

Introduction to Indian Knowledge Systems

Before beginning, we must first be clear about the meaning of the word 'literature'. The dictionary meaning of literature is given as "written works, especially those considered of superior or lasting artistic merit". In the context of India, where there is an unbroken living oral tradition with a history of more than at least 5,000 years; the meaning of 'literature' for our present purpose has to be extended to mean 'composition' to include the works composed and transmitted orally from generation to generation.

Cāṇakya, in his *Arthaśāstra*, classifies knowledge that one needs to know into four types:

- *ānvīkṣikī* – used in the general sense of (contemporary) Science, encompassing logic and philosophy
- *trayī* – used to refer to traditional knowledge, to the *Vedas* in particular
- *vārttā* – used to represent wealth creation (agriculture and commerce)
- *daṇḍanīti* – used to represent politics and public administration

The classical literature of India is usually described as *chaturdaśa-vidyā-sthānas* (14) consisting of

- the 4 *Vedas* (namely *R̥gveda*, *Yajurveda*, *Sāmaveda*, *Atharvaṇaveda*)
- the 6 *Vedāṅgas* (namely *Śikṣā*, *Kalpa*, *Vyākaraṇa*, *Chhandas*, *Niruktam* and *Jyotiṣa*)
- *Itihāsa* (*Rāmāyaṇa* and *Mahābhārata*) and *Purāṇa* (*Viṣṇupurāṇa*, *Bhāgavata* etc.)
- *Dharmaśāstra* (*Manusmṛti*, *Yājñavalkya-smṛti*, *Parāśara-smṛti* etc.)
- *Darśana* (Six orthodox and six heterodox systems)
- *Nyāya* (Logic and Epistemology)

In other places, sometimes the 4 *Upavedas*, namely *Āyurveda* (health-care), *Dhanurveda* (archery), *Gandharva-veda* (dance, music etc.) and *Sthāpatyaveda* (architecture) are also added to the list, taking the total to 18 (*aṣṭādaśa*).

Introduction to the *Vedas*:

It is well-known that the *Vedas* are the oldest surviving literary works in the whole world. The *Vedas* are also sometimes referred to as *trayī* since there are three types of *mantras* in the *Vedas*; namely those that are metrical compositions, those that are in prose form and yet others that are set to music. Our tradition says that *Bhagavān Veda Vyāsa* compiled the *Vedas* largely based on these three forms; so that

- ◆ *R̥gveda* came to be the collection of *mantras* in metrical form called *R̥ks*
- ◆ *Yajurveda* came to be the collection of *mantras* in prose form
- ◆ *Sāmaveda* came to be the collection of *mantras* set to music

Atharvaṇaveda came to be the collection of *mantras* due to the *R̥ṣis Atharva* and *Aṅgīras*. Each of the above mentioned *Vedas* are said to consist of two main parts: *saṁhitā* (also referred to as *mantra*) and *Brāhmaṇa*. Some scholars opine that the *Brāhmaṇas* are elaborations upon the *saṁhitā*. In few places, we do see that the *Brāhmaṇa* is said to consist of two more sub-parts, namely the *Āraṇyaka* and *Upaniṣad*. As a result, many scholars say that *Samhitā*, *Brāhmaṇa*, *Āraṇyaka* and *Upaniṣad* collectively make up the *Vedas*.

The experiences of the *R̥ṣis* poured out in the form of poetry came to be known as *mantras*, which make up the content of the *Vedas*. Each *mantra* is associated with a *R̥ṣi* (who is therefore known as *mantra-draṣṭā*, literally seer/discoverer of the *mantra*), *devatā* and

Chhandas; although there might be exceptions. The word *Veda* itself, coming the root *vid* (to know), means knowledge; and the *Vedas* as a body of literature came to be revered as the repository of all knowledge (available at that time). Therefore, it came to be considered very important to preserve this knowledge exactly as it was. Hence a mechanism, similar to what is today known as “hashing” among computer scientists, was devised back then; in which the *Vedas* were learnt, recited and transmitted orally in a number of different ways, to ensure that the different methods of recitation acted as a check on the other. The ways of recitation are preserved even to this day and is transmitted orally to those students learn the *Vedas* traditionally at a *gurukula*. Some of the ways of recitations are as follows:

