doi:10.20896/4w3ssk63

SPECIAL ARTICLE OPEN ACCESS

Ancient Indian Egalitarian System Creating a Super Knowledge Society: A Brief Overview

K.N.Prudhvi Raju[†]

Abstract

Bhārat occupies a prominent place in civilisational narratives as a society that historically prioritised knowledge, learning, and philosophical inquiry. Traditional Indian intellectual traditions encompass a wide range of scientific, metaphysical, cultural, and social ideas that have shaped the subcontinent's worldview for millennia. Ancient texts and scholarly traditions often present Bhārat as a centre of learning whose contributions influenced developments in philosophy, mathematics, astronomy, medicine, linguistics, and spirituality (Basham, 1954; Kak, 2000).

Indian philosophical thought engaged deeply with questions concerning consciousness, existence, and the nature of reality, concepts that continue to attract scholarly attention in contemporary discussions on consciousness studies (Hameroff & Penrose, 2014; Radhakrishnan, 1929). Social organisation in ancient India has likewise been interpreted through diverse frameworks. Some scholars argue that the concept of varna was originally associated with aptitude, disposition, and social responsibility rather than hereditary status, although historical interpretations remain contested (Ghurye, 1969; Prabhu, 1940).

The Indian Knowledge Systems (IKS) tradition integrates observational, experiential, and philosophical knowledge. Its conceptualisation of the natural world includes theories of cosmology, the *panchamahabhutas* (five fundamental elements), environmental stewardship, and interconnectedness between humans and nature. These traditions are frequently cited as evidence of a sophisticated intellectual heritage that preceded or paralleled developments in other parts of the world. Ancient literature also contains geographical, ecological, and cultural descriptions that contributed to collective understandings of space, place, and society.

Historical disruptions, including invasions, political upheavals, and colonial interventions, significantly affected the continuity and transmission of indigenous knowledge traditions. Many scholars contend that these processes contributed to the marginalisation of Sanskrit and other repositories of traditional knowledge. Consequently, renewed interest in Indian Knowledge Systems seeks to recover, reassess, and critically examine these intellectual traditions within contemporary academic discourse. This commentary explores these themes by examining key ideas, historical developments, and enduring contributions associated with India's knowledge heritage and civilisational legacy.

Keywords: Indian Society; Super Knowledge Society; Egalitarian Society; *Varnam* of Humans

[†] Professor (Retired), Department of Geography, Institute of Science, Banaras Hindu University, Varanasi, India
Email: knpraju1954@gmail.com
©2026 by Raju is licensed under CC BY 4.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/.

Introduction

Bhārat, that is India, was once a superpower. It was a superpower not because of its might, but only because it was a super-knowledge society. There is no gainsaying the fact that it was and is a materially rich, culturally superior and philosophically perfect country. This was the reason why many marauding invaders invaded India, and many seekers of knowledge and philosophers visited India. Bhārat has been and remains a cynosure of all eyes in the world. Bhārat was the singular reason behind the discovery of the unknown world. In order to find an easier, shorter, safer and faster sea route to reach India, obviously to have access to its riches and treasures, people ventured out into the seas and found many unknown lands/continents (Prudhvi Raju, 2010). So, that singular obsession of the rest of the world to reach India easily and safely helped people mainly from the far west discover the whole world. That was the greatness and status of Bhārat once in the beginning of modern times (Keay, 2000; Prudhvi Raju, 2010). [1]

Let us go back deep into ancient times. Hominid activity[2] in the Indian sub-continent stretches back over 250,000 years, and it is, therefore, one of the oldest inhabited regions on the planet. The species *Homo heidelbergensis*, a proto-human regarded as an ancestor of modern *Homo sapiens,* occupied the Indian subcontinent long before human populations migrated into the regions later known as Europe. By the Holocene epoch, approximately 10,000 years ago, significant human activity was already underway across India (Mark, 2012; Petraglia & Allchin, 2007).

Indus Valley civilisation dates to around 5000 BCE. The beginnings of the Vedic tradition in Bhārat can be dated to the Indigenous people of ancient sites such as Balathal-near Udaipur, 4000 BCE. When the Indus Valley had Harappa (3000 BCE) and Mohenjo-Daro (2600 BCE) urban centres, the countryside along the banks and plains of the Saraswati River was reverberating with Vedic chants and mantras from times earlier than 5000BCE (Danino, 2010; Possehl, 2002; Wright, 2010).

