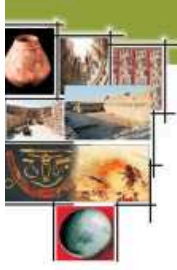
The Superintendent of the treasury shall, in the presence of qualified persons, admit into the treasury whatever he ought to, gems (*ratna*) and articles of superior or inferior value. ...

Oyster-shells, conch-shells, and other miscellaneous things are the wombs of pearls. ... That which is big, circular, without bottom (*nistalam*), brilliant, white, heavy, soft to the touch, and properly perforated is the best. ...

That which is characterised with blue lines, that which is of the colour of the flower of *kalāya* [a kind of bean], or which is intensely blue, which possesses the colour of *jambu* fruit [rose apple], or which is as blue as the clouds is the *indranīla* gem, *nandaka* [pleasing gem], *sravanmadhya* [that which appears to pour water from its centre], *sītavṛṣṭi* [that which appears to pour cold shower], and *sūryakānta* [sunstone] are other forms of gems.

Gems are hexagonal, quadrangular, or circular possessed of dazzling glow, pure, smooth, heavy, brilliant, transparent (*antargataprabha*) and illuminating; such are the qualities of gems.

Faint colour, sandy layer, spots, holes, bad perforation, and scratches are the defects of gems.



*Vimalaka* [pure], *sasyaka* [plant-like], *anjanamūlaka* [deep dark], *pittaka* [like the bile of a cow], *sulabhaka* [easily procurable], *lohitaka* [red], *amṛtāmśuka* [of white rays], *jyotīrasaka* [glowing], *maileyaka*, *ahicchattraka* [procured in the country of Ahicchattrā], *kūrpa*, *pūtikūrpa* and *sugandhikūrpa*, *kṣīrapaka*, *śukticūrnaka* [like the powder of an oyster shell], *śilāpravāḷaka* [like coral], *pulaka*, *sūkrapulaka* are varieties of inferior gems.

The rest are metallic beads (*kācamāṇi*). (*Arthaśāstra*, 2.11, tr. R. Shamasastri.)

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### Water Management

In this brief extract from a long series of increasingly meritorious acts, culminating in the practice of truth, the *Mahābhārata* views the digging of water reservoirs as far more important than that of wells. Indeed, a tank restores water to the earth, while a well draws from it.

... The dedication of a tank is more meritorious than that of a hundred wells. ... (*Mahābhārata*, *Ādi Parva*, section 74, tr. K.M. Ganguli)

\*

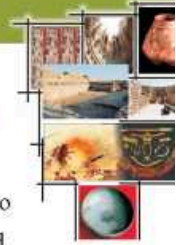
The *Śiva Purāṇa* has a long description of the evils awaiting us in the *kali yuga*. Among them, this one reflects the attention that was paid to water structures and nature conservation:

[In the *kali yuga*, the merchant class has] “abandoned holy rites such as digging wells and tanks, and planting trees and parks.” (*Śiva Purāṇa*, II.1.23)

\*

Kauṭilya’s *Arthaśāstra* pays great attention to water management and irrigation techniques. Interestingly, and unlike today, access to water through public or private





waterworks was not free; it was taxed at various rates. Various penalties were also prescribed for obstructing or diverting a water course, causing fields to be flooded, building a well or a dam on someone else's land, for not maintaining waterworks, or for failing to cooperate in the building of an irrigation tank. A few extracts:

For building or improving irrigation facilities the following exemptions from payment of water rates shall be granted:

- New tanks and embankments: five years
- Renovating ruined or abandoned water works: four years
- Clearing water works over-grown with weeds: three years

Waterworks such as reservoirs, embankments and tanks can be privately owned and the owner shall be free to sell or mortgage them. The ownership of tanks shall lapse, if they had not been in use for a period of five years, except in cases of distress.

Anyone leasing, hiring, sharing or accepting a waterwork as a pledge, with the right to use them, shall keep them in good condition. Owners may give water to others (by dredging channels or building suitable structures), in return for a share of the produce grown in the fields, parks or gardens. In the absence of the owner, either charitable individuals or the people of a village acting together, shall maintain waterworks. (3.9 & 3.10)

The following are the taxes to be paid for use of water for cultivation:

- From waterworks built by the King: manually transported: one-fifth of the produce; carried by bullocks: one-fourth; lifted by mechanism into channels: one-third.





- From natural reservoirs: irrigated from rivers, lakes, tanks and springs: one-fourth of produce. (2.24)

No one irrigating his field from a reservoir or tank shall cause danger to the ploughed or sown field of another. The water from a lower tank shall not submerge a field fed from a higher tank built earlier. A higher tank shall not prevent the filling up of a lower tank, except when the latter has not been in use for three years.

No one shall: (a) let water out of dams out of turn; (b) obstruct, through negligence, the [rightful] use of water by others; (c) obstruct a customary water course in use; (d) make a customary water course unusable [by diverting the water]; (e) build a dam or a well on land belonging to someone else or (f) sell or mortgage, directly or indirectly, a bund or embankment built and long used as a charitable public undertaking except when it is in ruins or has been abandoned. (3.9 & 3.10, tr. L.N. Rangarajan)

\*

Strabo, a 1<sup>st</sup>-century BCE Greek geographer, recorded the following, which matches Kauṭilya's above description:

Among [the officials], the first keep the rivers improved and the land re-measured, as in Egypt, and inspect the closed canals from which the water is distributed into the conduits, in order that all may have an equal use of it. (Strabo, *Geography*, 50, excerpt from R.C. Majumdar (ed.), *The Classical Accounts of India*. Calcutta: Firma KLM. 1981)

\*





In the Tamil epic *Shilappadikāram* by Iḷaṅgō Aḍigaḷ (see **Literatures** module), Kaṇṇagi and her husband Kōvalan travel to Madurai. On the way, they cross the Kāveri river in full flow. The author notes:

But finding her movement arrested by the barrier – the anicut with its doorway – she noisily leaps beyond it in the sportive mood natural to her first freshes. No sound other than this can be heard. We can hear there neither the sound of the bucket, not of the water-lift; neither the usually loud *pecottah* [a water-lifting mechanism], not the palm-leaf basket used in irrigation. (*Cilappatikaram*, canto X, tr. V.R. Ramachandra Dikshitar, 1939, republ. International Institute of Tamil Studies, Chennai, 2004).

This is a reference to the Grand Anicut mentioned in the above Survey. Its “doorway” probably refers to the dam’s sluices. Note the existence of water-lifting mechanisms with buckets and baskets for irrigation.

\*

Finally, numerous inscriptions record constructions of tanks (*tatāka*) and ponds (*vāpi*), also their maintenance: desilting, repair of embankments, sluices, irrigation channels.... Water diviners are sometimes mentioned as paying taxes. In some inscriptions, care was taken (as mentioned in the *Arthaśāstra*, above) that a new dam should not affect an older one, which should be allowed to fill first; the new dam was designed to store water in times of excess.

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### Textiles and Garments

The accounts of classical Greek and Roman geographers and historians have some useful information on Indian textiles and dress styles.





They cover their persons down to the feet with fine muslin, are shod with sandals, and coil round their heads cloths of linen (cotton). They hang precious stones as pendants from their ears, and persons of high social rank, or of great wealth, deck their wrist and upper arm with bracelets of gold. ... (Quintus Curtius Rufus, 1<sup>st</sup> century CE, *History of Alexander the Great*, VIII.9)

\*

The dress worn by the Indians is made of cotton, as Nearchus tells us ... But this cotton is either of a brighter white colour than any cotton found elsewhere, or the darkness of the Indian complexion makes their apparel look so much the whiter. They wear an under-garment of cotton which reaches below the knee half-way down to the ankles, and also an upper garment which they throw partly over their shoulders, and partly twist around their head. (Arrian, 2<sup>nd</sup> century CE, *Indika*, XVI)

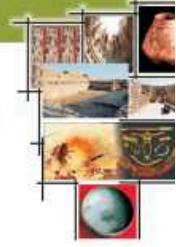
\*

Contrary to their simplicity in general, [Indians] like to adorn themselves, for they wear apparel embroidered with gold and use ornaments set with precious stones, and wear gay-coloured linen garments, and are accompanied with sun-shades. For, since they esteem beauty, they practise everything that can beautify their appearance. (Strabo, 1<sup>st</sup> century BCE, *Geography*, 54, above excerpts taken from R.C. Majumdar (ed.), *The Classical Accounts of India*. Calcutta: Firma KLM. 1981)

\*

This testimony is by the 7<sup>th</sup>-century CE Chinese pilgrim Xuansang (or Hsüan-tsang or Hiuen Tsiang):





Their clothing is not cut or fashioned; they mostly affect fresh-white garments; they esteem little those of mixed colour or ornamented. The men wind their garments round their middle, then gather them under the armpits, and let them fall down across the body, hanging to the right. The robes of the women fall down to the ground; they completely cover their shoulders. They wear a little knot of hair on their crowns, and let the rest of their hair fall loose. ... On their heads the people wear caps (crowns), with flower-wreaths, and jewelled necklets. Their garments are made of *Kiau-she-ye* [*kaśeya*, silk] and of cotton. *Kiau-she-ye* is the product of the wild silkworm. They have garments also of *Ts'o-mo* (*kṣauma*), which is a sort of hemp; garments also made of *Kien-po-lo* (*kambala*) which is woven from fine goat-hair; garments also made from *Ho-la-li*. This stuff is made from the fine hair of a wild animal: it is seldom this can be woven, and therefore the stuff is very valuable, and it is regarded as fine clothing. (Xuansang, *Buddhist Records of the Western World*, Book II, 7, tr. Samuel Beal. London: Kegan Paul, Trench, Trübner, 1906)

\*\*\*

### Perfumes and Cosmetics

Varāhamihira explains the preparation of various perfumes and cosmetics:

A scented water fit for the washing of a king's head is prepared with equal quantities of woody cassia, costus (*Saussurea lappa*), *reṇukā* (*Piper aurantiacum*), *nalikā* (*Hibiscus cannabinus*), *spṛkkā* (*Bryonopsis laciniosa?*), *rasa* or *bola* (*Commiphora myrrha*), *tagara* (*Valeriana wallichii*), *vālaka* (*Aporosa lindieyana*), *nāgakesara* (*Mesua ferrea*) and *pattra* (*Laurus cassia*).



A hair oil having the perfume of the *campaka* flower (*Michelia champaca*) is made by mixing together equal quantities of the powders of *mañjiṣṭhā* (*Rubia cordifolia*), *vyāghranakha* (a tree or cuttlefish bone), *nakha* (shell perfume), woody cassia, costus (*Saussurea lappa*) and *bola* (*Commiphora myrrha*) and the whole thing being mixed with the oil of *Sesamum indicum*, being heated by the sun's rays. ...

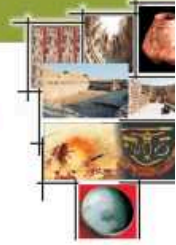
Take one part each of *śatapušpā* (*Pimpinella anisum*), *kunduruka* (*Boswellia serrata*), sandalwood and *priyaṅgu* (*Aglaia roxburghiana*), and two each of *nakha* (shell perfume) and *туруška* (*Tagetes erecta?*), and fumigate the mixture with jiggery and *nakha*. This becomes a good scent.

Many delightful perfumes are made from *harītakī* (*Terminalia chebula*), *śaṅkha* (*nakha*), *ghana* (*Cyperus rotundus?*), *bola*, *vālaka*, jaggery, costus, benzoin and *mustaka* bulbs by mixing them in proportions indicated by multiples of 1/9<sup>th</sup>. ...

Take equal quantities of woody cassia, *uśīra* (*Vetiveria zizanioides*) and *pattra* (*Laurus cassia*) and a half of the above of small cardamoms (*Elettaria cardamomum*) and pound them together into fine powder, which should be mixed (reinforced) with musk and camphor. This will make an excellent toilet powder [perfume for clothes].

The *gandhārṇava* [ocean of perfumes] is prepared from the following sixteen substances, if every four of them are permuted variously at will and that in one, two, three or four parts. The substances are *Cyperus rotundus*, *Aporosa lindleyana*, benzoin, camphor, *Vetiveria zizanioides*, *Mesua ferrea*, cuttlefish bone, *Bryonopsis laciniosa*, *Aquilaria agallocha*, *Randia dumetorum*, shell perfume, *Valeriana wallichii*, coriander, *Hedychium spicatum*, *Scirpus articulatus* and *candana*.





In no perfume should more than one part of coriander be used, as its smell is too strong. Camphor, being stronger still in smell, should be used in a still lesser proportion. These two, therefore, ought not to be mixed in two, three or four parts.

All the above-named products should be fumigated separately, and not in a mixture, with turpentine, resin, jaggery and shell perfume; then they should be mixed with musk and camphor.

Out of the group of 16 substances, the number of perfumes that can be prepared by selecting any four at a time will be 1820. (*Bṛhat Saṁhitā*, ch. 77, tr. M.R. Bhat)

### Comprehension

1. Name a few gems as mentioned in *Arthaśāstra*.
2. How can you identify the defects in gems?
3. Name some varieties of inferior gems.
4. Write a note on Indian perfumes and cosmetics.
5. 'The dedication of a tank is more meritorious than that of a hundred wells' – explain.

### Activities

- 'Water is life'. Organize a water conservation campaign in your school presenting information on our ancient wisdom of water management, storage, distribution, and the rules and regulations regarding use / misuse of water.
- Read the primary text on garments and textiles. Work in groups to



## Knowledge *Traditions* and Practices of India



Other Technologies

- sketch the garments as documented by historians and travellers and put up a display;
- hold a fashion show of the garments and jewellery with other accessories as explained in the text.





## Painting: A Survey

Painting, *citra kalā* in Hindi and anciently called *varṇana*, evolved in India through a fusion of various cultures and traditions over centuries, if not millennia.

The earliest paintings in India are rock paintings of prehistoric times, found all over India, especially in places like the Paleolithic Bhimbetka rock shelters in Madhya Pradesh whose almost 10,000-year-old rock paintings display the concerns of early man – food, survival in a difficult environment and struggle in subduing animals. The colours used are mostly of mineral origin and have survived because the paintings were deep inside the caves or on inner walls. Bhimbetka was declared a Unesco World Heritage Site in 2003.



Various scenes on a few of the rock shelters of Bhimbetka (courtesy: Wikimedia).



Bhimbetka drawings and paintings can be classified under different periods:

- **Upper Paleolithic:** in green and dark red, of huge figures of animals such as bison, tigers and rhinoceroses.
- **Mesolithic:** smaller figures, with linear decorations on the body of both animals and human figures and of hunting scenes and communal dancing.
- **Chalcolithic:** drawings of the hunting cave dwellers, exchanging goods with food-producing communities.
- **Early historic:** figures painted mainly in red, white and yellow of horse riders and of religious symbols, figures of *yakṣas* (supernatural beings), and sky chariots.
- **Medieval:** linear and more schematic paintings that show a certain degeneration and crudeness of style in colours prepared by combining manganese, hematite and wooden coal.

#### Classical Texts

Early literary compositions of India such as *Rāmāyaṇa* and *Mahābhārata*, Kālidāsa's *Śakuntalā* and Daṇḍin's *Daśakumārcarita* make many references to art galleries or *citraśālās*. The *śilpa śāstra* texts of art and architecture deal with the art of mural and miniature painting and also paintings executed on wood and cloth. The most comprehensive text is the *Viṣṇudharmottara Purāṇa*, which deals with the interdependence of dance, music and the visual arts. It is one of the eighteen *Upapurāṇas*. Chapters 35–43 describe the methods and ideals of painting, dealing not only with its religious aspect but also “proclaiming the joy that colours and forms and the representation of things seen and imagined produce.”



Vātsyāyana, author of *Kāmasūtra*, a text dated to the 2<sup>nd</sup> century CE, enumerates the *ṣaḍaṅga* or “six limbs” of painting. The *ṣaḍaṅga* evolved into a series of canons that laid down the principles of painting. They are:

1. *rūpabheda*, the perception of difference in appearance;
2. *pramāṇa*, valid perception, measure and structure;
3. *bhāva*, feelings expressed in forms;
4. *lāvanya yojana*, infusion of grace in artistic representation;
5. *sādṛśya*, similarities;
6. *varṇikabhaṅga*, identification and analysis of colour and hue.

These “six limbs” were the basis of the Indian art of painting. Indian paintings can be broadly classified as murals and miniatures. Murals are large works executed on walls of solid structures. These may be cave walls, as in Ajanta (Maharashtra), or walls of temples, as in the Kailāsanātha temple of Kanchipuram (Tamil Nadu).

### Mural Painting

India’s literature is replete with texts that describe palaces of the aristocratic class embellished with paintings, but the paintings of the caves of Ajanta are the most significant.

The story of Indian mural painting starts in the 2<sup>nd</sup> century BCE. There are several locations around India, the best known being Ajanta and Ellora in Maharashtra, Bagh in Madhya Pradesh and



A rare 7<sup>th</sup> century Sittanavāsāl painting in Tamil Nadu (courtesy: Wikipedia).





Panamalai and Sittanavāsai in Tamil Nadu, all of them either natural caves or rock-cut chambers. The paintings have both religious and other themes.

The Ajanta caves consist of 30 rock-cut Buddhist *caityas* and *vihāras* which date from the 2<sup>nd</sup> century BCE to the 7<sup>th</sup> century CE and include paintings and sculptures described as “the finest surviving examples of Indian art, particularly painting”, with depictions of the Buddha and the *Jātaka* tales. The Ajanta Caves are a Unesco World Heritage Site.

Like other ancient Buddhist monasteries, Ajanta was also a centre of learning. The layout of the caves with common exterior pathway shows this. *Dīnāga*, the celebrated Buddhist logician and philosopher, lived here in the 5<sup>th</sup> century CE, according to Xuanzang (or Hsuan-tsang), a Chinese scholar who visited India in the 7<sup>th</sup> century.



Left: Depictions of Buddha in a cave at Ajanta (source: Wikimedia).

Right: An *apsara*, cave 17 (source: [www.indian-heritage.org](http://www.indian-heritage.org)).





#### Caves of the First or Sātavāhana Period

Caves 9, 10, 12, 13 and 15A make up the earliest group of caves built between 100 BCE and 100 CE probably under the patronage of the Sātavāhana (230 BCE–220 CE) who ruled the region. Caves 9 and 10 are *caitya* halls with *stūpas*, while caves 12, 13, and 15A are *vihāras*.

#### Caves of the Second or Vākāṭaka Period

The second phase began in the 5<sup>th</sup> century and is often called the Mahāyāna phase. Caves of the second period are 1–8, 11, 14–29; some may be earlier caves extended or remodelled. Caves 19, 26, and 29 are *caitya* halls, while the rest are *vihāras*, many of them with a sanctum in the rear. In the caves of the second period the overwhelming majority of images represent the Buddha alone or scenes of his previous lives as well. Four of the later caves have large and relatively well-preserved mural paintings which “have come to represent Indian mural painting to the non-specialist”.

The Ajanta murals were painted on a coat of plaster applied on the wall of the caves. The paintings were executed after the plaster dried up. The paintings survive to this day because the painting material holds together the pigment and the plaster. All the paintings were obviously the work of painters used to decorating palaces and temples, and indicate their familiarity with and interest in details of court life. But some paintings in Cave 1 depict Jātaka tales which show previous lives of the Buddha as a king.

The Ajanta Caves, once abandoned, were overwhelmed by the advancing jungle and were lost and forgotten, until their accidental rediscovery in 1819 by a British officer on a hunting party.



### Bagh Caves

Similar to Ajanta's, beautiful frescoes were found at Bagh Caves, 150 km north of Ajanta. These paintings depict some aspects of Buddhist life and rituals besides scenes from ordinary life. One of the most famous paintings depicts a procession of elephants, while another depicts a dancer and women musicians. The influence of Ajanta is very apparent at Bagh.



Bagh Cave painting

### Badami

Very little survives in the 6<sup>th</sup>-century Western Cālukyan cave temples, but the stamp of Ajanta remains unmistakable.

### Pallava

The Pallavas were great patrons of art. Mahendravarman I, who lived in the 7<sup>th</sup> century CE, was known as "*Citrakāra puli*", or "tiger among painters". The Talagiriśvara temple at Panamalai in the Villupuram district of Tamil Nadu is one of two shrines that bear testimony to Pallava painting. A small shrine to the north has a small section of a mural painting of an exquisite female figure, her leg bent, standing against a wall and with an umbrella above her. The Kailāsanātha temple at Kanchipuram contains nearly fifty cells around the inner courtyard, with traces of paintings in red, yellow, green, and black vegetable colours.

### Pāṇḍya

Sittanavāsai in Pudukottai district is the location of a Jain monastery of the 7<sup>th</sup> century. Its walls and ceiling have been painted with mineral colours in the fresco-



secco technique. The themes include a beautiful lotus pond and flowers, people collecting lotuses from the pond, dancing figures, lilies, fish, geese, buffaloes and elephants. The ceiling of the *ardhamandapa* is decorated with murals and sculptures of Jaina *tirthankaras*. Originally, the entire cave temple, including the sculptures, was covered with plaster and painted on the theme of the Jaina *samavasaraṇa*, the “most attractive heavenly pavilion”.

### **Cōla**

Cōla frescoes were discovered within the circumambulatory corridor of Tanjavur's Bṛhadiśvara temple. The walls on either side of the narrow and dark passage of the inner *vimāna*, above the sanctum sanctorum, were painted between 1008 and 1012 CE. The paintings celebrate Lord Śiva. Each fresco, 4.5 metres tall and 3 metres wide, depicts Śiva: as Dakṣiṇāmūrti; being worshipped by the Tamil Shaivite saint Sundarar; as Tripurāntaka; and as Naṭarāja at the Chidambaram temple, worshipped by Rāja Rāja Cōla and his family.

### **Vijayanagara**

There is a wealth of Vijayanagara paintings all over South India but the best examples are to be seen in the Virabhadra temple at Lepakshi, on the ceilings of the Virupākṣa temple at Hampi and Ranganathaswamy temple of Srirangam, and on the walls of the Varadarāja temple at Kanchipuram. While the subjects are primarily religious, we learn a lot from the paintings about the life and times of the Vijayanagara court.





A 15<sup>th</sup> century, painted ceiling of Virupākṣa temple, Hampi (courtesy: Wikimedia commons).

### **Nāyaka Painting**

After the fall of the Vijayanagara Empire in 1565, the Nāyakas ruled from the 16<sup>th</sup> to the 18<sup>th</sup> century and left behind a prolific collection of mural and wall paintings whose best example is the painted ceiling of the Thiruvurur temple in Tamil Nadu, depicting the story of Mucukunda, a legendary Cōḷa king.

