

Science in Hinduism

Hinduism has been a wellspring of scientific thought and contributed immensely to the global civilization spanning more than five millennia. As a religious practice aspiring to understand the eternal mysteries of existence, science and art take on a sacred dimension, and the six fields of study outlined in the *Vedangas* (limbs of the *Vedas*) - grammar, phonetics, meter, etymology, ritual, and astrology - are considered particularly sacred. The *Upa Vedas* are also considered sacred and include medicine, music and dance, the martial arts, and architecture.

The Vedangas

Language

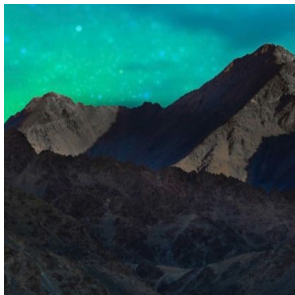
Four of the six Vedangas are devoted to the science of language. These Vedangas analyze language structures and how the human mind processes language in intricate detail.

Ritual

The fifth *Vedanga* is devoted to *kalpa*, or Vedic ritual science. It is believed that rituals are supposed to be performed precisely, with focused attention, and exact pronunciation of the correct *mantra* (chant) for the right waves of mental energy to be transmitted to subtly reshape reality to the desired effect. Hindus believe that the energy of focused, intense attention is extremely powerful in the Vedic tradition. Particular rituals are thought to have been performed by enlightened sages for millennia, and completing those rituals today is seen as a way of adding to the collective energy of everyone who completed the rituals in the past. The entire field of rituals is vast, and since each ritual is supposed to be completed precisely, priests often specialize in different components.



Astrology



Hindus believe that astrology is like a map that offers a glimpse of the future, highlighting times in which life will be rough, and when life might be smooth. According to lore, when Hindus stopped understanding the circumstances of their life due to the fact that they were forgetting their previous actions from lives past, and in turn, their karmic balance, astrology was created as a way to help them understand why good or bad things were happening to them, and how to better plan for the future. Historians believe Hindu astrology was influenced by the Greeks study of the same.

Upa Vedas

Ayurveda (Medicine)

Ayurveda translates to the science of longevity. Poor health is seen as an obstacle to spiritual practice, so this entire science is dedicated to preserving the human body. *Ayurveda* is a holistic form of

medicine that acknowledges the psychosomatic nature of disease, and emphasizes happiness as a cause of good health. A detailed text called the *Charaka Samhita* includes anatomy, physiology, and various treatments using plants, fruits, and herbs.

Martial Arts

Hindu martial arts training emphasized mastery of the breath as a mechanism of focus, as well as mastery of weapons (particularly the bow and arrow). Mastery of *mantras* that enabled warriors to empower their weapons is emphasized as well.

Architecture

Hindu architecture deals with aligning human constructions with the natural energies of the cosmos. There are five areas of expertise within this field: orientation, site planning, proportionate measurements, building components, and aesthetics.

Music

Many Hindus consider singing and dancing to be sacred arts. The epics and other Hindu stories are often depicted through music to help devotees understand the life lessons found in scripture and to enable a deconnection with the divine.



Hindu Contributions to the Sciences

Ancient Hindus made epochal strides in astronomy, chemistry, mathematics, metallurgy, medicine (*ayurveda*) and surgery, including many findings upon which modern science, medicine, and technology are based. The following are just a few examples:

Education

The first university opened in Takshashila in 700 B.C.E.

Mathematics

- The concept of zero (200 A.D.)
- The modern numerical and decimal system (300 B.C.E)
- The value of pi (497 A.D.)
- Area of a triangle (476 A.D.)
- Quadratic Equation (991 A.D.)
- Trigonometry

Astronomy

- The concept of planets in the solar system orbiting around the sun (500 A.D.)
- Earth as a spherical object, rotating on its axis (500 A.D.)
- Gravity as a force of attraction by the earth (500 A.D.)

- The concept of time as 365 days in a year

Metallurgy

Steel, iron, and gold have been discovered in archaeological excavations dating to 3000 B.C.E.

Surgery

The Sushruta Samhita (600 B.C.E.) is considered the first detailed text with seminal descriptions of surgical procedures and instruments that, with modifications, are conceptually still used today.

Key Takeaways

- Since Hinduism aims to observe the universe, science and scientific methodology is held in high regard in the religion.
- The Vedangas and the Upanishads cover some sacred sciences.
- Hindus have contributed a great deal to scientific thought since antiquity.