India has often been overlooked, especially in the West, though its history and culture are richer and older than Mesopotamian (3200 BC) and Egyptian (3000 BC) civilisations. The Aryan invasion (approximately 1500 BCE) theory is presented as proof of the supremacy of Western civilisations. Muslim invasions into India started sometime around 712 CE. So, when we are talking about the ancient Indian Knowledge systems/Pracheen Bhārateeya Jnana Parampara, the period from 5000 BCE to 712 CE is important and significant (Bryant, 2001; Thapar, 2002; Trautmann, 1997; Wink, 1991).

Ours is the only society in the whole world which declares *vasudaiva kutumbakam*: the whole world as one family and prays for the welfare of all people—*sarve janah sukhino bhavantu*–let all people be happy, *sarvam shantih—let* everything be with peace. It is pertinent here to quote one of the many of our universal prayers expressing compassion, wishing well-being, health and joy for everyone—*sarvebhavantu*

[1]Modernisation is the multidimensional process through which societies and institutions transition from traditional structures toward industrial, technological, and globally interconnected forms, encompassing economic, social, cultural, and epistemic transformation. Scholarly consensus holds that the epoch of modernisation, often designated as the "modern era", emerged in the twilight of the fifteenth and dawn of the sixteenth century (c. 1500). It was heralded by the Renaissance, the great maritime explorations, and the gradual dissolution of medieval structures. This pivotal transition marked the passage from the Middle Ages into the Early Modern Period, laying the intellectual and institutional foundations for industrialisation, the rise of nation-states, and the unfolding of global interconnectedness (Appadurai, 1981; 1986; Appadurai, 1981; 1996; Appadurai & Breckenridge, 1985; Gaonkar, 1991; see also Bhattacharyya, 2009; 2013).

[2] Hominid activity refers to the behaviours, adaptations, and survival strategies of members of the biological family Hominidae, which includes humans, chimpanzees, gorillas, and orangutans, both living and extinct. In anthropology, it often highlights tool use, upright walking (bipedalism), social organisation, and cultural practices that distinguish early human ancestors from other primates.

sukhinah, sarve santu niramayah, sarve bhadrani pashyantu, maa kashchit dukh bhaagbhavet, ome shantih, ome shantih, ome shantih (Ancient Shanti Path, Anonymous)—"May all beings be happy, may all be free from illness, may all see what is auspicious and may no one suffer." We curse coerce none, and we welcome all *atithi devo bhava*—the guest is God. No other society in the world is as altruistic and as egalitarian as we were and are (Radhakrishnan, 1953; Sen, 2005).

The ancient past of Bhārat had given to the world fundamentals and basics of science which were later, in modern times, turned into major scientific laws and principles. The Bhārateeya/Indian knowledge laid the foundation for modern science and technology. There are examples galore in *Bhārateeya* texts of knowledge/science and philosophy. Vedas, containing the fundamental contributions of many saints, sages and seers, and many references on matter, the universe, stars and planets, are not religious books but are books of knowledge and science. Similarly, the Upanishads[3] too are not religious books but are texts of philosophy exploring 'the consciousness and superconsciousness/*aatma* and *paramatma ',* giving excellent exposition on the real and unreal. Our philosophy is such that an honest and frank English poet T.S.Elliot expressed thus -- 'Indian philosophers and their subtleties make most of the European philosophers look like school boys' (Bose et al., 1971; Seal, 1915/1958).

The language of our knowledge and science is Sanskrit, and our knowledge suffered a big jolt when the fanatic invaders killed the great masters, razed the universities and burned away the texts of knowledge; hence, Indian knowledge could not spread as much as modern science could spread throughout the world. Moreover, the Indian rulers and people never ventured into others' lands to vanquish anybody and to impose our hegemony (Eliot, 1934; Pollock, 2006).