### **Miniature Painting**

Miniature paintings are executed on books and albums, and on perishable material such as paper and cloth. The Pālas of Bengal were the pioneers of miniature painting in India. The art reached its zenith during the Mughal period and was pursued by the painters of different Rajasthani Schools of painting, like Bundi, Kishangarh, Jaipur, Marwar and Mewar. The Rāgamāla paintings also belong to this school, as do the Company paintings produced during the British Raj.





Top: Manuscript page including a painting of Maitreya Bodhisattva on his throne. Sanskrit *Aṣṭasāhasrika Prajñāpāramitā Sūtra*, manuscript written in the Ranjana script in India, in early 12<sup>th</sup> century (source: Wikimedia). Bottom: Manuscripts with miniatures (courtesy: Michel Danino & Guwahati State Museum).

Unfortunately, early miniatures in wood and cloth have been completely lost. The earliest extant, belonging to the late 8<sup>th</sup> or mid 9<sup>th</sup> century of the Pāla period in eastern India, are representations of Buddhist *yantras*, graphic symbols which were visual aids to the *mantras* and the *dhāraṇīs* (types of ritual speech). Conforming to the canons of iconography, these Buddhist miniatures portray Buddhist deities such as





Prajñāpāramitā, who, as the mother of all the Buddhas, was the personification of esoteric knowledge. The Buddhist paintings were drawn in red and white, forming colour planes. The inspiration came from the metal images, giving an illusion of relief. Miniatures were painted according to the rules of mural painting, the rule of proportions being regulated by strict codes of measurement. Effects such as foreshortening were derived from the study of sculpture rather than from reality.

The earliest extant miniatures are found in the manuscript *Aṣṭasāhasrika Prajñāpāramitā*, dated to the rule of Mahipāla (from c. 988). This style disappeared from India by the late 12<sup>th</sup> century. Miniature painting developed in western India in the 10<sup>th</sup> century in the state of Gujarat. These paintings are seen in mini-books of the Vaiṣṇavas and Jains. Subsequent Jain miniatures moved away from flat, two-dimensional compositions: images became animated and all conventional representations of perspective were no longer in vogue. The human figure was represented in the simplest and most visible manner. Against a background of rich colour, stood out thick, boldly drawn figures. The paintings were harmonized with the enclosing script. The ornamentation was increased to result in heavy stylization. The Jain painters preferred three-quarter profiles, displacing one of the eyes to avoid foreshortening, while frontal images had eyes set near the bridge of the nose.

The Jain paintings gave rise to the Gujarat School, from where it spread further to Rajasthan and Malwa. This evolved into Rajput painting and the subsequent fusion of the Indian and Persian styles in Mughal art.

#### **Mughal Paintings**

The Mughal School of miniature painting reached its zenith under Akbar and Jehangir. The *Ain-i-Akbari* shows the importance the art had attained during this period. Basically Persian in style, the subjects depicted were scenes of warfare, hunting and trials of strength. The Mughal School saw an amalgamation of many





influences: landscape details of Far Eastern art; clouds out of Chinese paintings; mountains and water of Central Asian art. In Akbar's period, there was a greater attempt to portray reality as well as distance and horizontal perspective. Both Akbar and Jehangir encouraged the illustration of epics and histories, *Rāmāyaṇa*, *Mahābhārata*, *Akbarnāma* and *Hamzanāma*.

The finale of the Mughal School is seen in the Deccan style, which differs by its preference for rigid, stylized and decorative forms, more Indian than Persian. The Mughal School saw a return to naturalism and a total lack of interest in three-dimensionality and volume. In its two-dimensionality, objects were often seen from two different points of view. Characters, animals and buildings were seen normally, while carpets, roofs, rivers and other details were seen from above. Besides the Chinese and Central Asian influences, European influences came in with the Italians to the Mughal court. The European element in Mughal painting brought a fusion between Indian and European styles.



Left: Abul Fazl presenting Akbarnāma to Akbar. Right: The spy Zambur leads Mahiya into the city of Tawariq, folio from *Hamzanāma*, c. 1570 (courtesy: Wikipedia).



### Rajput School and the Kṛṣṇa Cult

The Rajput School of miniature painting was spontaneous and vital in opposition to the heraldic court style of the Mughal School. Rajput paintings depicted festivals, mythological subjects and the important episodes from the life of Lord Kṛṣṇa. This coincided with the spread of the Kṛṣṇa cult as a part of the Bhakti movement in medieval northern India. Derived from the Gujarat School of painting, Rajput miniatures are based on drawings with bright splashes of colour.

This school is divided into two main branches: Rajasthani and Pahāri. Among the Rajasthani Schools, Mewar stood out with its portrayal of Kṛṣṇa legend characterised by a naiveté and freshness, recalling the rural origins of the artists, and are singularly appropriate for the pastoral scenes of the *Kṛṣṇa līlā* which they portray. Related schools of Bikaner and others generated the Amber School. Other important schools include Bundelkhand, Marwar and Bundi. The last is notable for its brilliant colouring, and almost an impressionist style. Finally, the Bihar School, coming at the end of the Rajasthani movement, produced interesting paintings with Mughal influence in their wealth of details and heraldic character and yet possessing the freshness of the Rajasthani miniatures.



An 18<sup>th</sup>-century Rajput painting by the artist Nihāl Chand (courtesy: Wikipedia).



### The Pahāri School

The important centres of the Pahāri School were at Basholi, Jammu, Guler and Kangra. The Pahāri School was lively and romantic, technically superior with soft tonal shading, exquisitely created backgrounds that merged with the theme, and attitudes and postures highly evocative of the moods they were to convey. The Kangra paintings are as romantic as Kālidāsa's descriptions of the mountains. In the Kangra School, Indian miniature paintings reached the zenith in the depiction of the Kṛṣṇa and Śiva legends. The colours were extracted from minerals, plant sources, conch shells, and even by processing precious stones; gold and silver were also used. The preparation of desired colours is a lengthy process, sometimes taking weeks.



Left: Folio from a *Rāmāyaṇa* manuscript: Rāma and Lakṣmaṇa defend sage Viśvāmītra from demons, Basohli, early 19<sup>th</sup> century. Right: Kṛṣṇa lifting the Govardhana mountain, illustration to the *Bhāgavata Purāṇa*, Tira-Sujanpur, early 18<sup>th</sup> century.

### Tanjore and Mysore Painting

The artists of Vijayanagara turned up in two great courts of late medieval India and created a new genre of painting, inspired by the great Vijayanagara traditions. Tanjore paintings are of popular Hindu deities and scenes from Hindu epics.





Mysore painting is another important legacy of classical Vijayanagara painting. The themes for most of these paintings are also Hindu deities and epic stories. With the help of a thin brush, all the jewellery and architectural features are painted over chalk paste, to give a slightly raised effect of carving, and then allowed to dry. A thin gold foil is pasted on this. The rest of the drawing is then painted using water colours.



*Left: Mysore Painting of goddess Sarasvati (courtesy: Wikimedia). Right: Kṛṣṇa in Tanjore painting (source: [www.sandhyamarne.com](http://www.sandhyamarne.com)).*

### Folk painting

There are many schools of Indian folk painting, a few of which are mentioned here.





### Madhubani

Madhubani painting is practised in the Mithila region of Bihar. Themes revolve around Hindu deities and epic tales, especially tales of Lord Kṛṣṇa, and scenes of social events like weddings. No space is left empty: gaps are filled in with paintings of flowers, animals, birds and geometric designs. Artists use natural dyes and pigment extracted from leaves, herbs and flowers.



Padma Shri Mahasundari Devi working at a Madhubani painting  
(source: [www.vidushini.blogspot.in](http://www.vidushini.blogspot.in)).

### Paṭṭacitra

Paṭṭacitra (meaning “cloth painting”) is a folk style of Odisha closely linked with the worship of Lord Jagannath of Puri. While there is evidence of painting in the Khaṇḍagiri and Udayagiri caves, the earliest indigenous paintings from Odisha are the Paṭṭacitra done by the Chitrakars (a community of painters). The themes, centred



Paṭṭacitra painting depicting Ganeśa and Śiva (courtesy: Wikipedia).





around the Vaiṣṇava cult, Lord Jagannath and Lord Kṛṣṇa, are the major sources of inspiration. The painters still use vegetable and mineral colours and prepare their own paints. The old tradition of Oriya painting survives among the artists or Chitrakars of Puri, Raghurajpur, Paralekhamundi and Sonepur.

### Kalamkāri

Kalamkāri or “pen craft” of Srikalahasti, is executed with a *kalam* or pen, used for free hand drawing of the subject and filling in the colours, entirely by hand. Paintings are usually hand-painted or block-printed on cotton textile. This style grew around temples and had a distinctly religious identity — scrolls, temple hangings, deities and scenes from the great Hindu epics. The Machilipatnam style tends to have more block printing. However, both use only vegetable colours.



A kalamkāri depiction of Arjuna's quest for enlightenment (source: [www.exoticindia.com](http://www.exoticindia.com)).

\*

There are several schools of tribal painting such as the Warli, Gond, Bhil and Kurumba, among others.

Painting like most Indian art reflects the religious passion of the people, their joys and aspirations. It is also a documentation of the life and times, of kings and courts, nature, plants and animals. It is a celebration of colour, of festivals and all



that is beautiful. India's heritage of painting is a record of happy times and happy people who expressed their hopes and faith through their works of art.



Left: Gond art (source: [www.crazygallery.info](http://www.crazygallery.info)). Right: Warli art (courtesy: Uma Sharma).



### Comprehension

1. Where do we find evidence of the earliest rock paintings in India?
2. What are the changes in the colour used in paintings from the earlier paintings to the medieval period?
3. Name the different subjects that *Viśnudharmottara Purāṇa* deals with.
4. What are the main principles of painting?
5. What are the Ajanta murals called? How did they survive to this date? Mention the process.
6. Describe the themes painted in the Ajanta caves. Who do think must have painted them?
7. Establish a connection between the Ajanta paintings of those in the Bagh Caves.
8. Comment on the colour scheme used by the Pallava dynasty artists.
9. Make a comparative study of the themes and colours used by the painters of the Pāṇḍyas and Cōla dynasties.



10. What do you understand by miniature painting? Where did it start in India? Name various schools of this art.
11. Mention the characteristic features of Jain paintings.
12. Describe the Persian style of painting and compare it with other schools.

#### Activities

- Design a card for various occasions using folk or tribal art. You could use Madhubani, Warli, Gond, Paṭṭacitra and Kalamkāri or any other such art form to depict the richness of this tradition.
- Study various painting styles of India to find out if there are any rituals and traditions followed before starting any painting. You may look up Phad and Nathdwara painting for reference.
- Debate on the topic “Techno-savvy man today has replaced the artist”.
- Select and observe a painting of your choice and develop your own story out of it. You may:
  - place yourself in the painting and write appropriate dialogues;
  - let your imagination go beyond the painting;
  - focus on the theme and enrich / enhance it with sound sequences.

#### Projects

- Work in groups and make a process document of a painting tradition. Use the following hints:
  - Name of the style of painting
  - Region
  - History behind the tradition
  - Patronage when the tradition flourished



- Base
  - Colours
  - Popular themes
  - Changes over the centuries
  - How has the painting tradition adapted to the needs of the market today.
- 'Akbar and Jehangir encouraged the illustrations of epics and histories.' Make a project exploring the style of miniature painting in their time, the use of form, colour, motifs and nature. Mention the oriental and European influences.



Left: Jehangir. Right: Akbarnāma (courtesy: Wikipedia).

- Coinciding with Bhakti movement, the Kṛṣṇa cult of miniature painting flourished in Rajasthan and Pahāri styles. Study and research further the portrayal of the Kṛṣṇa legend which brought freshness to this miniature style of paintings.

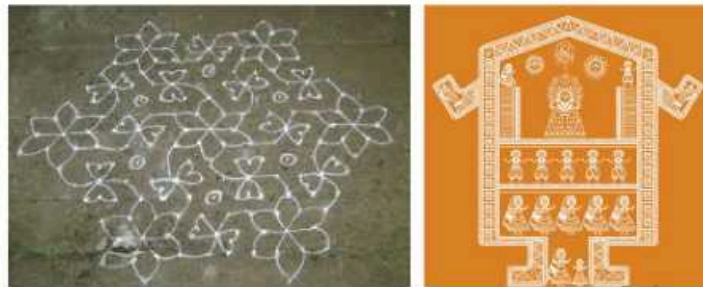


Left: Rādhā celebrating holi, Pahāri School of miniature.  
Right: Kṛṣṇa, Mewari School of miniature. (Courtesy: Wikipedia)





- Write an article for a newspaper / magazine on a case study of traditional painters / artists. Examine and take note of the changing trends. In what ways have they impacted the individual artist, his works and society?
- *Rangoli*, *mandana* and *alpana* (floor and wall decorations) are practised by women in most parts of India even today. Collect patterns of several regions mentioning the rituals, occasions and the materials used for the art.



Left: Rangoli. Right: Mandana painting (for the festival of *ahoi aṣṭami*).

#### Extended Activity

- Create an awareness campaign under the auspices of your school's eco-club about the substitute eco-friendly colours that can be used in paintings, *rangolis* etc. Then conduct a competition between groups promoting the use of natural colours on different occasions.

#### Further Reading

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2. Chakraverty, Anjan. 2005. *Indian Miniature Painting*. New Delhi: Lustre Press
3. Cummins, Joan. 2006. *Indian Painting: From Cave Temples to the Colonial Period*. Boston: MFA Publications





4. Gupta, Charu Smita. 2008. *Indian Folk and Tribal Paintings*. New Delhi: Roli Books
5. Rawson, Philip S. 1961. *Indian Painting*. Paris: Pierre Tisné & New York: Universe Books
6. Sivaramamurti, C. 1996. *Indian Painting*. New Delhi: National Book Trust

#### Internet Resources (all URLs accessed in May 2013)

- Mughal painting, [www.britannica.com/EBchecked/topic/396178/Mughal-painting](http://www.britannica.com/EBchecked/topic/396178/Mughal-painting)
- Miniature painting [www.britannica.com/EBchecked/topic/383990/miniature-painting](http://www.britannica.com/EBchecked/topic/383990/miniature-painting)
- Different forms of Indian paintings, like cave painting, Miniature, Mughal, Mysore, Pahāri etc. [www.culturalindia.net/indian-art/paintings/index.html](http://www.culturalindia.net/indian-art/paintings/index.html)
- Different forms of paintings. [www.myindianculture.com/2011/12/indian-folk-art-tribal-art-paintings.html](http://www.myindianculture.com/2011/12/indian-folk-art-tribal-art-paintings.html)
- History of Indian paintings [www.itsaveer.com/artsmart/articles/analysis-of-indian-paintings/history-of-indian-paintings](http://www.itsaveer.com/artsmart/articles/analysis-of-indian-paintings/history-of-indian-paintings)
- Analysis of Indian paintings [www.itsaveer.com/artsmart/articles/gallery/analysis-of-indian-paintings](http://www.itsaveer.com/artsmart/articles/gallery/analysis-of-indian-paintings)
- Wall paintings of India <http://ccrtindia.gov.in/wall%20paintings.htm>
- Miniature paintings <http://ccrtindia.gov.in/miniaturepainting.htm>
- Modern Indian paintings <http://ccrtindia.gov.in/modernindianpainting.htm>
- Miniature paintings <http://ngmaindia.gov.in/sh-miniature-painting.asp>
- Tanjore and Mysore Tradition <http://ngmaindia.gov.in/sh-tanjore.asp>
- Mysore painting <http://wiki.indianfolklore.org/images/d/d3/Mysore.pdf>
- Ajanta caves paintings [www.indian-heritage.org/painting/ajanta/ajanta.html#links](http://www.indian-heritage.org/painting/ajanta/ajanta.html#links)





## Painting: Excerpts from Primary Texts

### Eulogizing the art of painting for its functions and extraordinary qualities

He who paints waves, flames, smoke and streamers fluttering in the air, according to the movement of the wind, should be considered a great painter.

Painting is the best of all arts, conducive to *dharma*, pleasure, health, and emancipation. It gives the greatest pleasure, when placed in a house.

Painting is the best of all arts, conducive to *dharma*, and emancipation. It is very auspicious when placed in a house. As Sumeru is the best of mountains, Garuda, the chief of birds, and a lord of the earth, the most exalted amongst men, so is painting the best of all arts. (*The Vishṇudharmottara*, tr. Stella Kramrisch, III.43)

\*

### Preparation of the principal colours

(Oh) king, I shall now speak to you about the preparation of the principal colours. (Oh) best of kings, there are five principal colours, viz., white (*śveta*), red (*rakta*), yellow (*pīta*), black (*kṛṣṇa*) and green (*harit*). It would be impossible to enumerate the mixed colours in this world (which are produced by) the mixture of two or three (primary colours) and through invention of various states or conditions (i.e., shades or tones). (Oh) best of kings, now I shall speak to you about the division of dark (*śyāma*) and white (*gaura*), which is due to the great suitability for getting mixed, of





different colours of this world, from which the two-fold colour of all is explained (i.e., the light and dark shade of every colour).

Among these (colours), the white (i.e., the light shade) should be of five kinds and the dark of twelve kinds. Bright (gold), light (white), tooth-white, pure-sandal white, autumn-cloud-white and autumn-moon-white – these five traditionally are called the five-fold white (light shade).

(The varieties of *śyāma*) should be: reddish-dark, *mudga* (brownish) dark, *dūrvā* sprout (greenish) dark and grayish dark too, (oh) king, tawny dark and topaz dark, *priyangu*-creeper dark and monkey dark. Then come blue-lotus (*nīlōtpala*) dark and blue as the *nīlakaṇṭha* bird and purple-lotus (*raktotpala*) dark and cloud-dark. Their application is said to be in accordance with the colours of (the respective) objects and they gain in beauty by intermixture of colours. (*The Vishṇudharmottara*, III.27, verses 7-26.)

\*

#### Process of preparation of colours for base plaster

Brick powder of three kinds has to be mixed with clay, one third part (in amount of the brick powder), having mixed saffron with oil, (one) should mix (lit. place) (with it) gum resin, bees' wax, liquorice, molasses and *mudga* (*phaseolus munga*) preparation in equal parts. One-third part of burnt yellow-myrobalan should be added therein. Finally the astringent made of the Bel-tree (*Feronia elephantum*) destructive (of all injurious agents) mixed in proportion of two to one should be added by an intelligent artist and also a portion of sand, proportionate to the amount of the whole. Then the artist should drench (this mixture) with moist split pulse dissolved in water. The whole of this moist preparation has to be kept in a safe place for one month only. (After) the moisture has evaporated within a month, a skilful (artist) should put (this) dried (yet



still damp) plaster on the wall, having carefully considered (everything). It should be plain, even, well distributed, without ridges or holes, neither too thick nor too thin. Should it (look) ill done after having become (quite) dry (due to shrinkage), then it ought to be carefully smoothed by coatings of plaster (made) of that clay (as mentioned before) mixed with resin of the Śāla-tree (*Shorea robusta*) and with oil. (It is further made) smooth by (repeated) anointing, constant sprinkling with water and by careful polish. (Oh) lord, when this wall has promptly dried, it does not go to ruins anywhere even at the end of a hundred years. (*The Vishṇudharmottara*, III.40, verses 1-30.)

\*

#### Order followed by the painter before he starts painting

By this means various jewelled floors can be made of variegated mixture in twofold colours. In painting with care on a wall, dry, brilliant and smooth, an artist devoted to the master, should begin his work on an auspicious day, with his face, towards east, thinking of God, having worshipped and bowed down to Brahmins and preceptors who know this (i.e., painting) well, uttering Svasti (Success!), clad in a white garment and restrained in his soul. Then the learned artist should draw (outlines) with unoozing black and white brushes in due order and fix them on the duly measured ground. These then should be filled with colours in appropriate places. (*The Vishṇudharmottara*, III.40, verses 1-30.)

\*

#### Preparation of base colours and qualities of a good painting

Primary colours are said to be five — white, yellow, the colour of the myrobalan, black and blue. (Oh) best of kings, intermediate (colours) are traditionally said to be hundred-fold. (But an artist) should mix (lit.





divide) the primary (lit. full) colours according to his own logic and imagination and make thousand fold (what is hundred fold). If the blues are transformed a great deal, green colour is produced. It is either pure, with an admixture of white or blue-predominating. One or more (of these shades) are (used) as it is suitable to the (special) painting. Blue, (too,) is of three kinds: with white predominating, with very little white or with both in equal parts. Thus it is variously transformed by being connected with anything applied as an astringent.

Thus beautiful (lit. auspicious) paintings should be made yellowish like the *dūrvā* sprouts, green like the wood apple and dark like the kidney-bean. Blue tinged with yellowish-white (becomes) changed in colour and of various kinds according as either of the two (constituents) is (present) in greater or smaller degree or in equal parts. For that reason the blue-lotus-colour (*nīlotpalanibha*) appears beautiful when partly shaded dark like the *māsa*. By proper selection and distribution of colours paintings become delightful. A painting in red and dark like the red lotus (*raktotpāla*) becomes beautiful when combined with white lac, covered by a coating of lac and resin. The latter also transforms various other colours.

(Oh) king, colouring articles are gold, silver, copper, mica, deep coloured brass, red lead, tin, yellow orpiment, yellow myrobalam, lac, vermillion and indigo, oh best of men. There are many other similar colouring substances, oh great king, in every country; they should be prepared with an astringent. A fluid should be made of iron leaves. A mica defile placed in iron should serve as a distiller. In this way iron becomes suitable for painting. In the (work called) *surasendrabhūmija* a decoction of hides was said to be a distiller of mica. ... In the case of all colours, the exudation of the *Sindūra* tree is desirable. A painting, firmly drawn with a magnificent hairy brush (lit. tail) on a canvas dipped in the juice of the best *dūrvā* grass



cannot be (destroyed and remains (intact) for many years though washed by water. (*The Vishṇudharmottara*, III.40, verses 1-30.)

\*

#### Four kinds of paintings

Mārkaṇḍeya said: Painting is said to be of four kinds — (1) “true to life” (*satya*), (2) “of the lute player” (*vaiṇika*), (3) “of the city” or “of common man” (*nāgara*) and (4) “mixed” (*miśra*). I am going to speak about their characteristics (now). Whatever painting bears a resemblance to this earth, with proper proportion, tall in height, with a nice body, round and beautiful is called “true to life.” That is called *vaiṇika* which is rich in the display of postures, maintaining strict proportions, placed in an exactly square field, not phlegmatic, not (very) long and well finished. That painting should be known as *nāgara*, which is round, with firm and well developed limbs with scanty garlands and ornaments. (Oh) best of men, the *miśra* derives its name from being composed (of the three categories). (*The Vishṇudharmottara*, III.41, verses 1-15.)