- *samhitā-pāṭha*: continuous recitation bound by phonetic rules and intonation
- *pada-pāṭha*: a recitation marked by a conscious pause after every word, thereby restoring each word in its original intended form
- *krama-pāṭha*: Ex: word1word2 word2word3 word3word4 and so on
- *jaṭā-pāṭha*: Ex: word1word2 word2word1 word1word2 word2word3 word3word2 word2word3 and so on
- *ghana-pāṭha*: Ex: word1word2 word2word1 word1word2word3 word3word2word1 word1word2word3 and so on

All this effort in preserving the *Vedas* shows how much our ancestors cared for knowledge and strived to preserve every letter of it. In the above scheme, even a single letter cannot go in error, even after several millenia pass. It may so happen that, due to natural disasters (such as earthquakes, tsunamis, famines, floods, draught, volcanoes, meteoric collisions) which affect an entire settlement, one entire part of a *Vedic* text may be lost; but it can never happen that a single letter may become erroneous. Therefore, due to such a perfect preservation of the *Vedic* texts, the *Vedas* may be considered as good as archaeological sources of evidence for conducting research.

One is compelled at this point to compare this Indian culture of knowledge preservation with the cultures of other parts of the world. It is said that the Bible was compiled some 400 years after the alleged crucifixion of Jesus Christ at a council headed by Emperor Constantine, where certain gospels were added to the Bible whereas certain other “inconvenient” gospels were omitted. Likewise the Quran was compiled by the Abbasids about 300 years after the death of Prophet Muhammad; and whenever there was multiple conflicting versions, the version with the dialect of the Quraish tribe only was retained and the others destroyed. Once the Bible and Quran were first “frozen”, all other versions were destroyed. Some people under the assumption that the Quran contains all knowledge and truth that is worth knowing went about burning libraries in Alexandria and other places. In India, Bhaktiyar Khilji ransacked *Nālandā* and *Vikramaśilā* universities and proceed to burn their libraries; it is said that the library burned for seven days. In addition, most of the people who memorized the Quran were warriors and once they were killed in battle; the knowledge of the Quran and related literature would be lost. But in the Indian culture, people who were into knowledge production and preservation were exempted from military duties.

***Veda and Vedāṅga*:**

As mentioned earlier, the *Vedas* are a collection of poetic *mantras* pouring out of the *Ṛṣi*'s experiences. Since these experiences of these *Ṛṣis* varied from an observation of the visible sky (with the Sun, the Moon, the stars, planets, comets, etc), to flora and fauna around,

to the forests, deserts, rivers, seas and oceans, to the people around, to their own physical body, to their breath, to their mind, intellect and ego and the inner Self witnessing this whole thing; the subject matter spoken in the *Vedas* is vast and its meaning cannot be easily deciphered. This problem is exacerbated in the face of natural calamity, famine, floods, mass migration etc., due to which there will be breaks in the knowledge tradition. Notice that the experiences of the *Ṛṣis* listed above all are an integral part of nature, as how things ARE and not created by human beings. Therefore, as the subject matter of the *Vedas* deal with those which are not man-made, the *Vedas* are said to be *apauruṣeya*; or in other words, the *Vedas* are *vastu-niṣṭha* (in tune with reality/existence) and not *vyakti-niṣṭha* (one's emotions, likes and dislikes, orientations). Since the tradition holds the view that the *Vedas* are 'revelations' and for the reason that they have been transmitted orally, the *Vedas* came to be called '*śruti*' (literally, heard). The allied literature which does not form a part of the *śruti* came to be known as '*smṛti*' (literally, remembered). The *śruti* represents timeless and eternal values which hold good for all times, while the *smṛti* codifies these eternal values into codes or rules based on the needs of the time and place for the society at hand. For example, respecting the opposite gender as thinking and feeling beings, and not exploiting them is an eternal value; while the exact number of wives or husbands one can have can vary with time, place and one's standing in society. Thanks to this *śruti-smṛti* demarkation, Indian society has been able to preserve its core values, yet adapting to the ever-changing situations.