\*

#### Representation of various themes

Now I am going to speak about the appearance of things actually seen. A learned (artist) should show the sky without any special colour and full of birds, (oh) king. Similarly (the artist) should show the firmament adorned by stars and the earth with its vegetation in all its variety (lit. with all its distinctive attributes). (Oh) best of kings, (an artist) should show a mountain by a cluster of rocks, peaks, (with) metal (-vein) trees, waterfalls and snakes. A learned (artist) should show a forest by various sorts of trees, birds and beasts. (He should show) water by innumerable fishes and tortoises, by lotuses and other aquatic animals and plants. A learned (artist) should show a city by beautiful temples, palaces, shops, houses and





lovely royal roads. An artist should show a village by its boundaries containing sparingly gardens. Fortresses should be shown with battlements, ramparts, high mounts and entrances in their enclosures. Markets should be shown; containing articles of merchandise; drinking places should be represented full of men engaged in drinking, and those engaged in gambling should be drawn devoid of upper garments, – the winners merry and the losers full of grief. The battlefield has to be shown as containing four divisions of the army (i.e., elephant corps, cavalry, chariot corps and infantry), with soldiers engaged in fighting, strewn with corpses and besmeared with blood. The burning ground should be represented with funeral piles and dead bodies. (A painter) should represent a road, with caravans consisting of camels and other (animals) carrying burdens. The night should be shown – with moon, planets and stars, with approaching thieves and men (fast) asleep and others engaged in worldly pleasures (lit. showing what is of the world). The (breaking of the) dawn is to be shown) by the rising sun, the lamps (looking) dim and crowing cocks, or a man should be drawn as if ready for work. The evening is to be shown by its red glow and by Brahmins engaged in controlling their senses. The (setting in) of darkness has to be shown by men approaching their abodes. That the moon is shining should be shown by the *kumuda* flower in full bloom, while the many petals of the lotus flower should be closed. When, depicting a shower of rain, (that it is) raining should be shown by a man well covered. That the sun is shining should be shown by (drawing) creatures suffering from heat. (An artist) should represent spring with merry men and women, by “laughing” vernal trees, with bees swarming about and cuckoos.

The summer has to be shown with dried pools, with languid men, with deer seeking the shade of trees, and buffaloes burying themselves in mud. An artist should show the rainy season by flashes of lightning, beautified by rainbows, accompanied by heavily laden clouds, birds perched on



trees, and lions and tigers sheltered in caves. A painter should paint the autumn with trees heavy with fruits, the earth (covered) with ripe corn (-fields) and with tanks beautified by lotuses and swans. The “dewy” season (*hemanta*, the approach of winter), a learned artist should show by frost on the horizon, with the earth lopped (of her crops) and the ground covered by dew-drops. A learned (painter) should paint the winter with the horizon-shrouded in hoar-frost, with shivering men and delighted crows and elephants.

(Oh) lord of men, seasons should be represented by trees in flowers and fruits and creatures delighted (or otherwise) and looking at nature. Sentiments and expressions should be represented as already spoken of. (An artist) should also suitably employ herein what was said about dancing. A painting in which an object is devoid of shading (*varttanā*) is called ‘mediocre’ (*madhyama*). A picture which in some parts is shaded and in others remains without shading is ‘bad’ (*adhama*). A picture shaded all over is good (*uttama*). A painting, in which everything is drawn in an acceptable (form) in its proper position, in its proper time and age, becomes excellent, while in the opposite case it becomes (quite) different. A painting drawn with care, pleasing to the eye, thought out with supreme intelligence and remarkable by its execution, beauty, charm (lit. amorous pastime), taste, and such other qualities, yields the desired pleasure. (III.42, verses 1-84.)

\*

#### Nature of the Art of Painting

Weakness or thickness of delineation, want of articulation, improper juxtaposition of colours are said to be defects of painting. (Proper position, proportion and spacing, gracefulness and articulation, resemblance, decrease and increase i.e., foreshortening) these are known as the eight (good) qualities of painting. Painting which has not (the





proper) position, devoid of (the appropriate) *rasa*, empty to look at, hazy with darkness and devoid of life-movement (*chetanā*) – is said to be inexpressive. One that seems as if dancing by its posture or appears to look frightened, laughing or graceful, thereby appears as if endowed with life, as if breathing. These pictures are (considered) of an auspicious type. (A painter) should make his (painting) to be without darkness and emptiness. No (painting depicting a) figure with defective limbs, covered all over with hair, overwhelmed with fear due to internal disease, or smeared with a yellow pigment (ought to be executed) . An intelligent artist paints what looks probable (lit. what commands trust), but never what transcends it. (Oh) lord of men, a painting (by) the skilled, the righteous and those (who are) versed in the Śāstras brings on prosperity and removes adversity very soon. A painting cleanses and curbs anxiety, augments future good, causes unequalled and pure delight, kills the evils of bad dreams and pleases the household deity. The place where a picture is firmly placed does not look empty (*The Vishṇudharmottara*, III.43, verses 1–39).

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### Eight Limbs of Painting

*Samarāṅgaṇasūtradhāra*, an 11<sup>th</sup>-century treatise on architecture prescribes 'Eight Limbs of Painting': *bhūmibandhanam* (preparation of surface), *varṭika* (crayon work), *rekḥā-karmāṇi* (outline work), *lakṣaṇam* (features of face), *varṇa-karma* (colouring), *varṭanākramaḥ* (relief by shading), *lekha-karaṇam* (correction) and *dvicakarma* (final outline).

*varṭika prathamam teṣā*  
*dritīyam bhūmibandhanam*  
*lekhyam tṛtīyam syād rekḥā-*  
*karmāṇi varṭalemiha lakṣaṇam*



*pañcamāṇi karṣakarmacca  
ṣaṣṭham syād vartanākramah  
saptamaṇi lekhanam lekha-  
karaṇam dvicakarma tathāṣṭaman*

\*\*\*

### Comprehension

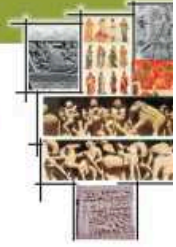
1. According to the given text, who is considered as an accomplished painter?
2. Write briefly about the ceremonial start of a painting.
3. Read the process given in the text on preparation of base plaster, research and compare it with the contemporary methods, also list examples. Look at the two paintings below and discuss the various stages of a painting.



*Left: Orchha (M.P.). Right: Ajanta cave painting*

4. What are the qualities of a good painting?
5. List the eight limbs of painting and describe their relevance to present-day painting.





## Society State and Polity: A Survey

Indian civil polity is almost as old as that of Babylonia and has lasted, like that of China, longer than any other. It is founded on the dictum enunciated by Rāmadāsa in his *Dāsabodha* (I.10.25) that ‘man is free and cannot be subjected by force’.

We have discussed society, state, ruler and polity with this vocabulary – *samāja*, *rājya*, *rājā* and *rāja tantra* (*pālana vyavasthā* or governance).

When a large number of human beings live together, there is need for some rules and regulations because human nature is such that *matsya nyāya*, ‘the big fish eats the small fish’, prevails, i.e., it is in the nature of things that the strong will exploit the weak. So since early days, there is a realization in India that there has to be a ‘society’ governed by some commonly agreed rules and regulations. However, such a ‘society’ is only loosely regulated – it is governed by customs and practices, not by laws. Therefore, some more rigorous organization is needed, a system called ‘state’ in political thought, a political system with a legal sanction and foundation, a system ruled by law.

A ‘state’, *rājya*, has several dimensions – the duties / rights of the ruled and the rulers, the rules of governance and the rules that govern the rulers and the ruled. In the same way, a ‘society’, *samāja*, has its components, the different *jātis* or communities, and functional units that we may call *varṇas* or castes. A society has its structural units such as family, institutions such as marriage, and customs and practices such as inheritance, rituals of marriage and mourning, and finally a framework of individual and social life as for example the *āśrama vyavasthā* laid down in the Hindu society as an ideal organization of an individual’s life.

Indian society is among the oldest societies in continuous existence with broadly the same ancient social system codified in the long continuous, cumulative





attested textual tradition of sociological texts known as Dharmasūtras, Dharmaśāstras and Nibandhas.

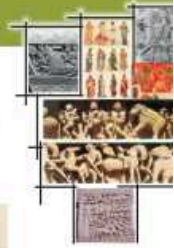
### Plurality of Indian Society

The Indian society has always been pluralistic in that this land has been since time immemorial inhabited by many *jātis* or ethnic communities (there are over 4,700 *jātis* according to the Anthropological Survey of India), ethnic groups big and small, communities professing different religions and faiths, speaking different languages, wearing different dresses, eating different foods, following different occupations, different social norms, customs and practices. Add to this hundreds of *pañthas* (sects) and thousands of professions and professional groups such as potters, ironsmiths, weavers, farmers etc., each with its own norms and values, and the picture confounds the sociologists and culture-thinkers alike.



Panels at Bharhut (Madhya Pradesh) depicting facets of society:  
*Left:* acrobats making a human pyramid. *Right:* gamblers.





But this plurality has never hindered a harmonious social life at the grassroots. Some pan-Indian shared social features have evolved over time to make the Indian society a recognizable Indian system. For example in marriage and worship, there are common elements in the institutions of most communities which at the same time retain features specific to the religious or ethnic community. Thus in the case of marriage as an institution, the rituals vary from one religion to another and from one ethnic group to another, but the sanctity of this institution is shared more or less by all communities. In the same way, 'family' remains a core institution of the social life of all communities. Further, certain social attitudes – for example respect for age, knowledge and renunciation, restraint in public conduct in matters of language, dress and eating / drinking – are pan-Indian. In belief system or in what one may call intrinsic 'rural' values also, in being god-fearing and hospitable for example, there is a pan-Indian commonalty.



Different styles of sari and clothing. There are more than 80 ways to drape a sari (courtesy: Wikipedia).

Today the Indian society under the impact of the technological, consumerist contemporary civilization, particularly the urban society is in great flux. Some of its time-honoured values and virtues including those that we have enumerated in the preceding paragraph are under stress. But the country is so large and the Indian society has, by virtue of its historical experience of turmoil, become so resilient that it is difficult to say what will be the final shape. In the meantime we observe what is happening.





### Underlying Principles of Indian Society

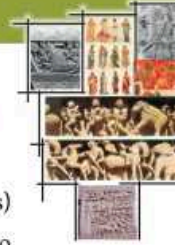
Such diversity no doubt defies generalizations and yet there is an underlying system that binds the complex society into a whole. First of all the vast population of this major segment of the Indian society is structured into and reduced to just four groups by the much-discussed *varṇa vyavasthā*, which the Portuguese first described as 'caste system'. These are four functional divisions to be identified in any society – intellectuals / thinkers, warriors / defenders, traders and the service class. The difference from other societies is that in India this functional division was codified into a social organizing principle, something that for all its unifying purpose degenerated into a hereditary system. Each *varṇa* is structured downwards in a hierarchy of expanding crisscross of parameters of ethnicity, subgroups, geographic area, village, *gotra* (relational sub-subgroup), language, profession, religion. This is a highly intricate social organization, which both separates an individual or a community from others, and at the same time makes all a part of each other.



A scene from one of the gateways to the Sanchi stūpa: the king emerges from the city gate, on his way to meet the Buddha. Note the depiction of urban society, with workers, drummers, mahouts, and ladies watching the scene from their high-perched balconies (source: Archaeological Survey of India).

This segment of India's social life is knitted, among others, by the shared obligations that flow from two networks, the network of identity and the network of familial relationships. Beyond these identities, the society as a whole sets before itself, as an organizing principle, the clearly defined four ends of human life, known





as *puruṣārthas*: duty / righteousness, material well-being, fulfilment of (righteous) desires and ultimately freedom from the worldly imperatives. These goals or ends do not depend on religion or community, or on whether one believes in God or not. Whatever one believes in whatever is one's profession, everyone in this human life has to necessarily perform one's duties, work hard for material well-being, try to fulfil one's righteous desires and at the end of it all, at a late stage in one's life, everyone is tired and wants to be free of these worldly pursuits.

The rubric of duty, *dharma*, first of the four ends, is crucial as the Indian society is a duty-centred society – everyone has his duty, an enjoined *dharma*, both the king and the vagabond. Duty is a harmony principle as when everyone performs his or her duty, the 'rights' of others are naturally taken care of. When the line of duties is laid down, one starts with duty towards one's country, then to one's larger community, then to one's own *birādari*, the sub-community / group, to one's family and then at the end, towards oneself.

### Family

Family is the keystone of the social arch: marriage is the instrument of family and the mother/wife is the custodian of marriage. Family is sacrosanct and that involves an elaborate code of duties for each member of the family. Family is also the economic unit and as such it takes care of all members regardless of



Marriage of Rāma and his brothers  
(source: [www.exoticindia.com](http://www.exoticindia.com))





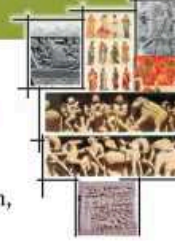
how much they earn and contribute individually to the 'family income'. It is a protection against adversity and a strong instrument of social security, something that costs Western nations huge amounts of public money to provide to its citizens. Because 'family' results from marriage, marriage is also sacrosanct. It is irrevocable and the Ṛgvedic marriage hymn states, "I take your hand in mine for happy fortune that you may reach old age with me your husband." (10.85.36) Marriage customs and rituals vary according to communities and other subgroups.

The family life is organized around the concept of four well-marked stages, *āśramas*, in the course of one life: the stage of education, that is studentship and preparation for a householder's life; the second stage of householder's life devoted to building up and supporting a family and earning for that; the third stage of retreat from direct involvement in worldly affairs, after the children have grown up and become householder's themselves, to devote oneself to study for one's mind and self, and the fourth and the last stage of renunciation of all activity, going to live in solitude and devote oneself to matters of spirit and worship.

Not many people are able to follow this literally but it always remains an ideal and is often practised in one form or the other because it is a psychologically and socially relevant system.

The second *āśrama*, *gṛhastha*, the long stage of married life devoted to raising a family, is acknowledged by all thinkers as the most important and also the most arduous of the four *āśramas*. It involves all-round responsibilities, of parents towards children, of children towards each other and towards parents, of the mother and the father towards all, including the larger family. This stage in life is at the same time the most full, rich and colourful – innumerable festive rituals and ceremonies, in particular those called *solah saṁskāras* or 'sixteen ceremonies', accompany an individual all through his or her life – birth, initiation into study, completion of education, engagement, marriage, birth of children, marriage of children,





particularly of the daughter, death of the parents and memorial ceremony for them, the entire process ending in one's death (see table below).

	<i>saṁskāra</i>	Meaning
1	<i>garbhādhāna</i>	Conception
2	<i>pūṁsavana</i>	Protection of the child in mother's womb
3	<i>sīmantonmayana</i>	Fulfilling the pregnant mother's wishes
4	<i>jātakarman</i>	Rituals at childbirth
5	<i>nāmakaraṇa</i>	Naming the child
6	<i>niṣkrāmaṇa</i>	Taking the child outdoors
7	<i>annaprāśana</i>	Giving the child solid food
8	<i>cūḍākarana</i>	Shaving of the head
9	<i>kārṇavedha</i>	Ear piercing
10	<i>vidyāraṁbha</i>	Commencement of studies
11	<i>upanayana</i>	Initiation into adulthood
12	<i>samāvartana</i>	Completing education
13	<i>vivaha</i>	Marriage
14	<i>sarvasaṁskāras</i>	Preparing for renunciation
15	<i>saṁnyāsa</i>	Renunciation
16	<i>antyeṣṭi</i>	Last rites

List of the *solah saṁskāras* or 'sixteen ceremonies'.

These ceremonies are community affairs and at each ceremony, even the funeral ceremony, all relations and friends gather for community eating. It is also the duty of the householder to share his money / wealth with the poor, give offerings to gods and spend a part of what he has earned on building schools and hospitals, for both human beings and animals. The trading class has the ambition to build at least one temple as well. Taking the family, including one's parents, on pilgrimage is also a sacred duty of all householders. This structure makes an individual's life meaningful and also imparts social responsibility to family life.





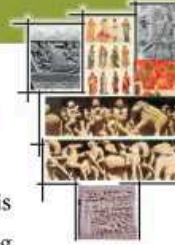
In the Indian society both the patrilineal and matrilineal systems are in existence in different parts of the country and among different communities. These differ in family relationships, marriage laws and inheritance. Thus the Namboodiris of Kerala and some of the Northeastern small communities such as the Garos are matrilineal. In patrilineal communities, the eldest son inherits the family property; in matrilineal communities the youngest daughter inherits the property.

### Indian Society and Reform

Finally, Indian society has shown itself to be amenable to reform by law and has been keeping pace with the changes in life conditions. In this the intrinsic multiplicity and plurality of the Indian society is a blessing as the availability of ideas, customs and practices in Islam, Christianity, Sikhism, Hinduism and Judaism has enabled cross-fertilization and consequent reform. Take the case of women in Indian society. Even a cursory examination of recent history makes it clear that the rights of woman, for example, have been constantly redefined through a series of legislations that have in effect altered the social and individual condition of women. Though many of these have addressed the imbalances of Hindu society, their healthy effect has permeated across cultures. Beginning with the 1856 Hindu Widows' Remarriage Act, there has been a series of legislations that have in effect altered the social, and individual, condition of Hindu women: Child Marriage (Restraint) Act (1929), Special Marriages Act (1954), Hindu Marriage Act (1955), Hindu Marriage (Amendment) Act (1976), Hindu Succession Act (1956), Hindu Adoptions and Maintenance Act (1956), Dowry Prohibition Act (1961), Hindu Minority and Guardianship Act (1956) and Hindu Widows Property Act (1997). Constitutionally, Hindu law applies to Hindus, Sikhs, Buddhists and Jains.

There have been, besides these and other enactments, about 2,000 judicial decisions in suits concerning women's rights. As a result, Indian women today are the





most vibrant section of the Indian society. Whichever field they enter, and none is barred to them, they equal or even excel men. The parents take pride in educating their daughters. Studies have shown that the rate of growth in the number of girls going to schools is twice that of the boys. Of course the effect is uneven. The pattern of life of rural women remains broadly what it was but it is changing fast with rural girls going to school in increasing numbers.

With all this diversity and differences and with differing social proscriptions and prescriptions combined with economic factors and changing external conditions, conflicts are to be expected even within the same community. Intercommunity conflicts are even more likely. And then the very basic avaricious and exploitative human nature is a perennial cause of social and individual suffering. As we said at the beginning, *matsya nyāya*, 'the big fish eats the small fish'. Some of Indian society's age-old institutions often degenerated and became instruments of oppression and inequality. However, Indian society also always had from within reformers who combated such evils — from Mahātma Buddha to Iravati Karve — just as today laws are being framed to control criminality particularly against women.

### The Indian State

To ensure a just order, rule of law and peace, every society needs a State and surrenders some of its rights to the State that transcends differences and diversity of the society and treats all its citizens as equal.

Social laws that regulate a society are of the nature of directive principles and their violation entails no punishment and therefore do not guarantee compliance with enjoined practices. For maintaining public order and peace, on the other hand, more rigorous laws equally applicable to all communities in all regions and a system of punishments, *daṇḍa nīti* is needed. This is a major rationale for a State.





The State is based on same rights and duties for all and a common set of laws. It is the duty of the State in return to protect the dignity, life and property of the citizens and defend the culture and integrity of the society.

States, by common sense and by historical experience, are basically of three kinds: rule by one person (kingship); rule by a small group of persons (oligarchy), and representative rule of the people (democracy). Each of these has sub-types – thus kingship for example, can be hereditary or by election, that is where the community elects one person as the king. Similarly, the small group of persons in an oligarchy can be (a) aristocrats, (b) philosophers / the wise, or (c) elected representatives.

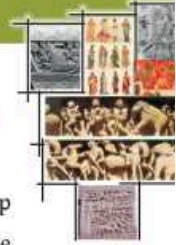
A State is constituted by its several 'limbs'. Thus Kauṭilya (3<sup>rd</sup> century BCE), the renowned Indian theoretician of polity, says that a State has seven limbs: the king, the ministers, the country, the forts, the treasury, the army, and the allies. This list can vary according to the form of government.

Broadly there are two kinds of governance – republican and monarchy. In India, the following four kinds of governments are attested since ancient times:

1. self-governing *gaṇas* ('direct democracy');
2. *saṅghas* ruled by nominated elders (a kind of oligarchy);
3. *gaṇas* ruled by a nominated ('elected') leader/king; and
4. consultative hereditary monarchy in which the king is advised by a *samiti*.

In India, a kind of participative governance, governance by discussion with a cross-section of people had been practised since the first half of the first millennium BCE. Republican forms 'expressed through popular assemblies and institutions' existed in India at the same time as, if not earlier than, the Greek republics. The assemblies, which were attended by all the members of the community, performed various legislative and executive functions including nominating the king or the representatives, where the community was too large to allow everyone to be present.





There was a hierarchy of assemblies, *samitis*, beginning with the village and going up through a whole group of villages, that is the whole community, to finally all the communities together *janapadas*. The word *samiti* continues to be used in this meaning in all modern Indian languages. Pāṇini, the celebrated 7<sup>th</sup> century BCE Sanskrit grammarian, uses the word *janapada* and refers by name to eighteen *janapadas* spread across north India. Republican forms of government were well established in ancient India. At the time of the invasion of Alexander of Macedonia (4<sup>th</sup> century BCE), there existed a large number of independent *gaṇas* (republics) like the Kambojas or Gandharas in the west, the Pancālas in the north, the Vangas in the east or the Asmaka in central India. The Pāli Canon (a standard collection of texts of early Buddhism) gives a much fuller, if somewhat indirect, depiction of democratic institutions in India, confirming and extending the picture found in Pāṇini.

### Goal of a State

The goal of a State — law and governance are its instrument and function — in the Greek philosopher Aristotle's thought and words that have an affinity with classical Indian thought is the happiness of the people, which he describes as 'the common good of all': 'Now it is evident that the form of government is best in which every man, whoever he is, can act best and live happily' (*Politics* VII: 2). This is the *loka saṃgraha* (welfare of the people) of the Bhagavad-Gītā (3.25), and not just the good of one section of the community. And that means *justice* and 'justice' implies 'just distribution', equality — justice is not the will of the majority or of the wealthier, but that course of action which the moral aim of the state requires (*Politics* VI: 10). As such, the true object of the State is 'virtue' (VI: 9), *dharma* of Hindu thought.

Which form of governance ensures the realization of this goal? 'Democracy' says the 19<sup>th</sup>-century European political thought; 'Polity' ('constitutional government ... a fusion of oligarchy and democracy') says Aristotle (IV: 8); and *Rāma rājya* say



Dharmaśāstra thinkers from Manu to Kauṭilya to Yājñavalkya and Kamandaka. But what is the essence of democracy? It is a form of governance in which every voice, the voice of the 'many' as well as of the 'few' counts without denying justice to the few — 'where the poor rule, that is a democracy' (VI: 9).

The doctrine of the State's *dharma* as justice and its dignity has been declared by Manu in these terms: 'If justice is violated, it destroys the State; if preserved, it preserves the State' (*Manusmṛti* VIII.15). The four great kings of the four *yugas* (aeons) — Māndhātā, Rāma, Yudhiṣṭhira and Vikramāditya — are celebrated in Hindu traditions as great upholders of justice.

The laws are conventions built up as a surety of justice to one another and modes of governance are set up to ensure the voice and participation of the poor and of the 'many' and to ensure justice. How is the voice of the people to be given weight? This is the subject matter of polity or governance.

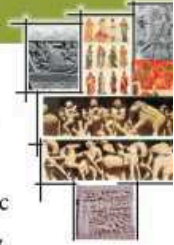
### Polity

Kauṭilya's *Arthaśāstra* (4<sup>th</sup> century BCE) is one of the most influential treatises of political science. It visualizes a huge bureaucratic structure, a complex tax structure, and an intricate intelligence system for effective governance.



Soldiers going to war and fighting (from a frieze at Khajuraho)





*Arthaśāstra* is divided into sixteen books dealing with virtually every topic concerned with the running of a state: taxation, law, diplomacy, military strategy, economics, bureaucracy etc. It advocates rational ethics in the conduct of the affairs of the state and emphasises the codification and uniformity of the law throughout the state. The basis of good governance, according to Kauṭilya, is knowledge and *Arthaśāstra* classifies the knowledge needed to run a State into four classes.

1. *anvikṣki* (philosophy and logic). This is considered to be the 'lamp of all sciences';
2. *trayī* (the three Vedas, *Sāma*, *Rg* and *Yajur*). These texts establish the four classes (*varṇas*) and the four orders (*āśramas*);
3. *vārta* (economics, specifically agriculture, cattle breeding, and trade);
4. *dandanīti* (law and governance).

The institution of State is created to enable the individual to practise his or her *dharma*. The condition of *arājakatā* (lawlessness) was viewed with distaste as it obstructs a life of righteousness. The breakdown of social order is described in the ancient epic *Mahābhārata*, as follows:

... Then foolishness or stupidity (*moha*) seized their minds. Their intelligence thus being eclipsed, the sense of justice (*dharma*) was lost. Cupidity or temptation (*lobha*) overpowered them next. Thus arose the desire (*kāma*) for possessing things not possessed. And this led to their being subjugated by an affection (*rāga*) under which they began to ignore the distinction between what should and what should not be done. Consequently, there [was moral decline] libertinism in speech and diet, and indifference to morals. When such a revolution set in among men, *Brahman* (the idea of Godhead) disappeared, and with it, law (*dharma*).



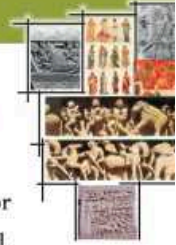


Next to the king came the *mantri pariṣad* (council of ministers). The king was enjoined to discuss every matter with his Council of Ministers, which had two levels, inner and outer. The inner cabinet had four members: the Chief Minister, the Chief Priest, the Military Commander and the Crown Prince. The membership of the outer cabinet was not fixed in number; invariably the heads of the prominent guilds were co-opted in this body. Unlike the basic principle of Western monarchy, the 'Divine Right of Kings', the king was to regard himself as an agent of the people and had to abide by his *dharma* as laid out in the Śāstras. Kauṭilya (1, 16) described the following ideal for the king: 'The monarch should seek happiness in the happiness of his citizens, his welfare is in their welfare, and his good is not in what pleases him but in what pleases the citizens.' Great value was therefore attached to a rigorous and continuous education of the king who was to acquire a thorough command of the different branches of knowledge and to display *ātma vrata* (self-control), and for this he had to abandon the 'six enemies': *kāma* (lust), *krodha* (anger), *lobha* (greed), *māna* (vanity), *mada* (haughtiness), and *harṣa* (overjoy) (1, 7).

Kauṭilya realized the critical role of the tax system for ensuring the economic well-being of the society. The hallmark of his tax system was 'certainty' — of time, rate and mode of payment. Stability in the tax regime was an important factor in ensuring active trade and commerce in the Mauryan empire. This in turn strengthened the revenue base of the state and enabled it to maintain a huge standing army and the welfare apparatus.

For Kauṭilya laws were derived from four sources: *dharma* (moral righteousness), *vyavhāra* (accepted practices), *carita* (history and custom), and *rājaśasana* (the formulations made by the state). In case of conflict amongst the various laws, *dharma*, moral righteousness, was supreme. The ordering of the other laws was case specific.





*Arthaśāstra* outlines a system of civil, criminal, and mercantile law. For example the following were codified: a procedure for interrogation, torture, and trial, the rights of the accused, what constitutes permissible evidence, a procedure for autopsy in case of death in suspicious circumstances, what constitutes defamation and procedure for claiming damages (Kauṭilya, 4, 7 & 8).

### Bureaucracy

Kauṭilya has proposed a network of bureaucracy to manage the State. Bureaucracy had thirty divisions each headed by Chiefs, *adhyakṣas*. An important and large part of bureaucracy dealt with the necessity of state provision for strengthening trade and commerce. The bureaucracy was involved in organizing the quality control machinery, the system of currency, and the system of weights and measures. As a mark of quality, merchandise had to be marked with the *abhijñyāna mudrā* (state stamp) in *sindūra* (vermilion). Counterfeiting was strictly punished. Bureaucrats received a fixed pay and were also eligible for state subsidized housing. The bureaucratic tenure was not hereditary.

A State also needs an intelligence apparatus. Kauṭilya suggests mass participation in intelligence gathering through institutions such as religion. Spies could be under the following guises – *kapaṭika chātra* (fraudulent disciple), *udasthita* (recluse), *grihapālaka* (householder), *vaidehaka* (merchant), *tapas* (an ascetic practising austerities), *satri* (a classmate), *tikṣṇa* (a firebrand), *rasada* (a poisoner) and a *bhikṣuki* (a mendicant woman) (Kauṭilya, 1, 11).

### Legal System

India has a long textual tradition of legal thinking that has been accompanied by an institutional system from the village council, *pancayata* to the king (and now the President of India) where justice has been dispensed in accordance with textual law





(*dharmaśāstras*), common practice (*vyavahāra*), conduct of respected people (*śiṣṭas*), and in the absence of any or all of these, the conscience of the judge(s). The texts deal with all aspects of the legal system. They discuss the qualifications of judges, of witnesses, the nature of valid testimony / evidence, the nature of crime(s), and the appropriate punishment.

To keep the process of justice free from the influence of the ruler, it was laid down that the king was not allowed to decide cases by himself alone. However, as is the modern practice, the courts functioned on behalf of the highest authority. It was the practice to keep records of all the decided cases. Further justice was administered in open courts and not away from the public gaze. The use of former judgement as an example was also well recognized.

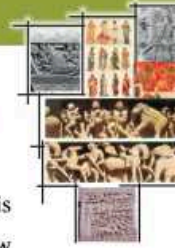
Great value has always been attached by Indians to equality and justice. Rulers such as Vikramāditya who dispensed unqualified justice live in the memory of the people. Folk memory also remembers Rāja Hariścandra who would not violate the law even to facilitate his dead son's cremation.

A long-attested tradition of legal texts accompanies this primacy of justice. Kauṭilya notes that 'It is ... power (*daṇḍa*) alone which, only when exercised by the [ruler] with impartiality and in proportion to guilt either of his son or his enemy, maintains both this world and the next.'

Much of India's widespread customary law prevalent among people is based on the work of the *smṛitikāras*, thinkers of judiciary, whose injunctions are deeply



A village scene showing a gathering of people for a meeting similar to a *panchayat* from Sanchi  
(source: <http://diwancheruvu.webs.com/>)



embedded in the common traditions and practices of the society. As far as civil law is concerned, the British also based colonial India's legal system on this customary law itself. In the Bengal Regulation of 1780, Section 27 provided that '... in all suits regarding inheritance, marriage and caste and other religious usages or institutions, the law ... of the *śāstras* with respect to Gentus [Hindus] shall be invariably adhered to.' The Regulation of 1781 added 'succession' or inheritance to the list. The Indian law evolved gradually with the changing needs of society.

To capture the changing diverse customary practices of a changing society, Indian laws have been continuously adapted and extended through commentaries, *bhāṣyas* and *nibandhas*. Their authors introduced innovations, collected and harmonized the diverse texts and modified and supplemented the rules in the *smṛtis* 'in part by means of their own reasoning and in part in the light of usages that had grown up.' For example, Baudhāyana, one of the Dharmaśāstrakaras, has noted that the practices among the people of the north and the south differ from each other.

To sum up, the knowledge-centred Indian civilization has elaborate social, political and legal thought and institutions that are motivated to secure the highest ideals of equality and justice. Thus the Greek Diodorus Siculus, 1<sup>st</sup> century BCE, noted:

Of several remarkable customs existing among the Indians, there is one prescribed by their [Indian] ancient philosophers which one may regard as truly admirable: for the law ordains that no one among them shall, under any circumstances, be a slave, but that, enjoying freedom, they shall respect the principle of equality in all persons: for those, they thought, who have learned neither to domineer over nor to cringe to others will attain the life best adapted for all vicissitudes of lot: since it is silly to make laws on the basis of equality of all persons and yet to establish inequalities in social intercourse.





Over time, all societies develop infirmities but one must not forget to look at the ideals it upholds – for the Himalayas are to be judged not by the valleys but by the peaks.

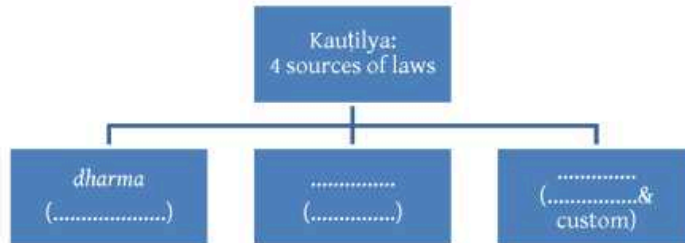
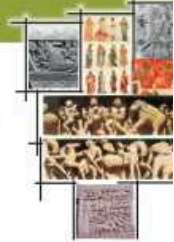
### Comprehension

1. Why is there a need for polity? What expression conveys the reason why polity is essential to man's existence?
2. What are the components of society?
3. The world today is in the grip of the menace of terrorism. What kind of advice would Kauṭilya have given to the bureaucrats today?
4. Make a graphic organizer describing the hierarchical structure of officials who assisted the king.
5. With your partner discuss the meaning of the following:
  - a) *samāja*
  - b) *rājya*
  - c) *rājā*
  - d) *rāja tantra (pālana vyavasthā)*.
6. In groups discuss what is meant by the following:
  - a) Dharmasūtrās
  - b) Dharmasāstrās
  - c) Nibandhas

### Activity 1

- What were the four sources of law according to Kauṭilya? Complete the following visual using the correct source.





**Activity 2**

- What do you understand by the expression 'society in flux'? Discuss what aspects of Indian life and culture are in flux. Fill in the table below to highlight key aspects of Indian life which according to your group are in flux.

Values/virtues/features of Indian life and culture	Under flux	Analysis /comments / measures to preserve or check

**Activity 3**

- What do you understand by the concept of homogeneity and pluralism?
  - Appoint a Group Reporter to report your findings to the class.
  - Survey of homogeneity: pan-Indian commonality



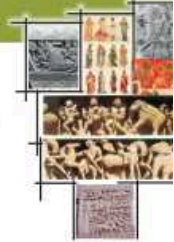
Name	Marriage ceremony	Rituals	Social attitudes toward elders	Belief systems	Cuisine

**Activity 4**

- Sit in groups of five. Find out details about your group in terms of state, mother tongue, music, dance and cuisine. Plan a class survey and find out the following information about your classmates.
  - In what way is each member different?
  - Underlying these differences, what are the commonalities among you? Make a list.
  - Appoint a group representative to tell the class about the group. What are its singularities in terms of language, customs, practices, apparels and food?
  - Survey of Group Singularities

Name	State	Religion	Mother tongue	Folk music and dance	Cuisine





### Activity 5

- What is the ideal organization of an individual's life? Complete the table below with the names of the correct stages of the *āśrama vyavasthā*.



- a) In groups of four, each of you take up the four stages of an individual's life. Examine its key aspects and characteristics? Is there any advice given on how best to conduct oneself in each of these stages?
- b) Next, design a presentation on the four stages. You may use any medium to describe it. For example, you may like to express the *gṛhastha āśrama* with its myriad colour through a dance, or visual, collage or a multimedia presentation along with a running commentary etc.

### Project Ideas

- The R̥gvedic marriage hymn goes, "I take your hand in mine for happy fortune that you may reach old age with me your husband." Basing yourselves on this dictum, discuss the following in your group:
- the institution of marriage
  - the changes taking place
  - their impact on society today.
- Prepare a spoof, skit, dramatic presentation highlighting your views on:
- Marriage: Indian style; or
  - Marriage: Then and Now.





- Make a list of the legislations that have been passed to improve the rights of women. And
  - in groups discuss whether the legislation has in actuality altered the condition of women.
  - You may like to express your views through a multimedia presentation using newspaper reports, clippings, TV news items, etc
- Organize an address by Kauṭilya to the leaders of the 21<sup>st</sup> century. Examine the advice given by Kauṭilya to the ruler or king. Imagine you are Kauṭilya; you have been transported into the 21<sup>st</sup> century. Address the leaders of the country. Assess them and evaluate their performance. Inspire and advise them about their role and duty.
- Sit in groups. Each of your groups has to send a team to represent your group in an important seminar on the following topic: 'The Hindu family, particularly, the joint family is a unique institution which is the chief reason for the survival of Hindu society and culture in the face of thousands of years of onslaught.'

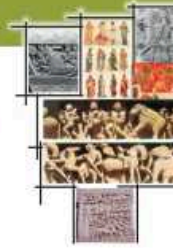
#### Further Reading

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3. Pande, G.C. (ed.). 2001. *Life, Thought and Culture in India (from c. 600 BC to c. AD 300)*, vol. 1, part 2 in Project of History of Indian Science, Philosophy and Culture. New Delhi: Centre for Studies in civilizations.
4. Sircar, D.C. (1974) 1995. *Studies in the Political and Administrative Systems in Ancient and Medieval India*. Delhi: Motilal Banarsidass.
5. *Tiruvalluvar: The Kural*, tr. P.S. Sundaram. 1990. New Delhi: Penguin Books,)

#### Internet Resources (all URLs accessed in May 2013)

- *Solah saṁskāras*: [www.religiousportal.com/16sanskars.html](http://www.religiousportal.com/16sanskars.html)





- Position of women in Kauṭilya's *Arthaśāstra*:  
[www.asiaticsociety.org.bd/journals/June\\_2009/contents/Protiti%20shirin.htm](http://www.asiaticsociety.org.bd/journals/June_2009/contents/Protiti%20shirin.htm)
- Kauṭilya's *Arthaśāstra* translated by R. Shamastry:  
<http://en.wikisource.org/wiki/Arthaśāstra>
- "Democracy in Ancient India" by Steve Muhlberger:  
<http://faculty.nipissingu.ca/muhlberger/HISTDEM/INDIADEM.HTM>





## Primary Texts on Society State and Polity: A Selection

### State and Polity

#### A Ruler's *Dharma*

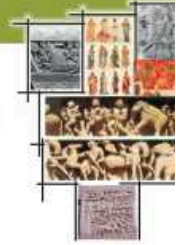
In Vālmiki's Rāmāyaṇa, Bharata goes and meets his brother Rāma at the Citrakūṭa hill as soon as he learns of the latter's exile. Without waiting to hear Bharata's news (of their father's death), Rāma gives Bharata detailed advice on how to rule the kingdom of Ayodhyā. This brief discourse encapsulates the *dharma* of a ruler.

Have you appointed ministers who are self-restrained and brave, who are well-born, trustworthy and skilled in the arts of diplomacy? Decisions taken after due consideration by ministers who are learned in polity as well as reliable are very important for the success of the kings. I trust that you do not sleep too much, that you wake at the appropriate time and spend the early hours of the morning thinking about how you can achieve your ends.

Do not take advice from only one man or either from too many and make sure that your innermost thoughts are not spread all over the kingdom. Do you act quickly and without delay so that you can achieve your ends by simple means? Do your tributary kings know about your plans only after they have been implemented or do they hear about them while they are in process? No one should know about the process of your deliberations unless you have taken that person into confidence.

Choose one learned and intelligent man as your advisor instead of a thousand foolish men, for the learned can do a great deal of good and





achieve all your goals. A thousand foolish men can do nothing for a king, but one advisor who is skilled, observant, brave and intelligent can bring a king great glory.

Give the best of your retainers the most important tasks to perform the less important work to the middling retainers and the least important work to those who rank the lowest. Trust the significant affairs of state to men who are pure in thought, to those who have been tested and found true and to those who are hereditary holders of office. Do not let your subjects think badly of you. You must quickly get rid of a brave and skilled man who has conspired against you and aspires to power, or you will be killed by him.

Have you appointed a brave, resolute, wise, skilled and nobly-born man as the commander of your army? The men who lead your army are strong and skilled in the arts of war. Do you honour and praise them appropriately? Do you supply your army with proper food and pay each man his due? You must do this without any delay at the appointed time. For if food and wages are delayed, the army will rise against its master in anger.

Are all the princes and your retainers devoted to you? Will they calmly give up their lives for your sake? Have you chosen a man who is eloquent, wise, skilled and learned as your personal messenger? Do you keep the important men in other kingdoms and in your own under constant watch by three spies each, unknown to each other and to the world? Do you keep a special watch over your exiled enemies who have returned? Never think of them as weak or ineffectual. ...





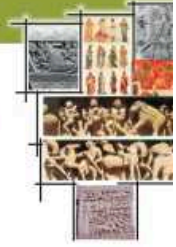
Child, the city ruled by our forefathers that is filled with horses, elephants and chariots, inhabited by thousands of noble people and Brahmins, Kshatriyas and Vaishyas who are all enthusiastic, disciplined and devoted to their duty, do you protect that city of Ayodhya such that its name which means “impregnable” stands true? It is a king’s duty to protect his people with *dharma*. Do you reassure the women and make sure that they are safe? Do you ensure that you do not confide in them nor trust what they say?

Do you wake up early in the morning and show yourself to the people, fully adorned, in the assembly hall and in the main street? Are all your forts well supplied with grain and water, with weapons and machines, workmen and archers? Is your income greater than your expenditure? Do not waste your money on inconsequential things. Spend your money on worshipping the gods and in honouring [men of learning, valour] and your allies.

If a noble man who is pure in spirit and deed is accused of theft by conspirators, he must be questioned by experts before his wealth is attached out of greed. If a thief is caught and questioned and evidence is found against him, he should not be set free for reasons of greed. And when a man is in trouble, be he rich or poor, do your learned ministers inquire into the matter? The tears of a man unjustly accused can destroy the progeny and wealth of a king who rules for selfish pleasures.

Do you keep the elders happy by giving them what they want? And children happy by giving them affection and scholars happy by speaking with gratitude? Do you honour the elders and the teachers, ascetics, gods and guests, brahmins and those who have accomplished their ends?





Do not pursue *dharma* at the expense of material gain or power at the cost of *dharma* or neglect them both out of a desire for pleasure. Bharata, you know the appropriate time for all these things and, therefore, pursue each at the right time. Do the brahmins and the common people pray together for your welfare? Avoid the flaws that mar the personality of a great king, including atheism, untruth, anger, licentiousness and procrastination. Do not taste your food yourself and give generously to your friends and those who need help. (Tr. Arshia Sattar, Penguin Books, 2000)

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### The Ideal King

Following are extracts from a Jain text, *Nectar of Aphorisms on Polity* (in Sanskrit prose) of Somadeva, a Digambara teacher of the 10<sup>th</sup> century. This is a collection of gnomic sentences on politics and good conduct, written in Sanskrit prose.

A true lord is he, who is righteous, pure in lineage, conduct and associates, brave, and considerate in his behaviour.

He is a true king who is self-controlled whether in anger or pleasure, and who increases his own excellence.

All subjects are dependent on the king. Those without a lord cannot fulfil their desires.

Though they be rich, subjects without a king cannot thrive. How can human effort be of any avail in cultivating a tree without roots?

If the king does not speak the truth all his merits are worthless. If he deceives, his courtiers leave him, and he does not live long.

He is dear to the people who gives of his treasure.

He is a great giver whose mind is not set on frustrating the hopes of suppliants.





Of what use is the barren cow, which gives no milk?

Of what use is the king's grace, if he does not fulfil the hopes of suppliants?

For an ungrateful king there is no help in trouble. His frugal court is like a hole full of snakes, which no one will enter.

If the king does not recognize merit the cultured will not come to his court.

The king who thinks only of filling his belly is abandoned even by his queen.

Laziness is the door through which all misfortunes enter....

A king's order is a wall which none can climb. He should not tolerate even a son who disobeys his commands....

He should never speak hurtfully, untrustworthily, untruthfully, or unnecessarily.

He should never be improper in dress or manners.

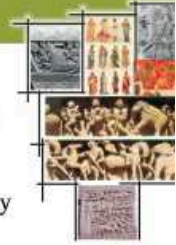
When the king is deceitful, who will not be deceitful? When the king is unrighteous who will not be unrighteous? ...

He should personally look into the affairs of his people....

Bribery is the door through which come all manner of sins. Those who live by bribery cut off their mother's breasts....

The king is the maker of the times. When the king rightly protects his subjects all the quarters are wishing — cows, Indra rains in due seasons, and all living things are in peace. (*Nītvākyāmṛta*, 17.180-84, *Sources of Indian Tradition*, Stephen N. Hay & William Theodore De Bary, Delhi: Motilal Banarsidass, 1988, pp. 88-89)

\*



Somadeva on practical grounds advises war only as a last resort, unlike the many Hindu political theorists who look on it as a normal activity of the king.

The force of arms cannot do what peace does. If you can gain your desired end with sugar, why use poison? ...

What sensible man would abandon his bale (of merchandise) for fear of having to pay toll on it?

For when the water is drained from the lake the crocodile grows as thin as a snake.

A lion when he leaves the forest is no more than a jackal.

And a snake whose fangs are drawn is a mere rope.

In union is strength: Even a mad elephant will trip on a twisted clump of grass. And the elephants of the quarters are held by ropes of twisted fibres.

But what is the use of other means when the enemy can only be put down by force? Such expedients are like a libation of ghee poured on the fire (which makes it burn more fiercely). (From *Nitivākyaṃṛta*, 344-56, *Sources of Indian Tradition*, p. 90)

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### The Ideal of Government, and the Decay and Growth of Civilization

In the past there was a king called Dalhanemi. He was a Universal Emperor a king of Righteousness, a conqueror of the four quarters, a protector of his people, a possessor of the Seven Jewels—the Wheel, the Elephant, and Horse, the Gem, the Woman, the Householder, and the General. He had over a thousand sons, all heroes brave of body, crushers





of enemy armies. He conquered the earth from ocean to ocean and ruled it not by the rod or by the sword, but by the Law of Righteousness.