An indication of the breadth of topics covered in the *Vedas* can be obtained from the *Chāndogya Upaniṣad* of the *Sāmaveda*, where *Nārada-ṛṣi* approaches *Sanat-kumāra* says that he knows the four *Vedas*, *itihāsa*, *purāṇa*, *vyākaraṇa*, *kalpa*, *gaṇita*, *daiva*, *nidhi*, *tarka-sāstra*, *nīti-sāstra*, *nirukta*, *dhanuroveda*, *jyotiṣa*, *sarpa-vidyā*, *gandharva-vidyā*; but is still not free from sorrow. Hence, *Nārada* seeks *ātmaavidyā* from *Sanat-kumāra* so that he be free from sorrow. Since the *Vedas* are a repository of knowledge in such varied disciplines; one must take support of the six *Vedāṅgas*, namely *śikṣā* (phonetics), *vyākaraṇa* (grammar), *jyotiṣa* (astronomy), *kalpa*, *niruktam* (etymology) and *chhandas* (prosody) in order to make an attempt to decipher the meaning of the Vedic *mantras*. These branches of knowledge too grew over time thanks to contributions from various thinkers, and here we will briefly mention the big names in each field:

1. *Jyotiṣa*: Normally the name of *Lagadha* is associated with *Vedāṅga-jyotiṣa*; but there are numerous contributions to this field by *Parāśara*, *Vṛddha-garga*, *Āryabhaṭa* (*Āryabhaṭīyam*), *Varāhamihira* (*Bṛhajjātakam*, *Pañcasiddhāntikam*), *Brahmagupta* (*Brahmasphuṭa-siddhānta*), *Nīlakaṇṭha Somayājī* (*Tantra-saṅgraha*), *Sāmanta Candrasēkhara* to name a few along with their main contributions in brackets.
2. *Vyākaraṇa*: Thanks to his *Aṣṭādhyāyī*, *Pāṇini*'s name comes first when talking about *Vyākaraṇa* (grammar). From the *Aṣṭādhyāyī* itself, we come to know that there had been many grammarians before *Pāṇini*; but *Pāṇini* came up with a minimal set of rules that described the Sanskrit language in just about 4000 *sūtras* (aphorisms).

There are several original contributions of *Pāṇini*, foremost among them is the use of meta-language (or formal language in today's terminology) and the concept of *kāraka* (which has essentially opened up a new field of study called Computational Linguistics enabling machine translation). Further, one can see the seeds of algorithms in

Pāṇini's

sūtras.

Based on *Pāṇini*'s *sūtras*, *Kātyāyana/Vararuci* gave *vārtikas* (additional statements

to describe some cases which were not covered by the *sūtras*) and *Patañjali* gave detailed commentary based on critical analysis of language. Other notable contributions include *Kāśikā* (a brief commentary on *Pāṇini-sūtra*) and *Bhartṛhari's Vākyapadīyam*. About 300 years ago, *Bhaṭṭoji Dīkṣita* composed a work by rearranging *Pāṇini's sūtras* with a commentary to aid the teaching process. But scholars like *Smt. Puṣpā Dīkṣit* opine that *Pāṇini sūtras* must be learnt in the same order as composed by *Pāṇini* and she is striving hard to revive and revitalize the grammatical tradition.

3. *Nirukta*: The oldest surviving text of *Nirukta* is by *Yāska*. *Nirukta* covers etymology and is the systematic creation of a glossary, discussing how to understand uncommon words. Although not classified under *Nirukta*, notable later contributions in the general areas of glossary/dictionary/theusaurus are *Amarasimha's Amarakośa* (serving as dictionary-theusaurus, where synonyms are given in a verse constrained by prosody) and *Śabda-kalpa-druma*.
4. *Chandas*: The oldest extant work on *Chandas* is *Piṅgala's Chandas-sūtra*, while a much later work is *Kedāra Bhaṭṭa's Vṛtta-ratnākara*. The most exhaustive compilations of Sanskrit prosody describe over 600 metres, the highest for any language with a tradition of metrical compositions.
5. *Śikṣā*: *Śikṣā* deals with phonetics and since the *Vedas* were transmitted orally through a *guru-śiṣya-paramparā*, *śikṣā* becomes very important. There could slight differences in utterances of different syllables in the different *śākhās* (branches) of the *Vedas*; hence those are covered in what are known as *prātiśākhya*s. However, *Pāṇini's śikṣa* gives a succinct and brief knowledge for most practical purposes. At this juncture, one may note how even the native speakers of the Tamil are unable to correctly pronounce some of the letters unique to Tamil. This could be attributed to a neglect of this branch of knowledge.
6. *Kalpa*: *Kalpa-sūtras* includes *śrauta-sūtras* (which systematizes the Vedic rituals), *grhya-sūtras* (which describes the various rituals to be performed by a *grhastha* by himself along with his wife), *dharma-sūtras* (which include the various religious duties to be performed) and *śulva-sūtras* (which discuss the construction of various fire altars, literally *śulva* means a thread).