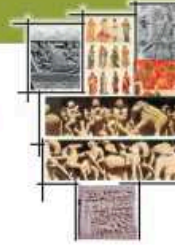
Now after many thousands of years King Dalhanermi ordered one of his men thus: "When you see that the Divine Wheel has sunk or slipped from its place, come and tell me."... And after many thousand years more the man said that the Divine Wheel had sunk ... and went and told the King. So King Dalhanemi sent for his eldest son, and said: "Dear boy, the Divine Wheel has sunk, and I've been told that when the Wheel of a Universal Emperor sinks he has not long to live. I have had my fill of human pleasure — now the time has come for me to look for divine joys. Come, dear boy, you must take charge of the earth...." So King Dalhanemi duly established his eldest son on the throne, shaved his hair and beard, put on yellow robes, and left his home for the state of homelessness. And when the royal sage had left his home seven days the Divine Wheel completely vanished.

Then a certain man went to the King, the anointed warrior, and told him that it had vanished. He was beside himself with sorrow. So he went to the royal sage his father and told him about it. "Don't grieve that the Divine Wheel has disappeared," he said. "The Divine Wheel isn't an heirloom, my dear boy! You must follow the noble way of the Universal Emperors. If you do this and keep the fast of the full moon on the upper terrace of your palace the Divine Wheel will be seen again, complete with its thousand spokes, its tire, its nave, and all its other parts."

"But what, your Majesty, is the noble way of the Universal Emperors?"

"It is this, dear boy, that you should rely on the Law of Righteousness, honour, revere, respect, and worship it. You should be yourself the





banner of Righteousness, the emblem of Righteousness, with Righteousness as your master. According to Righteousness you should guard, protect, and watch over your own family and people, your armed forces, your warriors, your officers, priests and householders, townsmen and country folk, ascetics and brāhmaṇas, beasts and birds. There should be no evil-doing throughout your domains, and whoever is poor in your land should be given wealth.... Avoid evil and follow good. That is the noble way of the Universal Emperors." (From *Digha Nikāya*, 3.58 ff, *Sources of Indian Tradition*, pp. 136-37.)

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### Conditions' of the Welfare of Societies

The following passage occurs in the Discourse of the Great Passing-away, which describes the last days and death of the Buddha. It is followed by a longer passage in which the Buddha is purported to have adapted the list of the seven conditions of the welfare of republics to the circumstances of the Buddhist Order. According to the Hindu thought the purpose of government was not to legislate, but only to administer the eternal law (*sanātanadharmā*).

Once the Lord (Buddha) was staying at Rājagaha [modern Rajgir in southern Bihar] on the hill called Vulture's Peak (*Gṛdhrakūṭa Parvata*) ... and the Venerable Ānanda was standing behind him and fanning him. And the Lord said: "Have you heard, Ānanda, that the Vajjis [or Vrijjis, a Mahajanapada located to the north of today's Patna] call frequent public assemblies of the tribe?" "Yes, Lord," he replied.

"As long as they do so," said the Lord, "they may be expected not to decline, but to flourish."





“As long as they meet in concord, conclude their meetings in concord, and carry out their policies in concord; ... as long as they make no laws not already promulgated, and set aside nothing enacted in the past, acting in accordance with the ancient institutions of the Vajjis, established in olden days; ... as long as they respect, esteem, reverence, and support the elders of the Vajjis, and look on it as a duty to heed their words; ... as long as no women or girls of their tribes are held by force or abducted; ... as long as they respect, esteem, reverence, and support the shrines of the Vajjis, whether in town or country, and do not neglect the proper offerings and rites laid down and practised in the past; ... as long as they give due protection, deference, and support to the perfected beings among them so that such perfected beings may come to the land from afar and live comfortably among them, so long may they be expected not to decline, but, to flourish.” (*Digha Nikāya*, 2.72 ff., *Sources of Indian Tradition*, pp. 142-143)

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#### Birth Is No Criterion of Worth

The division of the four classes was believed to be a functional one, with no divine sanction. The Buddhist view is summed up in this verse:

No brahman is such by birth.

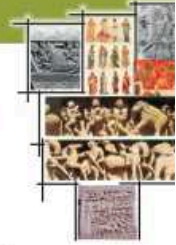
No outcaste is such by birth.

An outcaste is such by his deeds.

A brahman is such by his deeds. (*Sutta Nipīta*, verse 136)

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### Dharma as the Supreme Authority

The regulation of this ordered universe was established by cosmic law or order, *ṛta* or *dharma*. Hence, the performance of duty in accordance with this law brought about a state of harmony with the ordered universe (*sat*) and was regarded as *satya* (truth). In this way, cosmic law was identified with truth and was regarded as the ultimate authority to which even the king was obliged to yield. This supremacy of *dharma* is the basic concept of ancient Indian social and political thought.

Verily, in the beginning this (world) was Brahman, being only one. That Brahman, being one, did not prosper. It therefore brought forth an excellent form, *ṛṣatra*, such as those among the gods who are embodiments of *ṛṣatra*, namely Indra, Varuṇa.... Therefore, there is nothing higher than *ṛṣatra*. Therefore, the *brāhmaṇa* sits below the *ṛṣatriya* at the coronation (*rajasuya*) sacrifice. Thereby, indeed, Brahman confers honour on *ṛṣatra*. The source of *ṛṣatra*, however, is this very Brahman. Therefore, even though the king attains supremacy, finally he has to resort to Brahman, which is, indeed, his own source. So a king who injures Brahman, attacks his own source. He becomes more sinful as does one who injures his superiors.

... That Brahman brought forth an excellent form, *dharma* (law). This *dharma* is the sovereign power ruling over *ṛṣatra* itself. Therefore, there is nothing higher than *dharma*. Thereby, even the weak can overcome the strong with the help of *dharma* as with the help of a king. Verily, that which is *dharma* is truth (*satya*). Therefore, they say of a man who speaks *dharma*, that he speaks the truth, for, verily, these two are one and the same. (From *Bṛhadāranyaka Upaniṣad*, 1.4.11-14)

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### The Origin of Kingship

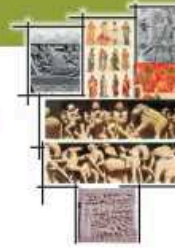
The Mahābhārata, an encyclopaedic epic composed by Sage Vedavyāsa, contains a number of sections dealing with state, polity and ethics.

Yudhiṣṭhira said: “This word ‘king’ (*rāja*) is so very current in this world, O Bhārata; how has it originated? Tell me that, O grandfather.”

Bhīshma said: “Certainly, O best among men, do you listen to everything in its entirety – how kingship originated first during the golden age (*krta-yuga*). Neither kingship nor king was there in the beginning, neither sceptre (*daṇḍa*) nor the bearer of a sceptre. All people protected one another, by means of righteous conduct (*dharma*). Thus, while protecting one another by means of righteous conduct, O Bhārata, men eventually fell into a state of spiritual lassitude. Then delusion overcame them. Men were thus overpowered by infatuation, O leader of men, on account of the delusion of understanding; their sense of righteous conduct was lost. (Mahābhārata, 12.59.5, 13-30, 93-94)

“When understanding was lost, all men, O best of the Bhāratas, overpowered by infatuation, became victims of greed. Then they sought to acquire what should not be acquired. Thereby, indeed, O lord, another vice, namely desire, overcame them. Attachment then attacked them, who had become victims of desire. Attached to objects of sense, they did not discriminate between right and wrong action, O Yudhiṣṭhira. They did not avoid, O king of kings, pursuing what was not worth pursuing, nor, similarly, did they discriminate between what should be said and what should not be said, between the edible and inedible, and between right and wrong. When this world of men had been submerged in dissipation,





all spiritual knowledge (*brahman*) perished; and when spiritual knowledge perished, O king, righteous conduct also perished.

“When spiritual knowledge and righteous conduct perished, the gods were overcome with fear, and fearfully sought refuge with Brahmā, the creator. Going to the great lord, the ancestor of the worlds, all the gods, afflicted with sorrow, misery, and fear, with folded hands said: ‘O Lord, the eternal spiritual knowledge, which had existed in the world of men has perished because of greed, infatuation, and the like, therefore we have become fearful. Through the loss of spiritual knowledge, righteous conduct also has perished, O God. ...

“Then the gods approached Viṣṇu, the lord of creatures, and said: ‘Indicate to us that one person among mortals who alone is worthy of the highest eminence.’ Then the blessed lord god Nārāyaṇa reflected, and brought forth an illustrious mind-born son, called Virajas (who became the first king).” (From Mahābhārata, pp. 243-245)

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### The Science of Polity

The *Arthaśāstra* of Kauṭilya (the teacher and *mahāmantri* of the great Mauryan emperor Chandragupta Maurya) is a seminal work on Indian polity and governance.

Philosophy, the Veda, the science of economics, and the science of polity – these are the sciences....

Agriculture, cattle-breeding, trade, and commerce constitute the main topics dealt with in the science of economics; it is helpful on account of its making available grains, cattle, gold, raw material, and free labour.





Through the knowledge of economics, a king brings under his control his own party and the enemy's party with the help of treasury and army.

The sceptre (*daṇḍa*) is the means of the acquisition and the preservation of philosophy, the Veda, and economics. The science treating with the effective bearing of the sceptre is the science of polity (*daṇḍanīti*). It conduces to the acquisition of what is not acquired; the preservation of what has been acquired, the growth of what has been preserved, and the distribution among worthy people of what has grown. It is on it (the science of polity) that the proper functioning of society (lit., the world) depends....

Of the three ends of human life, material gain is, verily, the most important. So says Kauṭilya. On material gain depends the realization of *dharma* and pleasure (*kāma*).” (From Kauṭilya’s *Arthaśāstra*, 1.2, 3, 4, 7)

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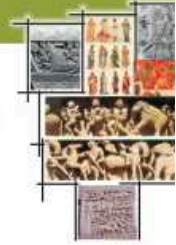
Composed by the sage Śukrācārya, *Śukranīti* (lit. the moral and political discourse of Sage Śukrācārya) is a major text on polity, ethics and governance.

The science of policy conduces to the fulfilment of all desires and is, therefore, respected by all people. It is quite indispensable even to a king, for he is the lord of all people. (*Śukranīti*, 1.4-19)

The primary duty of a king consists of the protection of his subjects and the constant keeping under control of evil elements. These two cannot possibly be accomplished without the science of policy.

Absence of the knowledge of the science of policy is, verily, the weakest point of a king – it is ever dangerous, it is said to be a great help to the





growth of the enemy and to the diminution of one's on power. (*Śukranīti*, quoted in *Sources of Indian Tradition*, p. 246)

[About the State administration:] The chaplain, the deputy, the premier, the commandant, the counsellor, the judge, the scholar, the economic adviser, the minister, and the ambassadors – these are the king's ten primary officers. (*Śukranīti*, 2.69, 70, 77-103, p. 255)

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### Duties of a King

Only if a king is himself energetically active, do his officers follow him energetically. If he is sluggish, they too remain sluggish. And, besides, they eat up their works. He is thereby easily overpowered by his enemies. (*Kauṭilya's Arthaśāstra*, 1.19)

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### The Seven Limbs of the State

The state or sovereignty was regarded as an organic whole made up of seven constituents, which are called the "limbs" of the body politic – the monarch being just one of those constituents. The state can function effectively only if these constituents remain properly integrated with one another. Modern political theorists mention, territory, population, and central government as together constituting the state. It is interesting to note the additional constituents mentioned by Kauṭilya, who is first among ancient Indian writers to advance the theory of the seven constituents of the state. (*Sources of Indian Tradition*, p. 249)

The king, the ministers, the country, the forts, the treasury, the army, and the allies are the constituents of the state.

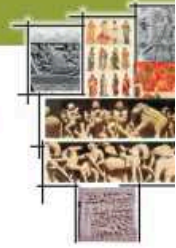




Of these, the perfection of the king is this: born of a high family; non-fatalistic; endowed with strong character; looking up to (experienced) old men (for guidance); religious, truthful in speech; not inconsistent (in his behaviour); grateful; having liberal aims; full of abundant energy; not procrastinating; controller of his feudatories; of determined intellect; having an assembly of ministers of no mean quality; intent on discipline these are the qualities by means of which people are attracted toward him. Inquiry, study; perception; retention; analytical knowledge; critical acumen; keenness for the realization of reality – these are the qualities of the intellect. Valour; impetuosity; agility; and dexterity – these are the qualities of energy. Of profound knowledge; endowed with strong memory, cogitative faculty, and physical strength exalted easily controlling himself; adept in arts; rid of difficulties; capable bearer of the sceptre (*daṇḍa*); openly responding both to acts of help and harm; full of shame (to do anything evil) ... seeing far and wide; ... skilled in discriminating between conditions which require conclusion of a treaty and manifestation of valour, letting off the enemies and curbing them, and waiting under the pretext of some mutual understanding and taking advantage of the enemies' weak points; laughing joyfully, but guardedly and without loss of dignity; looking straight and with uncooked brow; free from passion; anger, greed, obstinacy fickleness, heat, and calumny; capable of self-management; speaking with people; smilingly but with dignity; observing customs as taught by elderly people – these are the qualities of the personality.

... [A minister should be] native to the kingdom, born of high family, influential, trained in arts, endowed with foresight, bold eloquent, dignity, endurance etc.





Firm in the midland and at the boundaries; capable of affording subsistence to its own people and, in case of difficulties, also to outsiders; easy to defend; affording easy livelihood to the people; full of hatred for the enemy; capable of controlling [by its strategic position] the dominions of the feudatories; devoid of muddy, rocky, salty, uneven and thorny tracts, and of forests infested with treacherous animals and wild animals; pleasing; rich in arable land, mines, and timber and elephant forests; wholesome to cows; wholesome to men; with well-preserved pastures; rich in cattle; not depending entirely on rain; possessing waterways and overland roads; having markets full of valuable, manifold, and abundant ware; capable of bearing the burden of army and taxation ... — this is the perfection of the country.

In the happiness of the subjects lies the happiness of the king; in their welfare, his own welfare. The welfare of the king does not lie in the fulfilment of what is dear to him; whatever is dear to the subjects constitutes his welfare. (From *Kauṭilya's Arthaśāstra* 1.9 & 6.1, quoted in *Sources of Indian Tradition*, pp. 248–250)

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Aśoka in his Edicts gave strict instructions to his high officials (*mahāmātras*) to deal fairly with the people, among other things:

This edict has been written for the following purpose: that the judicial officers of the city may strive to do their duty and that the people under them might not suffer unjust imprisonment or harsh treatment. To achieve this, I will send out *mahāmātras* every five years who are not harsh or cruel, but who are merciful and who can ascertain if the judicial officers have understood my purpose and are acting according to my





instructions. Similarly, from Ujjayini, the prince will send similar persons with the same purpose without allowing three years to elapse. Likewise from Takhasila also. When these *mahāmātras* go on tours of inspection each year, then without neglecting their normal duties, they will ascertain if judicial officers are acting according to the king's instructions.

Beloved-of-the-Gods speaks thus: This royal order is to be addressed to the *mahāmātras* at Samapa. I wish to see that everything I consider to be proper is carried out in the right way. And I consider instructing you to be the best way of accomplishing this. All men are my children. What I desire for my own children, and I desire their welfare and happiness both in this world and the next, that I desire for all men. (From Kalinga Rock Edicts 1 & 2, English rendering Ven. S. Dhammika.)

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## Society

### Marriage

Marriage precedes the other calls of life (*vyavahāra*). The giving in marriage of a maiden well-adorned is called *brāhma* marriage. The joint-performance of sacred duties (by a man and a woman) is known as *prājāpatya* marriage. [The giving in marriage of a maiden] for a couple of cows is called *arsha*. [The giving in marriage of a maiden] to an officiating priest in a sacrifice is called *daiva*. The voluntary union of a maiden with her lover is called *gāndharva*. Giving a maiden after receiving plenty of wealth (*sūkha*) is termed *asura*. The abduction of a maiden is called *rākshasa*. The abduction of a maiden while she is asleep and in intoxication is called *paśāca* marriage. Of these, the first four are ancestral customs of



old and are valid on their being approved of by the father. The rest are to be sanctioned by both the father and the mother; for it is they that receive the money (*sūlka*) paid by the bridegroom for their daughter. In case of the absence by death of either the father or the mother, the survivor will receive the *sūlka*. If both of them are dead, the maiden herself shall receive it. Any kind of marriage is approvable, provided it pleases all those [that are concerned in it]. (*Kauṭilya's Arthaśāstra*, Ch. 2)

\*

### Property of Women

Means of subsistence (*vṛtti*) or jewellery (*ābadhya*) constitutes what is called the property of a woman. Means of subsistence valued at above two thousand shall be endowed [on her name]. There is no limit to jewellery. It is no guilt for the wife to make use of this property in maintaining her son, her daughter-in-law or herself whenever her absent husband has made no provision for her maintenance. In calamities, disease and famine, in warding off dangers and in charitable acts, the husband, too, may make use of this property. Neither shall there be any complaint against the enjoyment of this property by mutual consent by a couple who have brought forth a twin. Nor shall there be any complaint if this property has been enjoyed for three years by those who are wedded in accordance with the customs of the first four kinds of marriage. But the enjoyment of this property in the cases of *gāndharva* and *asura* marriages shall be liable to be restored together with interest on it. In the case of such marriages as are called *rākshasa* and *paiśāca*, the use of this property shall be dealt with as theft. Thus the duty of marriage is dealt with.





On the death of her husband a woman, desirous to lead a pious life, shall at once receive not only her endowment and jewellery (*sthāpyābharanam*), but also the balance of *sūlka* due to her. If both of these two things are not actually in her possession, though nominally given to her, she shall at once receive both of them together with interest [on their value]. If she is desirous of a second marriage (*kutumbakama*), she shall be given on the occasion of her remarriage (*niveśakāle*) whatever either her father-in-law or her husband or both had given to her. The time at which women can remarry shall be explained in connection with the subject of long sojourn of husbands.

If a widow marries any man other than of her father-in-law's selection (*svasuraprātīlo-myenaniṣṭā*), she shall forfeit whatever had been given to her by her father-in-law and her husband.

The kinsmen of a woman shall return to her whatever property of her own she had placed in their custody. Whoever justly takes a woman under his protection shall equally protect her property. No woman shall succeed in her attempt to establish her title to the property of her husband.

If she lives a pious life, she may enjoy it (*dharmakāmā bhujjita*). No woman with a son or sons shall be at liberty to make free use of her own property (*strīdhana*); for that property of hers her sons shall receive.

If a woman attempts to take possession of her own property under the plea of maintaining her sons, she shall be made to endow it in their name. If a woman has many male children, then she shall conserve her own property in the same condition as she had received from her husband. Even that property which has been given her with full powers of



enjoyment and disposal she shall endow in the name of her sons.  
(*Kauṭilya's Arthaśāstra*, Ch. 2)

\*\*\*

### Position of Women

Women must be honoured and adorned by their fathers, brothers, husbands, and brother-in-laws who desire great good fortune.

Where women, verily, are honoured, there gods rejoice; where, however, they are not honoured, there all sacred rites prove fruitless.

Where female relations live in grief – that family soon perishes completely; where, however, they do not suffer from any grievance – that family always prospers...

Even against the slightest provocations should women be particularly guarded; for unguarded they would bring grief to both the families.

Regarding this as the highest dharma of all four classes, husbands, though weak, must strive to protect their wives. (From *Manusmṛti*, 3.55-57, 9.3-7, 11, 26)

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### Interreligious Harmony

Aśoka in his Edicts set down what he perceived to be essential conditions for interreligious harmony. His insistence on moderation in promoting one's religion and on studying others' religions is insightful and still of great relevance.

Beloved-of-the-Gods, King Piyadasi [i.e., Aśoka], honours both ascetics and the householders of all religions, and he honours them with gifts and honours of various kinds. But Beloved-of-the-Gods, King Piyadasi, does





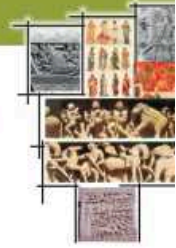
not value gifts and honours as much as he values this – that there should be growth in the essentials of all religions. Growth in essentials can be done in different ways, but all of them have as their root restraint in speech, that is, not praising one's own religion, or condemning the religion of others without good cause. And if there is cause for criticism, it should be done in a mild way. But it is better to honour other religions for this reason. By so doing, one's own religion benefits, and so do other religions, while doing otherwise harms one's own religion and the religions of others. Whoever praises his own religion, due to excessive devotion, and condemns others with the thought "Let me glorify my own religion," only harms his own religion. Therefore contact (between religions) is good. One should listen to and respect the doctrines professed by others. Beloved-of-the-Gods, King Piyadasi, desires that all should be well-learned in the good doctrines of other religions. (Twelfth Rock Edict, English rendering by Ven. S. Dhammika)

#### Islamic Society— the four-class division of society

The first reading has been taken from a Persian work on ethics written outside India in the second half of the 15<sup>th</sup> century. The work is *Jalali's Ethics (Akhlaq-i-Jalali)* by Muhammad ibn Asad Jalāl ud-dīn al-Dawwānī (1427-1501). It was popular in Mughal India.

In order to preserve this political equipoise, there is a correspondence to be maintained between the various classes. Like as the equipoise of political temperament is effected by intermixture and correspondence of four elements, the equipoise of the political temperament is to be sought for in the correspondence of four classes.





1. Men of the pen, such as lawyers, divines, judges, bookmen, statisticians, geometricians, astronomers, physicians, poets. In these and their exertions in the use of their delightful pens, the subsistence of the faith and of the world itself is vested and bound up. ...
2. Men of the sword, such as soldiers, fighting zealots, guards of forts and passes, etc.; without whose exercise of the impetuous and vindictive sword, no arrangement of the age's interests could be effected; without the havoc of whose tempest-like energies, the materials of corruption, in the shape of rebellious and disaffected persons, could never be dissolved and dissipated. ...
3. Men of business, such as merchants, capitalists, artisans, and craftsmen, by whom the means of emolument and all other interests are adjusted; and through whom the remotest extremes enjoy the advantage and safeguard of each other's most peculiar commodities. ...
4. Husbandmen, such as seedsmen, bailiffs, and agriculturists – the superintendents of vegetation and preparers of provender; without whose exertions the continuance of the human kind must be cut short. These are, in fact, the only producers of what had no previous existence; the other classes adding nothing whatever to subsisting products, but only transferring what subsists already from person to person, from place to place, and from form to form. ...