Itihāsa and Purāṇa:

A popular saying in the tradition is “*itihāsa-purāṇābhyām vedam samupabrymhayet*” (the Vedic virtues and values are to be communicated through *itihāsa* and *purāṇa*). Hence, although the literal meaning of *itihāsa* is ‘*iti ha āsa*’ (thus it happened), it is much more than a mere chronicle of dates and events. The foremost work of *itihāsa*, the *Mahābhārata*, with 1,00,000 verses is also regarded as the fifth *Veda* (*pañcama-veda*), and also as a *kāvya*m. Unlike the *Vedas*, there is a single story-line running through the (*itihāsas*) *Rāmāyaṇa* and the *Mahābhārata*, and is therefore much more popular than the *Vedas*. The *Rāmāyaṇa* and *Mahābhārata* have been served as inspiration for numerous *kāvyas* (poetic literature) and *nāṭakas* (dramas) in *Samskṛtam* and other Indian languages. Along with the *Bṛhat-kathā* (which is unavailable for us today), the *Rāmāyaṇa* and *Mahābhārata* serve as a great repository of communicating knowledge through the medium of story-telling. We see that over time, these inspired *Pañcatantra*, *Hitopadeśa*, Aesop’s fables, Arabian nights and so on.

The *Purāṇas* are numerous and the tradition identifies 18 main *Purāṇas* and 18 *upa-purāṇas*. The most prominent among the *Purāṇas* are the *Viṣṇupurāṇa*, *Bhāgavata-purāṇa*, with *Skanda-purāṇa* with 81,000 verses being the biggest among the *purāṇas*. The *Purāṇas* are not as well preserved as the *Vedas* and hence there is a possibility that some interpolations may have crept into the *Purāṇic* texts. The *Purāṇas* discuss *sarga* (creation of the universe or cosmology), *pratisarga* (dissolution/renovation of the universe), *vaṁśa* (lineage/geneology of *Devas*, *Ṛṣis* and kings), *Manvantara* (reigns of kings called *Manus*) and *vaṁśānucaritam* (legends during the times of various kings). In fact, the great Sanskrit poet *Kālidāsa* drew anecdotes of kings from the *Sūryavaṁśa* from various *Purāṇas* and composed his *mahākāvya*m called *Raghuvamśa*.

With an intention of popularizing their religions among the masses, in time Buddhists and Jains also composed works inspired by the *Purāṇas* such as *Harivamśa*, *Dīpavamśa*, *Jātakakathā* and *Mahāpurāṇa*. *Itihāsa* and *Purāṇa* have been told and retold many times and in all Indian languages like *Adhyātma-Rāmāyaṇa* in *Samskṛtam*, *Kamba Rāmāyaṇa* by *Kamban* in Tamil, *Āndhra-Mahābhāratam* by the trio of *Nannayya*, *Tikkana*, *Errāpragada* in Telugu, *Kumāravyāsa-bhārata* by *Nāraṇappa* in Kannada, Translation of *Bhāgavatam* by *Bammera Pōtana* into Telugu, *Rāmacaritamānas* by *Gosvāmī Tulasīdās* in *Avadhī* and so on. Even in the 20th century, retelling of the *Rāmāyaṇa* as *Śrī-Rāmāyaṇa-darśanam* by *Kuvempu* (*Kuppalli Veṅkaṭappa Puṭṭappa*) in Kannada and as *Rāmāyaṇa-kalpaṅkṣamu* by *Viśvanātha Satyanārāyaṇa* in Telugu bagged the first *Jñānapīṭha* awards in those languages.