In like manner then as in the composite organizations the passing of any element beyond its proper measure occasions the loss of equipoise, and is followed by dissolution and ruin, in political coalition, no less, the prevalence of any one class over the other three overturns the adjustment and dissolves the junction. Next attention is to be directed to the





condition of the individuals composing them, and the place of everyone determined according to his right. (From W.F. Thompson, *Practical Philosophy of the Muhammadan People*, pp. 388-90)

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#### Four-class Classification

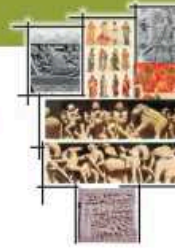
The four-class classification is found in Abū'l Fazl, by whom the learned are relegated to the third position.

The people of the world may be divided into four classes:

1. *Warriors*, who in the political body have the nature of fire. Their flames; directed by understanding, consume the straw and rubbish of rebellion and strife, but kindle also the lamp of rest in this world of disturbances.
2. *Artificers and merchants*, who hold the place of air. From their labours and travels, God's gifts become universal, and the breeze of contentment nourishes the rose-tree of life.
3. *The learned*, such as the philosopher, the physician, the arithmetician, the geometrician, the astronomer, who resemble water. From their pen and their wisdom, a river rises in the drought of the world, and the garden of the creation receives from their irrigating powers, a peculiar freshness.
4. *Husbandmen and labourers*, who may be compared to earth. By their exertions, the staple of life is brought to perfection, and strength and happiness flow from their work.

It is therefore obligatory for a king to put each of these in its proper place, and by uniting personal ability with due respect for others, to cause





the world to flourish. (From Abū'l Fazl, *Ā'in-i-Akbarī*, iv-v, *Sources of Indian Tradition*, p. 513)

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## Ethics

### The Kural of Tiruvalluvar

A few extracts from the second part on “*porul*” (wealth, *artha*):

#### The King

381. Who has these six is a lion among kings:  
An army, subjects, food, ministers, allies and forts.
382. These four unfailing mark a king:  
Courage, liberality, wisdom and energy.
383. A ruler should never lack these three:  
Diligence, learning and boldness.
384. He is a true king who sticks to virtue,  
Removes evil, and is spotless in valour.
385. He is a king who can do these—  
Produce, acquire, conserve and dispense.
386. That king is to be extolled  
Who is easy of access and soft-spoken.

#### A Fair King

542. The world looks up to heaven for rain  
And his subjects to their king for justice.
545. The king who rules according to the law  
Never lacks rain and corn.



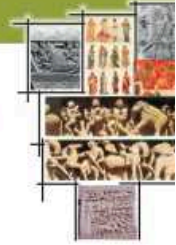


549. For a king who would guard and cherish his people  
To punish crimes is a duty, not defect.
550. The king who punishes wicked men with death  
Is a farmer weeding the tender crops.
557. How fares the earth without rain? So fares  
Life under a ruthless king.
570. The earth bears no heavier burden  
Than a tyrant hemmed in by fools.
582. A king's job is to know in time  
Everything that happens to everyone each day.

**The Land**

731. Tireless farmers, learned men and honest traders  
Constitute a country.
732. Wealth large and enviable and produce free of pests  
Make up a country.
733. The hallmark of an ideal land  
Is to bear all burdens and pay all taxes willingly.
742. Blue water, open space, hills and thick forests  
Constitute a fortress.
754. Wealth acquired sinless and well  
Yields both virtue and happiness.
755. Wealth unblessed by giver and taker  
Should not be touched.
770. However many and good its soldiers  
An army without leaders will melt away.





## Society

1021. There is nothing more glorious than to persist  
In the advance of the community.

1025. The world will flock round one devoted  
To honest social service.

1031. After trying other jobs the world comes to the plough,  
Which though hard is best.

1032. Ploughmen are the earth's axle-pin;  
They carry all the world.

1040. The good earth laughs at those who sit back and say,  
"We are poor".

(Translation by P.S. Sundaram, 1989)

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## Uttaramerur Inscription

The Cōla administration recorded in this inscription the mode of election to village assemblies in the 10<sup>th</sup> century CE. Here is a selection of the qualifications and disqualifications listed out for candidates to these village assemblies:

### Qualifications

In these thirty wards, those that live in each ward shall assemble and shall choose for "pot-tickets" (*Kudav Olai*) anyone possessing the following qualifications:

- He must own more than a quarter *veli* of tax-paying land;
- He must live in a house built on his own site;
- His age must be below 70 and above 35;





- He must know the *mantrabrāhmaṇa*, i.e., he must know it by teaching others;
- Even if one owns only one-eighth *veli* of land, he should [be a candidate] in case he has learnt one Veda and one of the four *bhaṣyas* by explaining it to others. ...
- One who possesses honest earnings, whose mind is pure and who has not been on any of the committees for the last three years shall also be chosen.

#### Disqualifications

- One who has been on any of the committees but has not submitted his accounts, and all his relations ... shall not [be candidates]; ...
- One who has stolen the property of another; ...

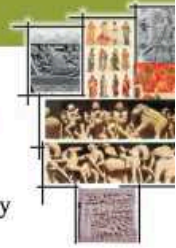
All these thus specified shall not to the end of their lives have their names written on the pot-ticket to be put into the pot for any of the committees.

(From V. Venkayya, in *Annual Report on Epigraphy*, 1904. The Uttamerur inscription, found in the village by this name in Chengalpattu district south of Chennai, has been studied and commented upon by many authorities, such as K.A. Nilakanta Sastri and S. Krishnaswamy Iyengar.)

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#### Comprehension

1. What are the flaws that mar the qualities of a great king?
2. In groups, narrate Bhīṣma's story on the meaning of *dharma* and the origin of kingship.
3. Refer to the extracts from *Kauṭilya's Arthaśāstra*:



- a) Examine closely the information on marriage, women's duties and property rights.
- b) Next, discuss in groups the corresponding rights of women today.
- c) Compare and contrast women's rights during the two periods.
- d) Think of parallel contemporary situations related to the role of women in marriage and their rights.
  - i. Organize a set of courtroom scenes highlighting issues related to women's rights in the present times. Enact the role of the aggrieved woman and others.
  - ii. But the judge must dispense justice according to the main tenets of women's rights as given in *Arthaśāstra*.
- 4. What were the classification of men according to the following :
  - a) Jalali's *Ethics* and
  - b) Abū'l Fazl, *Ā'in-i-Akbarī*.
- 5. What are the two kinds of discipline listed by Kauṭilya?

**Activity**

- What are the seven limbs of the State, according to Kauṭilya? Complete the diagram below with the correct information from the text.





### Activities

- Discuss in groups
  - What you believe should be the rights of woman in today's context.
  - Make a set of posters highlighting the rights of women with respect for marriage and property.
- You are the headmaster of a school during Kauṭilya's time. You have been asked to give an orientation speech for the parents and students who have gathered in school. Reflect on the ideas in the extracts from *Kauṭilya's Arthaśāstra* and prepare a speech.
- You have read about Rāma advising Bharata on how to rule the kingdom of Ayodhya as well as Somadeva's views on kingship.
  - Organize a dramatization wherein Rāma and Somadeva declaim on the true meaning of kingship.
  - Highlight portions of the speech which you think have a special significance for today's politics and times.



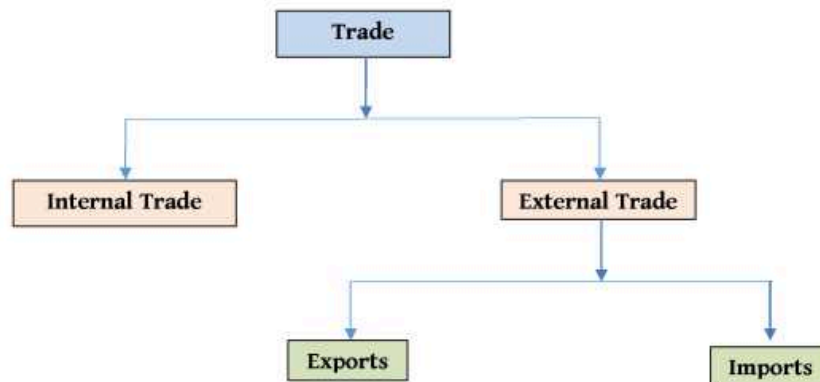


## Trade: A Survey

Much trade has been taking place in and from the Indian subcontinent for millennia. But what do we precisely mean by 'trade'? The word refers to the purchase and sale of goods and services for money or something equivalent to it. The producer or the manufacturer makes the goods and takes them to the consumer through intermediaries. Trade involves transfer or exchange of goods and services.

### How Does Trade Work?

There are two types of trade, internal and external. While internal trade takes place within the region or country, external trade involves exports and imports of goods and services.



There are two major intermediaries involved in trade, the wholesalers and the retailers. Wholesalers buy bulk quantities of goods from the producer or manufacturer and sell them to the retailers in smaller quantities. Retailers buy goods in small lots from the wholesalers and sell them in smaller quantities to the consumers. Smaller retailers include *kirānā* shops, hawkers and push cart vendors.



Departmental stores are bigger retailers. The following chart explains the movement of goods from the producers to the customers.



Trade is essential to satisfy the requirements of the consumers. It is a major economic activity as the society needs the supply of goods. It helps the producers to find outlets for their goods. It encourages specialization, division of labour and the benefits arising out of comparative advantages.

### Trade in Ancient India

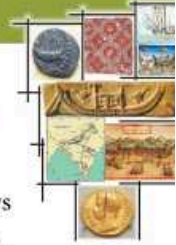
At Mehrgarh, in Baluchistan, archaeology has brought to light trade networks as early as around 5000 BCE, in the Neolithic age. Some raw materials found there, such as shell, lapis lazuli and turquoise, must have come from distant regions. These trade networks expanded considerably in extent and diversity before and during the Indus Civilization (2600–1900 BCE), when cities like Mohenjo-daro (Sind), Harappa (Punjab), Rakhigarhi (Haryana) or Dholavira (Gujarat) became major trade centres. Still



A Harappan terracotta tablet depicting a river boat.

later, during the 1<sup>st</sup> millennium BCE, many large cities emerged, such as Takṣaśilā (or Taxila), Ujjayinī (Ujjain), Mathura, Pāṭaliputra (Patna), Rājagrha (Rajgir), Vārāṇasī, Bṛhguakaccha (Bharuch or Broach); and in the South, Kāñcī (Kanchipuram), Madurai,





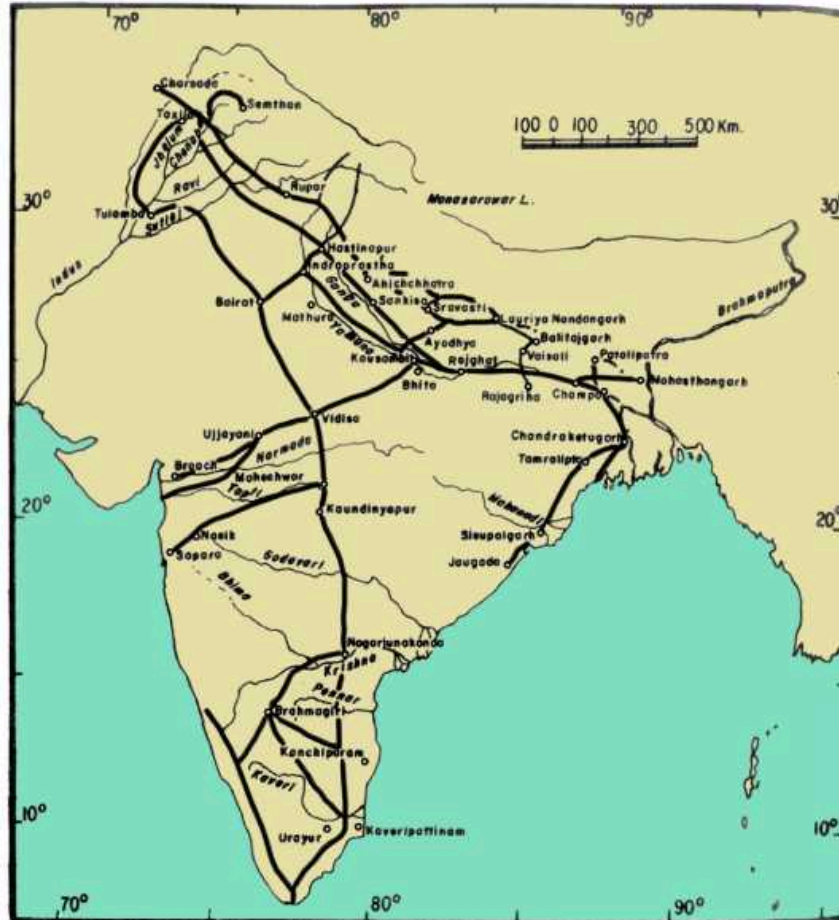
Uraiyur (near Tiruchi), Kaveripattinam and several more. Those cities were always important trading centres and generally located on some of the major trading routes.

That was also the time when well-structured states arose, which provided the required infrastructure and a suitable environment for the promotion of trade. Kauṭilya's *Arthaśāstra* mentions trade as one of the three major types of economic activities and describes the duties of the 'Superintendents' of Commerce, Tolls, Shipping, Mining, Textile, Labour, etc. This 3<sup>rd</sup> or 4<sup>th</sup> century BCE text shows Magadha (corresponding roughly to Bihar and Jharkhand) trading in textiles, gems, coral and pearls, metals and minerals, with many parts of north, central and south India. Salt, too, was a major commodity whose production was strictly controlled by the state. The state also made sure that trade routes were safe and that goods were not adulterated or consumers duped by unscrupulous traders.

About the same time, Megasthenes, a Greek envoy to the Mauryan Empire, mentions a Royal Road connecting Pāṭaliputra, Magadha's capital, to the delta areas. This is confirmed by Aśoka's edicts, which provide evidence of political and economic networks across the whole subcontinent, and in particular between north India and the southern kingdoms of modern Tamil Nadu, Kerala and Sri Lanka. Those networks were the channels for a brisk internal trade, which took place through sea routes – the coast and rivers – and land routes. Among the latter, two major ones, called *Uttarāpatha* and *Dakṣiṇāpatha*, connected the northern and southern parts of the country.

Kauṭilya, in fact, preferred land or river routes over sea routes, which he thought were unsafe (except for those closely following the coast); and among land routes, he preferred the southward to the northward, because "with the exception of blankets, skins, and horses, other articles of merchandise such as conch shells, diamonds, precious stones, pearls and gold are available in plenty in the south" (*Arthaśāstra*, 7.12).





Some of the main routes of internal trade in the first millennium BCE and the first centuries CE (adapted from Nayanjot Lahiri).

While Harappan trade was wholly based on barter, between 600 and 500 BCE punch-marked coins of silver were introduced in north and western India; they had





irregular shapes (though precise weights), no inscriptions but various symbols 'punched' into them by dies. Later, round or square coins of gold, silver or copper were minted by various dynasties. The most common coins were the *dīnāra*, *suvarṇa* and *kārṣāpaṇa* (or *paṇa*), and they generally had specific weights. Let us however note that despite the increasing use of coins, barter trade never completely disappeared, especially in local trade.

### Different Countries, Many Goods

But India had long been engaged in external trade, too. The Harappans were exporting timber, beads of semiprecious stone (especially carnelian), shell bangles, ivory items, pearls, etc., to Oman, Bahrain and Mesopotamia through the Persian Gulf, besides Iran and Central Asia across the Afghan mountain ranges. As a result, Harappan seals and other evidence of trade have come to light at many sites in those regions. Curiously, little is known of what Harappans imported in return: perhaps gold, silver or, more likely, copper ore.

Around the beginning of the 1<sup>st</sup> millennium BCE, trade began with the Phoenicians, who appear to have reached India's western coast. Indian teak and cedar reached Babylonian builders, and a Buddhist *Jātaka* tale mentions trade with the city of Bāveru (Babylon). From India's western coast, spices, ivory, gems, timber, silks and other textiles, besides 'exotic' animals like monkeys and peacocks, found their way to Egypt, Asia Minor and the Near East, finally to Greece and Rome.

Trade with the Roman Empire began gradually in the 3<sup>rd</sup> century BCE, reached its peak in the 1<sup>st</sup> centuries BCE and CE, and slowly followed the decline of the Roman Empire. Archaeology, Greek and Latin texts and the Tamil Sangam literature agree with a wealth of details that Roman traders frequented south Indian ports. One early Tamil text states, for example, "The beautiful ships of the *Yavanas* [a word for Greeks or Romans] arrived filled with goods such as oil, wine, glass vases, gold and silver





## Knowledge Traditions and Practices of India



coins." While they brought glassware, wine or olive oil in sealed amphoras (tall conical jars with a pair of handles), pigments, coral and metals (such as copper, lead and tin), they took back home timber, sandalwood, precious and semiprecious stones (such as beryl or quartz), pearls, ivory, tortoise shells, spices (especially pepper, which they not only consumed but used for mummification), textiles (especially muslin), perfumes, medicinal and aromatic plants, and peacocks. Indian wootz steel was also exported to the Mediterranean world, where it was used to make lighter and sharper swords, among other weapons (see module **Other Technologies**).

The findings of thousands of gold, silver and copper Roman coins in India, mostly in the South, bear testimony to this intense trade. Many coins depict the Roman emperor Augustus (63 BCE – 14 CE); he himself wrote, "Indian kings often sent me embassies, as no other Roman head had received so far." It is generally assumed that those embassies from India were partly composed of merchants.

The 1<sup>st</sup> century BCE Greek geographer Strabo notes that in his time, about 120 ships sailed for India in a single season from the Red Sea port of Myos Hormos.



A gold coin of Augustus found in Pudukottai (Tamil Nadu).



Fragments of cotton material from Gujarat were found in Egyptian tombs at Fustat, 5<sup>th</sup> century CE.

Berenike (or Berenice) was another Egyptian

port that saw many ships sailing to and from India, and where excavations have brought to light evidence of such trade. Inscriptions in Tamil language and Tamil Brahmi script have been found on potsherds at another Red Sea port, Quseir al-Qadim, dating back to the first centuries CE. Since there was no Suez Canal in those days, goods traded





in either direction had to be offloaded in Egypt, either at Alexandria on the Mediterranean or at some Red Sea port, and carried overland. East Africa was also part of this trade network. The same sea routes were later much frequented by the Arabs for their trade with Indian ports.

### Ports and Sailors

Indians too were shipbuilders and sailors. There is evidence (some of it from Greek texts) that shipbuilding was a flourishing activity right from Mauryan times. Early Buddhist and Jain literatures corroborate this: a Jain text, for instance, refers to a merchant, Nāgadatta, who travelled to Suvarnabhūmi (a reference to Sumatra) with five hundred ships to conduct trade. (The number is clearly exaggerated, but not the fact of the trade connection.) Chinese historical sources refer to maritime traders bringing Indian products to China as far back as the 7<sup>th</sup> century BCE. Glass beads and bangles found in the Malay Peninsula, Java and Borneo point to a trade contact with southern India going back to the 1<sup>st</sup> millennium BCE. A Sanskrit treatise on shipbuilding, *Yuktikalpataru* of Bhoja Narapati, of uncertain date, describes in great detail various kinds of ships, their proportions and sizes, the materials out of which they were built, the ways to decorate them, etc.

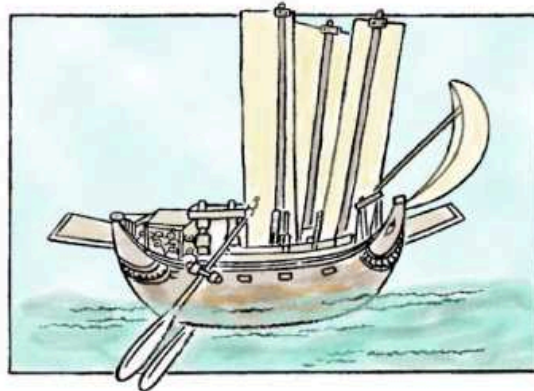
In the next millennium, Kaliṅga (modern Odisha) and Bengal were engaged in a busy traffic with Burma and all the way to Java; the 7<sup>th</sup>-century Chinese traveller Hsuan Tsang noted that merchants left from Puri “for distant countries”. By the 9<sup>th</sup> century CE, the Cōlas kings of south India had built a navy powerful enough to briefly conquer parts of Malaysia



A seafaring ship depicted on a lead coin of a Sātavāhana king of the 1<sup>st</sup>-2<sup>nd</sup> century CE.



(Perak) and Indonesia (the Śrīvijaya kingdom). Indian traders often visited countries and islands of Southeast Asia, selling silk, gems and other luxury items, and bringing back spices, camphor and fragrant woods.



A sea-faring ship depicted on a fresco at Ajanta (from a line drawing, colour added).

Ports thus dotted the Indian coast, and many of them were listed in Greek and Roman texts, such as the *Periplus Maris Erythraei* or 'Voyage around the Erythrean Sea', an anonymous Greek travelogue of the 1<sup>st</sup> century CE, 'Erythrean' referring to the Arabian Sea together with the Red Sea and the Persian Gulf. It named ports such as Barygaza (Bhṛgukaccha in Sanskrit, modern Bharuch or Broach), Suppara (Sopara, north of Mumbai), Muziris (near Kodungallur in Kerala), Colchoi (Koṛkai in Tamil Nadu), Camara (known as Puhar or Kāvēripaṭṭinam in Tamil literature), Poduke or Poduca (Puducherry), Palaesimundu (in 'Taprobane', i.e., Sri Lanka) or Masalia (Masulipatam in Andhra Pradesh), among many others. With the exception of a few settlements such as Arikamedu near Puducherry, which was excavated in the 1940s, it is only in the last two or three decades that excavations, sometimes coupled with underwater explorations, have confirmed the antiquity of some of those ancient port towns.





# Knowledge Traditions and Practices of India



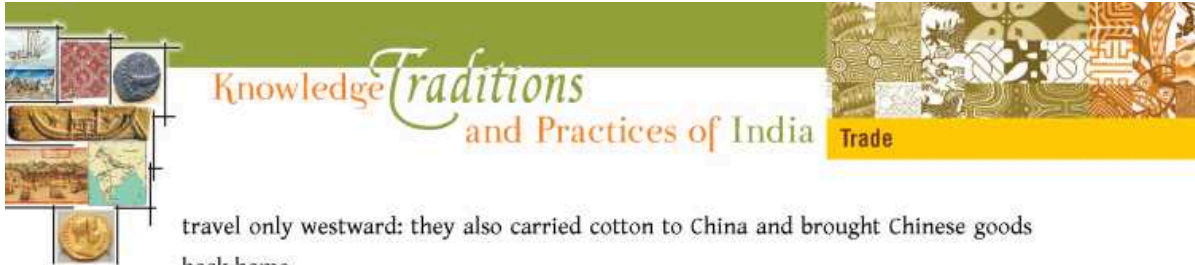
The sea routes described in *Periplus Maris Erythraei*, connecting India with the Mediterranean world (source: Wikipedia).