Dharmaśāstra:

Dharmaśāstras deal with the following four main items:

1. *Ācāra* – *Ācāra* deals with those actions/practices that concern only the individual such as *sandhyā-vandana*, *japa*, *pūjā*, *yajña*, *dāna*, *tapas* etc., the benefits of which are not evident here nor can be demonstrated to others, but is very much evident to the practitioner himself and is based upon his convictions.
2. *Vyavahāra* – *Vyavahāra* deals with those actions which are to be done (or avoided) while dealing with others in society.
3. *Prāyaścitta* – *Prāyaścitta* are the remedial actions which are to be done if the *ācāra* actions are skipped.
4. *Danḍa* – *Danḍa* refers to punishment or fine levied for slippages in *vyavahāra*.

For example, *sandhyā-vandana* is to be performed twice a day at sunrise and sunset (*ācāra*). If there is a slippage and one does not perform on at a given time, the corresponding meal (breakfast/dinner) is to be skipped (*prāyaścitta*). Or if performance of *sandhyā-vandana* gets delayed, one may give an additional *arghya* as *prāyaścitta*. Similarly, payment of income-tax and rent are duties to be observed under *vyavahāra*. If not paid, then the state is bound to levy fine or punish the individual.

In today's constitution, we only see *vyavahāra* and *danḍa* but not *ācāra* and *prāyaścitta*. If a constitution does not talk about *ācāra* and *prāyaścitta*, personal purity will not remain in individuals, and people will have to be policed all the time to ensure that they are indeed doing their duties. That is a healthy society which has the highest number of *ācāras* practiced by its people. Responsible citizens who are sensitive to their duties and follow them even when unpoliced are a real asset to the nation, and not merely the number of people residing in a nation.

Darśanas:

Although many people translate *darśana* as 'philosophy', it is not really satisfying as philosophy is etymologically derived as *philos* (φίλος 'beloved/loving') *sophia* (σοφία 'wisdom'), essentially meaning 'love for wisdom'; whereas *darśana* is much more. Literally, *darśana* means 'vision' and may be called as a 'system of thought' which propounds a vision of the truth of existence. Those *darśanas* which accept the *Veda* as a valid source of knowledge are six in number and are called *āstika-darśanas* (orthodox). They are:

1. *Nyāya*
2. *Vaiśeṣika*
3. *Sāṅkhya*
4. *Yoga*
5. *Pūrva-mīmāṃsā*
6. *Uttara-mīmāṃsā*

There are other *darśanas* which do not accept the *Veda* as a valid means of knowledge. They are called *nāstika-darśanas* (heterodox), and six such canonical *darśanas* are identified thus:

1. *Sautrāntika*
2. *Vaibhāṣika*
3. *Yogācāra*
4. *Mādhyamika*
5. *Svetāmbara*
6. *Digambara*

The first four *nāstika-darśanas* are broadly classified under Buddhism and the last two under Jainism.

Nyāya:

Although there is a *darśana* by name *Nyāya*, the term used in isolation can also be taken to mean logic and epistemology. Epistemology is concerned with the study of how knowledge arises, and discusses which means of knowledge are valid and why. The most important means of knowledge, called *pramāṇa* (literally evidence, or *mā* = measure) are as follows:

1. *Pratyakṣa* (direct perception through the five sensory inputs: sound, touch, sight, taste and smell)
2. *Anumāna* (inference)
3. *Upamāna* (example)
4. *Arthāpatti* (2-stepped inference)
5. *Anupalabdhi* (non-perception)
6. *Śabda* (Verbal testimony)

Different *darśanas* accept various *pramāṇas* listed above to establish their point of view. There is a unique relationship of revealer-revealed between the *pramāṇa* and its object, called *prameya*. One *prameya* cannot have more than one *pramāṇa* revealing it. Even if it happens that two *pramāṇas* reveal the same *prameya*, then the knowledge arising due to one of the *pramāṇas* will be the intrinsically true, while the other one will only be incidentally or apparently true. For example, consider the case of a stick partially immersed in a water tank. The eye shows that the stick is bent, whereas the sense of touch reveals that the stick is not bent. We know that although the stick is not bent, it only appears to be bent due to the phenomenon of

refraction of light. So, in this example, the sense of touch is revealing intrinsic truth while the sense of vision reveals only apparent truth.