Indian ports did not exclusively deal in trade of Indian or Roman goods: Chinese silk, for instance, reached India's eastern coast, where Roman traders bought it. Goods also came there from Southeast Asia. The international trade was therefore based on a complex network with multiple stages and intermediaries.

## Land Routes

Land routes were, of course, part of this network, especially the famed Silk Road through which countless caravans of traders crossing many kingdoms connected the Mediterranean world with Asia. (Romans, too, started their Indian trade through the land routes, but as toll taxes for safe passage increased, they turned to the sea route and soon learned to time their voyages to India with the monsoons so as to shorten them.) Indian traders made full use of those routes, and established trading stations at Kashgar, Yarkand and Khotan, among other cities of central Asia. They did not





Altogether, the ancient world appears like a bustling network of crisscrossing routes that nourished not only commercial and military but also cultural interactions.



The main elements of the Silk Road (in red) connecting China and India with the Mediterranean world. The map also shows important sea routes (in blue) (source: Wikipedia).

### India's Dominance up to Precolonial Times

From the beginning of the historical period, India enjoyed a favourable balance of trade, thereby accumulating stocks of gold. In 77 CE, the Roman historian Pliny the elder complained,

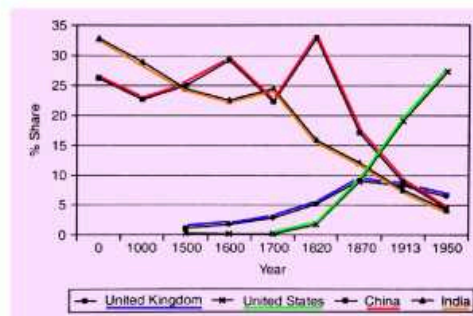
By the lowest reckoning India, China and the Arab peninsula draw from our empire 100 million sesterces every year. ... In no year does India absorb less than 50 million sesterces of our empire's wealth, sending back merchandise to be sold with us at a hundred times its prime cost.



The sesterce was a Roman currency, and some scholars have counted this massive drain on the treasury among the causes for the decline of the Roman Empire.

India's trade dominance continued in later times. In Moghul times, Abu'l Fazl's *Āin-e Akbarī* records that 40,000 vessels were engaged in trade in the Indus and its tributaries of Punjab. While studying the Indian economy in the few centuries preceding British rule, economic historians have pointed out India's high trade surplus with most of her trading partners in Europe, West Asia or Africa. This was the result of efficient low-cost products such as cotton or spices, but also of well-organized communities of traders. Indeed, Indian merchants rarely operated individually; whether in north or south India, they organized themselves into guilds, a structure that provided them with greater security, shared and reliable information, and effective access to goods as well as markets.

China too was a dominant player in international trade. The two countries together, controlling nearly 60 per cent of the world's GDP 2,000 years ago, were the premier economic and trade powers from early times until the colonial era, as the graph below shows. It also illustrates how the colonial rule coincided with a steep decline in India's overseas trade dominance and overall production, as the rules of trade and industry began being dictated by the colonial master.



World GDP from 0 to 1950 CE (adapted from Angus Maddison and P. Kanagasabapathi).





## Knowledge Traditions and Practices of India



During the precolonial era (15<sup>th</sup> to 18<sup>th</sup> century), several European visitors testify that India was a 'flourishing' land and its manufacturing centres, whether of textile, iron or paper, were doing well and exporting much of their products. In the late 1600s shipments of tens of thousands of wootz ingots would leave the Coromandel Coast for Persia. Shortly before his conquest of Bengal in 1757, Robert Clive found it to be one of the richest parts of the world, 'the paradise of the earth'; at the time, Bengal exported rice to Sri Lanka and the Maldives, sugar to Arabia and Mesopotamia, and silks to Europe, among other goods. Other ports such as Calcutta (Kolkata), Madras (Chennai), Pondicherry (Puducherry), Cochin (Surat) or Surat saw ships sailing in from several European nations.



A view of the port of Calicut (Kozhikode, on Kerala's Malabar coast) in 1572, with ships calling in from Europe; ship building is also depicted. (Georg Braun and Franz Hogenberg's *atlas Civitates orbis terrarum*, 1572, source: Wikipedia)





'Harvesting pepper at Quilon' (Kollam, Kerala), a painting in a 1410 French version of *The Travels of Marco Polo* (source: Bibliothèque Nationale de France)

### By-Products of Trade

Indian texts emphasize that merchants and traders are to follow ethical principles in their businesses, and they were indeed respected and often praised by foreign travellers for their good character and trustworthiness. Thus the 12<sup>th</sup>-century Arab geographer al-Idrisi writes, "Indians are naturally inclined to justice and never depart from it in their actions. Their good faith, honesty, and fidelity to their engagements are well known, and they are so famous for these qualities that people flock to their country from every side." Five centuries later, about 1619, Edward Terry, a British traveller to India noted how "a stranger may travel alone, with a great charge of money or goods, quite through the country and take [Indians] for his guard, yet never be neglected or injured by them."





Trade was thus not merely a source of economic prosperity but also earned fame for Indian goods and people. Along with trade, culture travelled and extensive as well as complex cultural interchanges took place in all directions. For instance, north India absorbed elements of Greek culture, as is especially visible in Gandhāra art. Similarly, trade promoted the spread of Buddhism to much of Asia and Hinduism to parts of Southeast Asia, along with much Indian art and literature.

Within India, the growth of trade networks promoted exchanges between regions and therefore cultural integration across the land. Altogether, trade has played an important part to play in the economic, social and cultural history of India.

#### Further Reading

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- Pliny the Elder on India: [www.fordham.edu/halsall/ancient/pliny-india.asp](http://www.fordham.edu/halsall/ancient/pliny-india.asp)
- *Periplus of the Erythraean Sea*: [www.fordham.edu/halsall/ancient/periplus.asp](http://www.fordham.edu/halsall/ancient/periplus.asp) and <http://depts.washington.edu/silkroad/texts/periplus/periplus.html>
- The Silk Road: [www.ess.uci.edu/~oliver/silk.html](http://www.ess.uci.edu/~oliver/silk.html) and [www.silkroutes.net](http://www.silkroutes.net)
- The Silk Road, 12-episode documentary film, first episode: [www.youtube.com/watch?v=b-AqeE2p\\_ww&list=PL43EA21B3FBAA90CF](http://www.youtube.com/watch?v=b-AqeE2p_ww&list=PL43EA21B3FBAA90CF)
- Documentary, "Secrets of the Ancient Empires: The First Merchants": [www.youtube.com/watch?v=R15jrHjXscs](http://www.youtube.com/watch?v=R15jrHjXscs)
- Buddhist art and the trade routes: [www.asiasocietymuseum.org/buddhist\\_trade/intro.html](http://www.asiasocietymuseum.org/buddhist_trade/intro.html)
- Indian coinage: [www.rbi.org.in/currency/museum/c-overview.html](http://www.rbi.org.in/currency/museum/c-overview.html)

**Comprehension**

1. What do you understand by trade? Explain the importance of trade in society.
2. Name some trade centres of ancient India. Make a list of articles of export and import during that period.
3. What do you know about the ranks in trades? Find the contemporary names.
4. Explain the role of winds in governing the sea routes.
5. Describe a caravan. Mentioning the security system for a caravan, compare it with present-day practices of carrying load to various destinations. You may compare on scales of time, fuel, cost, route, distance and modes of transport.
6. What do you understand by ethics in trade? What will happen if the traders do not follow certain rules for their business?



7. Make a list of materials that were exported through the Silk Road and the sea route. Comment on the barter system and compare trade practices of that period with present-day economic practices.
8. What currencies were used for trade in ancient India? Compare with the present-day system.
9. Trace the role of trade in the spread of Buddhism and Hinduism beyond India.
10. In the absence of literary evidence, what other disciplines can help us find out trade activities in ancient India?

#### Activities

- Prepare a list of some of India's ancient cities along with their contemporary names and locate them on a map.
- Keeping the period of *Arthaśāstra* in mind, list important cities along the *Uttarāpatha* and *Dakṣiṇāpatha* and locate them on the map.
- Using the maps and other data in this Survey, draw a map of the Silk Road and some of the sea routes from India; calculate the distance using online tools.
- Can you imagine when exchange of goods became an important ingredient of India's socioeconomic life? To have the feel of that period, imagine you are part of the society in a pre-currency period. Divide your class into two groups. Create a village *haat* where two groups come and display a variety of goods. Without language, currency and without the intervention of a broker or mediator, visualize how the exchange could have taken place. Act out a whole scene of barter trade. Take care that all your actions are in mime (i.e., without words).





### Projects

- Work in groups and explore about the travellers / traders who visited ancient India. Mention their epochs, routes to India, durations of their stays, and purposes of their visits.
- Arrange a field visit to a museum with your friends to view some evidence of trade connections in the past. Collect images of coins and currency of various periods found at different parts of the world and prepare a presentation.

### Extended Activity

- Select one of India's ancient or medieval ports mentioned by foreign travellers that is still active today – for instance Surat, Broach, Goa, Cochin, Puducherry, Puri, etc. Research the history of the port through the travellers' testimonies and document the kind of goods (both imported and exported) and trade traffic it has seen at different periods.
- Research the different foreign coins that have been found in India and correlate them with testimonies by foreign travellers. As far as possible, work out their rates of exchange with Indian currencies of those times.
- Assume you lead a caravan of merchants along the Silk Road from north India to Antioch in the 1<sup>st</sup> century BCE. What places will you pass through? (Find out their ancient as well as present-day names.) What goods will you take from India? What places will you travel through? What trade will take place on the way? What dangers should you be prepared to ward off on the way? Prepare a realistic presentation on the whole journey.





## Trade: A Selection from Primary Texts

### *Sigālovāda Suttanta*

In this text, Buddha praises the amassing of wealth through trade and business, and gives directions for the righteous use of wealth.

Whoso is virtuous and intelligent,  
Shines like a fire that blazes.  
To him amassing wealth, like roving bee  
Its honey gathering,  
Riches mount up as an ant-heap growing high.  
When the good layman wealth has so amassed  
Able is he to benefit his clan.  
In portions four let him divide that wealth.  
So binds he to himself life's friendly things.  
One portion let him spend and taste the fruit.  
His business to conduct let him take two.  
And portion four let him reserve and hoard;  
So there'll be wherewithal in times of need.

(tr. T.W. & C.A.F. Rhys Davis, *Dialogues of the Buddha*,  
Oxford University Press, 1921, vol. 3, pp. 179–180)

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### *Jātaka Tales*

The Buddhist *Jātaka* tales, which narrate the former births of Buddha (as a Bodhisattva or Bodhisatta), give many clues to the society of those times. We find, in particular, references to trade and merchants, caravans, sailing to distant countries, shrewd business practices, leadership qualities, etc. A few beginnings of such *Jātakas*:



Once on a time in the city of Benares in the Kāsi country there was a king named Brahmadata. In those days the Bodhisatta was born into a merchant's family, and growing up in due course, used to journey about trading with five hundred carts, travelling now from east to west and now from west to east. There was also at Benares another young merchant, a stupid blockhead, lacking resource. Now at the time of our story the Bodhisatta had loaded five hundred carts with costly wares of Benares and had got them all ready to start. ... (*Apaṇṇaka-Jātaka*)

Once upon a time when Brahmadata was reigning in Benares in Kāsi, the Bodhisatta was born into the Treasurer's family, and growing up, was made Treasuere, being called Treasurer Little. A wise and clever man was he, with a keen eye for signs and omens. One day on his way to wait upon the kind, he came on a dead mouse lying on the road; and, taking note of the positions of the stars at that moment, he said, "Any decent young fellow with his wits about him has only to pick that mouse up, and [using it as his initial capital] he might start a business and keep a wife." (*Cullaka-Setṭhi-Jātaka*)

Once upon a time when Brahmadata was reigning in Benares, the Bodhisattva was born a merchant. When he grew up, and was trading with five hundred waggons, he came one day to where the road led through a great forest. ... (*Phāla-Jātaka*)

Once upon a time, they say, a landed gentleman named Sujāta at Benares lodged in his park and ministered to five hundred ascetics who had come down from the Himalayas to procure salt and vinegar. ... (*Mahāsutasoma-Jatāka*).

(Tr. E.B. Cowell)

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### Arthaśāstra

Kauṭilya's classic treatise on governance and administration has voluminous and important data on trade and trade regulations as it was practised a few centuries BCE. The care taken by Kauṭilya to deal with every situation in detail is especially noteworthy. A few passages (among others):

#### Land Routes vs. Sea Routes

"As between a water-route and a land-route, the water-route is preferable, involving little expenditure and exertion and yielding plenty of goods," say the teachers. "No," says Kauṭilya. The water-route is restricted in movements, not usable at all times, a source of great dangers and without remedies; the land-route is the opposite of this.

In case of a water-way, however, as between a route along the shore and one on the high sea, the route along the coast is preferable because of the large number of ports, or a river-route, because of perennial use and because the dangers in it can be withstood.

Even in the case of a land-route, "The [northern] route to the Himavat is preferable to the southern route, for the commodities of elephants, horses, perfumes, ivory, skins, silver and gold are of very high value," say the teachers. "No," says Kautilya. (These) with the exception of the commodities of blankets, skins and horses, besides the commodities of conch-shells, diamonds, rubies, pearls and gold are more plentiful on the southern route.

Even in the case of the route to the south, the trade-route with many mines, with commodities of high value, with well-secured movements, or requiring little expenditure and exertion, is preferable, or one with commodities of small value with an extensive scope (for sale). (7.12)





### **The Director of Trade**

The Director of Trade should be conversant with the differences in the prices of commodities of high value and of low value and the popularity or unpopularity of goods of various kinds, whether produced on land or in water (and) whether they have arrived along land-routes or water-routes, also (should know about) suitable times for resorting to dispersal or concentration, purchase or sale.

And that commodity which may be plentiful, he should collect in one place and raise the price. Or, when the price is reached, he should fix another price.

He should establish in one place trade in royal commodities that are produced in his own country; in many places, in those produced in foreign lands. And he should cause both to be sold so as to favour the subjects. And he should avoid even a big profit that would be injurious to the subjects. He should not create a restriction as to time or the evil of a glut in the market in the case of commodities constantly in demand.

Or, traders should sell royal goods in many places with the price fixed. And they should pay compensation in accordance with the loss (sustained).

One-sixteenth part is the surcharge in measure by capacity, one-twentieth part in measure by weighing, one-eleventh part of commodities sold by counting.

He should encourage the import of goods produced in foreign lands by (allowing) concessions. And to those (who bring such goods) in ships or caravans, he should grant exemptions (from taxes) that would enable a profit (to be made by them). And no law-suit in money matters (should be





allowed) against foreign traders, except such as are members (of native concerns) and (their) associates.

Officers in charge of (royal) goods shall deposit the price of goods (sold), in one place, in a wooden box having a lid with one opening. And in the eighth part of the day, they should hand it over to the Director of Trade, declaring, "This much is sold; this is left over." They should also hand over the implements of weighing and measuring.

Thus (the sale of goods) in one's own territory has been explained.

In foreign territory, however, he should ascertain the price and the value of the commodity (taken out) and the commodity (to be brought) in exchange and should calculate the profit after clearing expenses for duty, road-cess, escort-charges, picket- and ferry-dues, food and fodder and share.

Should there be no profit, he should see if there is any advantage in taking out goods or in bringing in goods in exchange for goods. Then with a quarter of the goods of high value, he should set going trade by land along a safe route. And he should establish contacts with forest chieftains, frontier officers, and chiefs in the city and the countryside, to secure their favour. In case of a calamity, he should rescue the goods of high value or himself. Or, if he has reached his destination, he should carry on the trade after paying all dues. And on the water-route he should ascertain hire for boats, provisions on the journey, price and amount of (his) goods and of the goods in exchange, seasons suited for voyage, precautions against dangers and regulations at the ports.





And along river-routes, he should ascertain (conditions of) trade from the (port) regulations and should proceed to where there is profit and avoid absence of profit. (2.16)

#### **The Collector of Customs and Tolls**

The Collector of Customs and Tolls should establish the customs house and the flag facing east or the north in the vicinity of the big gates (of the city).

The receivers of duty, four or five in number, should record in writing (details about) traders who have arrived in a caravan, who they are, from what place, with how much merchandise and where the identity-pass (was issued) or the stamping was made.

For (goods) without the stamp the penalty is double the dues. For those with a forged stamp, the fine is eight times the duty. For those with broken stamps, the penalty is distraint in the ware-house. In case of change of the royal stamp or of (change in) the name, he should make (the trader) pay a fine of one *pana* and a quarter per load.

Traders shall declare the quantity and price of the goods that have arrived at the foot of the flag, "Who is willing to purchase these goods, so much in quantity, at this price?" When it has been thrice proclaimed, he should give it to those who have sought it. In case of competition among purchasers, the increase in price together with the duty shall go to the treasury.

If for fear of duty a (trader) declares the quantity of the goods or the price to be less (than it actually is), the king shall confiscate that excess. Or, the (trader) shall pay eight times the duty. He should impose the same (penalty) in case of depreciation of price of a package containing goods by





(showing) a sample of lower value and in case of concealment of goods of high value by goods of low value.

Or, if through fear of a rival purchaser a (trader) increases the price beyond the (due) price of a commodity, the king shall receive the increase in price, or make the amount of duty double. The same (penalty) eightfold (shall be imposed) on the Superintendent concealing (the trader's offences).

Therefore, the sale of goods should be made by weighing, measuring or counting; an appraisal (of value should be made) of goods of small value and goods enjoying concessions.

And for goods that have passed beyond the foot of the flag without the duty being paid, the fine is eight times the duty. Secret agents operating on roads and in places without roads should find out such (evasion).

Goods intended for marriage, marriage-gifts accompanying the bride, goods intended as gifts, goods required on the occasion of a sacrifice or a ceremony or a birth and goods used in various rituals like worship of the gods, tonsure rite, initiation for Veda study, hair-cutting rite, consecration for a vow and so on, should go duty-free. For a (person) making a false declaration (in this respect) the punishment for theft (shall be imposed).

For the trader taking out a commodity for which duty has not been paid along with one for which duty has been paid, or carrying off a second (commodity) under one stamp after breaking open the package, forfeiture of the same and an equal amount as fine (shall be the punishment). For the (trader) carrying off (goods of high value) from the customs house





after securing acceptance of cowdung (cakes) or straw as the basis (for calculating duty), the highest fine for violence (shall be the punishment).

For the (trader) taking out any one of the unexportable articles, viz., weapons, armours, coats of mail, metals, chariots, jewels, grains and cattle, there shall be a fine as proclaimed as well as loss of the goods. In case any one of these is brought in, its sale (shall be effected) duty-free outside (the city-gate) itself.

The frontier officer should charge a road cess of one *paṇa* and a quarter for a cart-load of goods, of one *paṇa* for a one-hoofed animal, of half a *paṇa* for cattle, of a quarter *paṇa* for small animals, of one *māṣaka* for a shoulder-load. And he shall make good what is lost or stolen (on the way). He should send on to the Superintendent a caravan from a foreign land after making an investigation as to goods of high and low value and giving them an identity-pass and stamp (on the goods).

Or, a secret agent appearing as a trader should communicate to the king the size of the caravan. In accordance with that information, the king should tell the Collector of Customs about the size of the caravan, in order to make his omniscience known. Then the Collector, on meeting the caravan, should say, "These are goods of high and low value belonging to such and such a merchant. It should not be concealed. This is the king's power." For one concealing goods of low value the fine shall be eight times the duty, (for concealing) goods of high value, confiscation of everything (shall be the punishment).

He should cut out goods that are harmful to the country and that are worthless. He should make goods that are highly beneficial duty-free, also seeds that are rare. (2.21)



### The Tariff of Duties and Tolls

(Goods are) from the countryside, from the city and from foreign lands. That on (goods) going out and that on (goods) coming in is duty.

On goods coming in (the duty shall be) one-fifth of the price.

Of flowers, fruits, vegetables, roots, bulbous roots, fruits of creepers, seeds, dried fish and meat, he should take one-sixth part (as duty).

Of conch-shells, diamonds, gems and necklaces of pearls and corals, he should make (a valuation) through men expert in the line, making an agreement with them as to the amount of work, time allowed and wages.

On *kṣauma* [linen cloth], *dukūla* [a fine muslin cloth], silk yarn, armours, yellow orpiment, red arsenic, antimony, vermilion, metals of various kinds and ores, on sandal-wood, aloe, spices, fermentation, and minor substances, on skins, ivory, bed-spreads, coverings and silk cloth, and on products of goats and rams, (the duty to be charged is) one-tenth part or one-fifteenth part.

On clothes, four-footed and two-footed creatures, yarn, cotton, perfumes, medicines, woods, bamboos, barks, leather goods and earthenware, and on grains, fats, sugars, salts, wine, cooked food and so on (the duty is) one-twentieth part or one twenty-fifth part. ... (2.22)

### The Controller of Shipping

The Controller of Shipping should look after activities concerning sea voyages and ferries at the mouths of rivers, as well as ferries over natural lakes, artificial lakes and rivers, in the *sthānīya* [the kingdom's capital] and other (towns).

Villages on their shores and banks shall pay a fixed (tax).



Fishermen shall pay one-sixth (of their catch) as rent for the boats.

Traders shall pay a part (of the goods) as duty according as it may be current at the ports, those travelling by the king's ships (shall pay) hire for the voyage.

Those fishing for conch-shells and pearls shall pay a rent for the boats, or sail in their own boats. And (the duty of) the Supervisor of these is explained by (that of) the Superintendent of Mines.

The Controller of Shipping shall observe the regulations in a port town as fixed by the Commissioner of Ports.

He should rescue boats that have gone out of their course or are tossed about by a gale, like a father. He should make goods that have fallen in water either duty-free or pay half the duty. And he should send these (boats) on, as commissioned, at times suitable for voyage from the port.

He should demand duty from ships sailing on sea when they come within the domain. He should destroy (boats) that cause harm, also those coming over from the enemy's territory and those violating the regulations of the port.

And he should keep in use big boats in charge of a captain, a pilot, a manipulator of the cutter and ropes and a bailer of water, on big rivers that have to be ferried on (even) in winter and summer, small ones on small rivers flowing (only) in the rainy season. And these should have their crossing-places fixed because of the danger of crossing by traitorous persons.





For one crossing out of time or elsewhere than at the crossing, (the punishment shall be) the lowest fine for violence. For one who crosses without authority even at the proper time and at the crossing, the penalty for crossing is twenty-six *paṇas* and three quarters. There shall be no penalty for fishermen, (carriers of) loads of wood and grass, attendants at flower-gardens, fruit-orchards and vegetable gardens and cowherds, also for those whose going after an envoy is conceivable, and for those carrying out activity in connection with goods for the army, when these cross in their own barges, as well as for those who ferry across seeds, food-stuffs and articles for household use in villages along the water-courses.

Brahmins, wandering monks, children, old persons, sick persons, carriers of royal edicts and pregnant women should cross with a sealed pass from the Controller of Shipping.

Persons from foreign lands may enter when permission to enter is granted or on the testimony of the caravan. ...

A small animal and a man with a load (in hand) shall pay one *māṣaka*, a load on the head, a load on the back, a cow and a horse (shall pay) two (*māṣakas*), a camel and a buffalo four, a small vehicle five, one driven by bullocks six, a cart seven, a load of commodities one quarter (of a *paṇa*). By that is explained (fare for) a load of goods. The fare for ferries on big rivers is double.

Villages on water-ways shall pay a fixed amount of food and wages (for the ferrymen).

At the frontiers, ferrymen should recover the duty, the escort-charges and the road cess, and should confiscate the goods of one going





out without a seal, also (those) of a person crossing with a heavy load at an improper time and elsewhere than at the regular crossing.

When a boat that is lacking in men or equipment or is unseaworthy comes to grief, the Controller of Shipping shall make good what is lost or ruined.

(Tr. R.P. Kangle)

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### *Periplus Maris Erythraei ('Voyage around the Erythrean Sea')*

This 1<sup>st</sup> century CE travelogue of the Erythrean Sea (i.e., the Arabian Sea, the Red Sea and the Persian Gulf together) was written in Greek by an unnamed Egyptian merchant. Its first part describes the maritime trade-routes from Egypt southward, following the East Africa coast down to modern-day Tanzania, and the other parts the routes from Egypt eastward, around Arabia, past the Persian Gulf and on to India. For the identification of Indian ports and other places, we have relied on R.C. Majumdar (*Classical Accounts*, pp. 311–12). A few extracts concerning India:

The ships lie at anchor at Barbaricum [in the delta of the Indus], but all their cargoes are carried up to the metropolis by the river, to the King. There are imported into this market a great deal of thin clothing, and a little spurious; figured linens, topaz, coral, storax, frankincense, vessels of glass, silver and gold plate, and a little wine. On the other hand there are exported costus, bdellium, lycium, nard, turquoise, lapis lazuli, Seric skins, cotton cloth, silk yarn, and indigo. And sailors set out thither with the Indian Etesian winds [i.e., the monsoon], about the month of July, that is Epiphi: it is more dangerous then, but through these winds the voyage is more direct, and sooner completed.





Beyond the river Sinthus [Indus] there is another gulf, not navigable, running in toward the north; it is called Eirinon [Rann of Kachchh]; its parts are called separately the small gulf and the great; in both parts the water is shallow, with shifting sandbanks occurring continually and a great way from shore; so that very often when the shore is not even in sight, ships run aground, and if they attempt to hold their course they are wrecked. ...

Beyond the gulf of Baraca [Kachchh] is that of Barygaza [Bhrgukaccha, modern Bharuch or Broach] and the coast of the country of Ariaca, which is the beginning of the Kingdom of Nambanus and of all India. That part of it lying inland and adjoining Scythia is called Abiria, but the coast is called Syrastrène [Saurashtra]. It is a fertile country, yielding wheat and rice and sesame oil and clarified butter, cotton and the Indian cloths made therefrom, of the coarser sorts. Very many cattle are pastured there, and the men are of great stature and black in colour. The metropolis of this country is Minnagara, from which much cotton cloth is brought down to Barygaza. ...

Beyond this there is another gulf exposed to the sea-waves, running up toward the north, at the mouth of which there is an island called Baeones; at its innermost part there is a great river called Mais [Mahi]. Those sailing to Barygaza pass across this gulf, which is 300 stadia<sup>1</sup> in width, leaving behind to their left the island just visible from their tops toward the east, straight to the very mouth of the river of Barygaza; and this river is called Nammadus [Narmada].

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<sup>1</sup> A stadia is an ancient Greek unit of length, estimated (in Egypt) to have been about 157 m.





This gulf is very narrow to Barygaza and very hard to navigate for those coming from the ocean. ...

For this reason entrance and departure of vessels is very dangerous to those who are inexperienced or who come to this market-town for the first time. For the rush of waters at the incoming tide is irresistible, and the anchors cannot hold against it. ...

Inland from this place and to the east, is the city called Ozene [Ujjain], formerly a royal capital; from this place are brought down all things needed for the welfare of the country about Barygaza, and many things for our trade: agate and carnelian, Indian muslins and mallow cloth, and much ordinary cloth. Through this same region and from the upper country is brought the spikenard that comes through Poclais; that is, the Caspapyrene [Kashmir?] and Paropanisene [Hindu Kush] and Cabolitic [Kabul] and that brought through the adjoining country of Scythia; also costus and bdellium.

There are imported into this market-town, wine, Italian preferred, also Laodicean and Arabian; copper, tin, and lead; coral and topaz; thin clothing and inferior sorts of all kinds; bright-coloured girdles a cubit wide; storax, sweet clover, flint glass, realgar, antimony, gold and silver coin, on which there is a profit when exchanged for the money of the country; and ointment, but not very costly and not much. And for the King there are brought into those places very costly vessels of silver, singing boys, beautiful maidens for the harem, fine wines, thin clothing of the finest weaves, and the choicest ointments. There are exported from these places spikenard, costus, bdellium, ivory, agate and carnelian, lycium, cotton cloth of all kinds, silk cloth, mallow cloth, yarn, long pepper and such other things as are brought here from the various





market-towns. Those bound for this market-town from Egypt make the voyage favourably about the month of July, that is Epiphi.

Beyond Barygaza the adjoining coast extends in a straight line from north to south; and so this region is called Dachinabades [*Dakṣiṇāpatha*], for *dachanos* in the language of the natives means 'south'. The inland country back from the coast toward the east comprises many desert regions and great mountains; and all kinds of wild beasts – leopards, tigers, elephants, enormous serpents, hyenas, and baboons of many sorts; and many populous nations, as far as the Ganges.

Among the market-towns of Dachinabades there are two of special importance; Paethana [Paithan, on the Godavari], distant about twenty days' journey south from Barygaza; beyond which, about ten days' journey east, there is another very great city, Tagara [Ter]. There are brought down to Barygaza from these places by wagons and through great tracts without roads, from Paethana carnelian in great quantity, and from Tagara much common cloth, all kinds of muslins and mallow cloth, and other merchandise brought there locally from the regions along the sea-coast. And the whole course to the end of Damirica [the Tamil land] is 7,000 stadia; but the distance is greater to the Coast Country [Coromandel?].

The market-towns of this region are, in order, after Barygaza: Suppara [Sopara, north of Mumbai], and the city of Calliena [Kalyan], which in the time of the elder Saraganus became a lawful market-town; but since it came into the possession of Sandares the port is much obstructed, and Greek ships landing there may chance to be taken to Barygaza under guard.





Beyond Calliena there are other market-towns of this region. ... Tyndis [Ponnani?] is of the kingdom of Cerobothra [Keralaputra or Kerala]; it is a village in plain sight by the sea. Muziris [near Kodungallur], of the same kingdom, abounds in ships sent there with cargoes from Arabia, and by the Greeks; it is located on a river, distant from Tyndis by river and sea 500 stadia, and up the river from the shore twenty stadia. ...

There is another place at the mouth of this river, the village of Bacare [Porakad], to which ships drop down on the outward voyage from Nelcynda. ... They send large ships to these market-towns on account of the great quantity and bulk of pepper and malabathrum [an aromatic plant]. There are imported here, in the first place, a great quantity of coin; topaz, thin clothing, not much; figured linens, antimony, coral, crude glass, copper, tin, lead; wine, not much, but as much as at Barygaza; realgar and orpiment; and wheat enough for the sailors, for this is not dealt in by the merchants there. There is exported pepper, which is produced in quantity in only one region near these markets, a district called Cottonara. Besides this there are exported great quantities of fine pearls, ivory, silk cloth, spikenard from the Ganges, malabathrum from the places in the interior, transparent stones of all kinds, diamonds and sapphires, and tortoise-shell; that from Chryse Island [the Malay Peninsula], and that taken among the islands along the coast of Damirica. They make the voyage to this place in a favourable season who set out from Egypt about the month of July, that is Epiphi. ...

Beyond Bacare there is the Dark Red Mountain, and another district stretching along the coast toward the south, called Paralia [Purali or Travancore]. The first place is called Balita [Varkallai]; it has a fine harbour and a village by the shore. Beyond this there is another place





called Comari [Kumari or Cape Comorin], at which are the Cape of Comari and a harbour; hither come those men who wish to consecrate themselves for the rest of their lives, and bathe and dwell in celibacy; and women also do the same; for it is told that a goddess once dwelt here and bathed.

From Comari toward the south this region extends to Colchi [Korkai], where the pearl-fisheries are; (they are worked by condemned criminals); and it belongs to the Pandian Kingdom. Beyond Colchi there follows another district called the Coast Country [Coromandel], which lies on a bay, and has a region inland called Argaru [Uraiyur, near Tiruchi]. At this place, and nowhere else, are bought the pearls gathered on the coast thereabouts; and from there are exported muslins, those called Argaritic.

Among the market-towns of these countries, and the harbours where the ships put in from Damirica [the Tamil land] and from the north, the most important are, in order as they lie, first Camara [Puhar or Kāvēripaṭṭinam], then Poduca [Puducherry], then Sopatma [Marakanam]; in which there are ships of the country coasting along the shore as far as Damirica; and other very large vessels made of single logs bound together, called *sangara*; but those which make the voyage to Chryse and to the Ganges are called *colandia*, and are very large. There are imported into these places everything made in Damirica, and the greatest part of what is brought at any time from Egypt comes here, together with most kinds of all the things that are brought from Damirica and of those that are carried through Paralia.

About the following region, the course trending toward the east, lying out at sea toward the west is the island Palaesimundu, called by the ancients Taprobane [Sri Lanka]. The northern part is a day's journey distant, and the southern part trends gradually toward the west, and





almost touches the opposite shore of Azania. It produces pearls, transparent stones, muslins, and tortoise-shell.

About these places is the region of Masalia [Masulipatam in Andhra Pradesh] stretching a great way along the coast before the inland country; a great quantity of muslins is made there. Beyond this region, sailing toward the east and crossing the adjacent bay, there is the region of Dosarene, yielding the ivory known as Dosarenic. Beyond this, the course trending toward the north, there are many barbarous tribes, among whom are the Cirrhadae, a race of men with flattened noses, very savage; another tribe, the Bargysi; and the Horse-faces and the Long-faces, who are said to be cannibals.

After these, the course turns toward the east again, and sailing with the ocean to the right and the shore remaining beyond to the left, Ganges comes into view, and near it the very last land toward the east, Chryse. There is a river near it called the Ganges, and it rises and falls in the same way as the Nile. On its bank is a market-town which has the same name as the river, Ganges. Through this place are brought malabathrum and Gangetic spikenard and pearls, and muslins of the finest sorts, which are called Gangetic. It is said that there are gold-mines near these places, and there is a gold coin which is called caltis. And just opposite this river there is an island in the ocean, the last part of the inhabited world toward the east, under the rising sun itself; it is called Chryse; and it has the best tortoise-shell of all the places on the Erythraean Sea. ...

(Tr. William H. Schoff)

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### Tamil Literature

The early Tamil literature (from the first centuries CE, possibly slightly earlier) contains many descriptions of port towns and trading practices. A few extracts:

There gardens girt with loam are seen  
Where pegs are driven to tie strong boats  
That stand like steeds in stables tied,  
Come fully laden with the grain  
By barter bought of salt refined  
Through Cōla land extending wide  
With many a hamlet closely set. ...  
... Here are brought  
Swift, prancing steeds by sea in ships,  
And bales of pepper black, by carts.  
Himalayas sends gems and gold,  
While Kudda hills, sweet sandal-wood  
And akhil; pearls from the south sea come,  
Red coral from the eastern sea.  
The Ganges and the Kaveri bring  
Their yield: Ceylon provides its food,  
And Burma, manufactures rare.  
With other rare and rich imports  
This wealth lies close and thickly piled,





Confused along the spacious streets.

From *Pattinappalai* (quoted in *A Sourcebook of Indian Civilization*, Niharranjan Ray & B.D. Chattopadhyaya, (eds), Orient Longman, 2000, pp. 283 ff)

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Those who well fashion bangles fine from chanks,  
The goldsmiths that make jewels bright from gold  
Well purified in fire, those who sell gold  
That's well assayed, those who do trade in clothes,  
Those who buy copper by the weight, those who  
Stitch garments fine, those who sell well-culled blooms  
And sandal-wood, those who could pictures paint  
Of various things in motion, those who draw  
With accuracy things that catch the eye,  
And others gather. Weavers small and great  
Display bright, folded garments, short and long,  
That look like shining sands that edge the sea.  
All these are found in four well-crowded streets. ...  
In the *neithal* [littoral] tract are found fine sparkling pearls  
Which the shining sea doth yield, bright bangles cut  
And shaped straight with the file, and other wares  
That merchants sell. Sea captains that sail over  
The ocean high in showy ships that come  
From large and distant countries take away





The salt that's formed in black and clayey pans,  
Sweet tamarind and salted fish that look  
Like sides of drums prepared by fishermen  
On widespread sands. They bring fine horses here  
And other precious things to barter them  
For jewels fine that are here made. This wealth  
Abounds increasing day by day.

From *Maduraikāñci* (quoted in *ibid.*, pp. 284 ff)

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The flourishing town of Muṣīri, where the large beautiful ships of the  
Yavanas which bring gold and take pepper, come disturbing the white  
foam of the little, fair Periyāru [river] of the Seralar ...

From *Aganānūru* (quoted in *ibid.*, p. 285)

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The Sun shone over the open terraces, over the warehouses near the  
harbours, and over the turrets with air-holes looking like the eyes of deer.  
In different places of Pukār [Poompuhar or Kāvēripaṭṭinam] the  
onlooker's attention was arrested by the sight of the abodes of Yavanas  
[Roman traders] whose prosperity was never on the wane. On the harbour  
were to be seen sailors come from distant lands, but for all appearance  
they lived as one community. In the streets of the city hawkers went  
about with paints, bathing powders and cool pastes, flowers, incense and  
fragrant scents. In certain places weavers were seen dealing in fine fabrics  
made of silk, fur and cotton. Whole streets were full of silks, corals, sandal





and myrrh, besides a wealth of rare ornaments, perfect pearls, gems and gold, which were beyond reckoning.

There were also other streets where grain-dealers lived who kept their grains in separate heaps. Washermen, makers of muffins, wine-sellers, fishermen selling fish, dealers in white salt, those who sold betel leaves, those who dealt in scents, mutton-vendors, oil-mongers, meat-vendors, dealers in bronze, manufacturers of copper, carpenters, strong-armed blacksmiths, sculptors, potters, goldsmiths, jewellers, tailors, cobblers, skilled workers of all sorts who made fancy trinkets of pieces of cloth and cork ...

[In addition] there was the open space where could be found many bundles of goods with marks indicative of the quantity, weight and names of their new owners. Since there was neither gate nor lock nor watchman guarding them, thieves might sometimes be tempted to remove these bundles on their heads. And if they did so, the invisible deity guarding the place would make the thief go round and round the open plain, with the heavy burden on his head but would not permit him to pass away from there. The very thought of stealing anything made people quake with fear.

...

From the Tamil epic *Cilappatikāram*, Canto V  
(tr. V.R. Ramachandra Dikshitar)

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### An Inscription on Internal Trade

Inscriptions have a wealth of data not only on trade and traded goods, but also on the social organization of the traders, such as their communities, leaders and guilds.





A 13<sup>th</sup>-century inscription from Belgaum (Karnataka) gives details of taxes to be imposed on various goods. The following items are mentioned: horses, oxen and buffaloes, gold jewellery, cotton, perfumes, cloth, grass, cotton, paddy, unhusked rice, black pepper, asafoetida, green ginger, turmeric, oil, areca butts, betel leaves, coconuts, palm-leaves, coarse sugar, plantains, myrobolans, sugar-cane and potstone.

The following extract is from an inscription by king Ganapatideva at Motupalli (Andhra Pradesh) dated to the 13<sup>th</sup> century CE, in which the king grants protection to traders — of course not without some compensation:

... By this glorious Maharaja Ganapatideva the following edict (assuring) safety has been granted to traders by sea starting for and arriving from all continents, islands, foreign countries and cities.

Formerly kings used to take away by force the whole cargo, viz. gold, elephants, horses, gems, etc., carried by ships and vessels which after they had started from one country for another, were attacked by storms, wrecked, and thrown on shore. But, we out of mercy, for the sake of glory and merit, are granting everything besides the fixed duty to those who have incurred the great risk of a sea-voyage with the thought that wealth is more valuable than even life.

The rate of this duty [is] one in thirty on [all] exports and imports.

On one tola of sandal, 1 pagoda  $\frac{1}{4}$  fanam.

On 1 pagoda's value of [country] camphor, Chinese camphor and pearls, 3 and  $\frac{3}{8}$  fanam.

On 1 pagoda's value of rose-water, ivory, civet, camphor-oil, copper, zinc, riseya (?), lead, silk-threads, corals, and perfumes,  $\frac{1}{4}$  and  $\frac{1}{8}$  fanam.

On 1 pagoda's value of pepper, 3 and  $\frac{3}{8}$  fanam.





On all silks, 5% fanams per bale.

On every lakh of areca-nuts, 1 pagoda 3% fanams ...

(L.D. Barnett, quoted in *ibid.*, p. 455–56)

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### Comprehension

1. What does Kauṭilya mean when he speaks in *Arthaśāstra* of “the evil of a glut in the market in the case of commodities constantly in demand”? Does it remind you of certain situations in contemporary business?
2. What, according to Kauṭilya, are the different methods used by the state to check trade malpractices at different stages of trading?
3. What is the implication of Kauṭilya’s statement that the Director of Trade “should avoid even a big profit that would be injurious to the subjects”?
4. What is the idea behind Kauṭilya’s injunction to grant exemptions to those involved in import of goods through ships or caravans?
5. Why do you think Kauṭilya lists goods like “weapons, armours, coats of mail, metals, chariots, jewels, grains and cattle” as barred from export?
6. What kind of picture does the extract from the *Cilappatikāram* paint as far as the economic life is concerned?

### Extended Activities

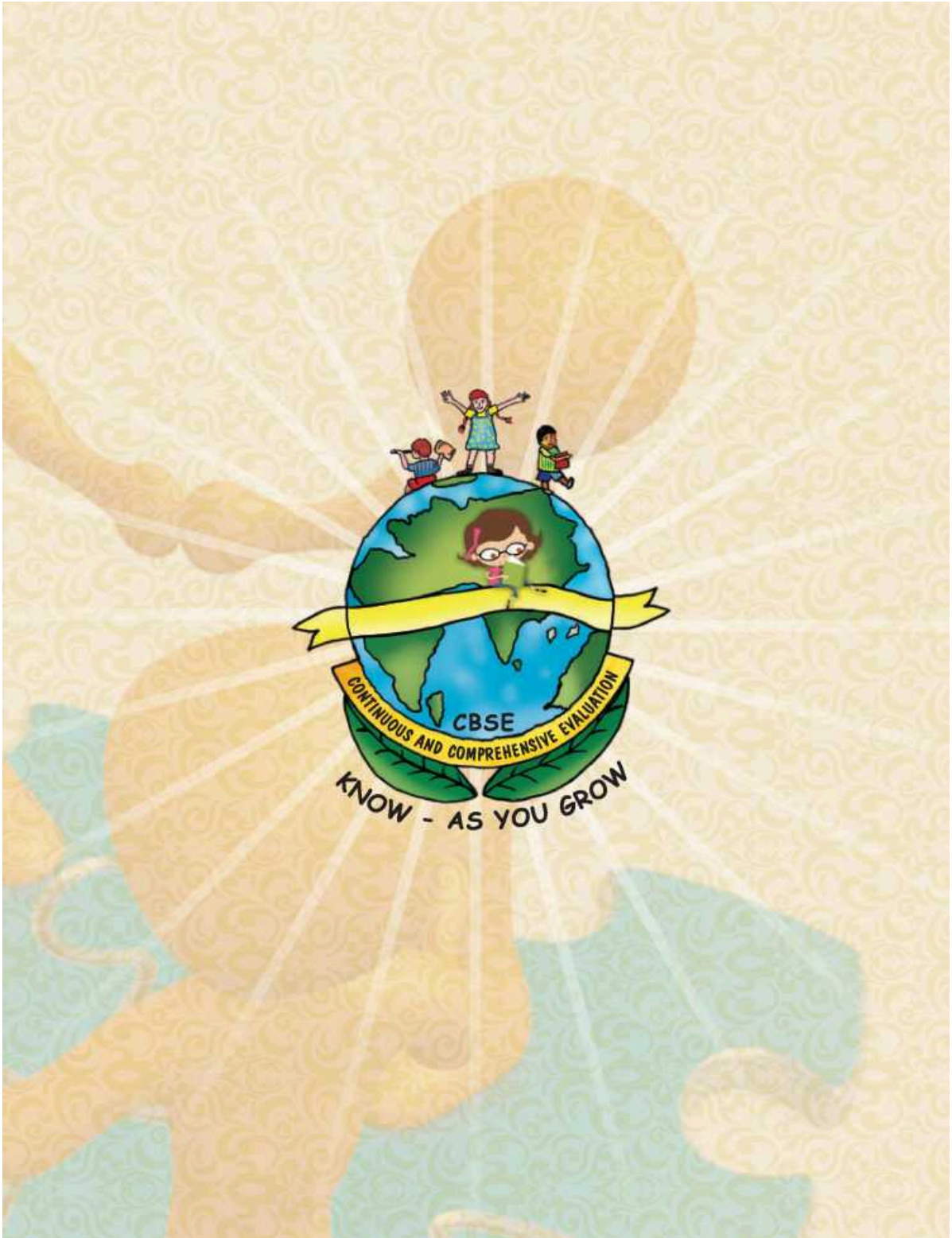
- Reading the above excerpts from *Arthaśāstra*, one gets an impression that consumer protection is not such a new notion. Research the measures proposed



by Kauṭilya to make sure that customers are not cheated and compare with today's situation.

- Study the taxation system developed by *Arthaśāstra* for traded goods (including duties and tolls). What services can merchants expect in exchange for the taxes they have to pay? Discuss whether, in your estimate, the system is (1) fair overall, and (2) conducive to trade activities?
- Draw a map of the various ports mentioned in the *Periplus Maris Erythraei*, and a table of the goods imported and exported through the Indian ports. Comment on the kind and volume of trade this suggests.
- Study the above extracts from Tamil literature, including the various goods, crafts and traders they mention, and make a comparison with the data from the *Periplus*. Point out commonalities as well as differences.







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