On Society, Inclusiveness and Well-Being

When we organised ourselves as a 'civil' society, we had one clear objective: systematic and organised functioning for the welfare and well-being of not only the society but humanity as well. Very early on, we could clearly recognise the fact that humans have differing physical powers and mental prowess. Then, a question arose about the influencing factors of such differences. We probed very deeply into the cosmic world and found out a lot about cosmic objects, their movements and their energies. They came up with a great breakthrough that different cosmic energies, depending upon different conjunctions and alignments of cosmic bodies, coming down to converge and impinge at particular places and times, are infusing especially different mental potentials into the babies born at respective times and places. Understanding well the cosmic world and the energies, we placed the symbol of human body as a 'cosmic *purush*' in the cosmos and came up with this great law and rule on differences in humans: *Brahmanah asya mukham aseet baahu rajanyah kritah; Uru tat asya yatVaiśyah padbhyam Śūdrash ajayatah* (Rigved, Mandala 10; Sookta (hymn) 90, Verse 12 / part of Purusha Sookta) — "The Brāhmaṇa was his mouth, of both arms was the Rājanya (Kshatriya) made. His thighs became the Vaiśya, and from his feet the Śūdra was produced" -- Brahmins (priests, scholars and intellectuals) from the mouth/head, Kshatriyas (warriors and rulers) from the arms, Vaishyas (merchants) from the thighs and Śūdras (farmers, labourers and

[3] The word Upaniṣad comes from Sanskrit roots *upa* (near), ni (down), and *ṣad* (to sit), meaning "sitting down near" a teacher to receive wisdom. Composed roughly between 800–200 BCE, during a time of intellectual ferment in India, they are the final sections of the Vedas (Rigveda, Yajurveda, Samaveda, Atharvaveda), hence also called Vedānta ("end of the Vedas"). Unlike ritualistic portions of the Vedas, the Upanishads focus on philosophical inquiry and spiritual knowledge (*jnāna-kāṇḍa*). Traditionally 108 Upanishads are recognised, though over 200 exist. Of these, 10–13 are considered principal (e.g., *Bṛhadāraṇyaka, Chāndogya, Īśa, Kaṭha, Muṇḍaka*).Passed orally in the *guru–śiṣya paramparā* (teacher–disciple lineage). In sum, the Upanishads are ancient Indian philosophical texts that form the concluding portions of the Vedas, exploring profound questions about the self (ātman), ultimate reality (brahman), and the path to liberation (mokṣa). They are considered the foundation of Hindu philosophy and Vedānta.

service providers) from the feet. This verse describes the origin of the *Varna* system with cosmic connections with each *Varna* playing a vital and independent role for the well-being of the whole society, much like parts of a body. Here it is pertinent to quote a couplet from Tulasidas' Ramayan—"*Mukhiya mukh so chahiye, khaan paan ko ek; Palai posai sakal ang Tulasi sahit vivek*" (just as the mouth eats to take care of the whole body, the Brahman must have foresight and should feel responsible towards the welfare and well-being of the society and must serve it with all the resources at the command and even facing personal difficulties). Bhagavadgita (Verse 13 in Chapter 4 and Verse 41 in Chapter 18) interpreted these *varnas* not by cosmic connection but by innate qualities (*gunas*) and actions (*karma*), defining Brahmins by *sattva* (purity), Kshatriyas by *rajas* (action/passion), Vaishyas by rajas/*tamas* and Śūdrass by *tamas* (inertia). Manusmriti speaks thus on this *Varna* system—"*Janmana jayate Śūdrash sanskaaraat dwij uchchyate; Vedapatadbhaved viparh Brahma janaati brahmanah*"(by birth everyone is a *Śūdra*, but with sanskaar (upbringing, moral values, culture, rituals and refinement) one becomes twice born (*dwij*); by studying the Vedas one becomes *Vipra*, and when one knows *Brahman* (God) he becomes *Brahmana*. Failing to understand these universal laws of human classification, the pseudo-intellectuals deride the *Varna* system, especially because the *Śūdra* varna is relegated to the feet of 'cosmic *purush*' and is ordained to serve the rest of the three *varnas* of people. If legs (*Śūdras*) are weakened, the other three Varnas have an onus on them to take care of 'legs'. Mind you all, in any society, intellectuals/scientists/engineers/technologists (the *brahmins*), hold the highest honour and are the most crucial contributors to the well-being of the society; and, without the rulers, the governors, the military (the *kshatriyas*), there cannot be order in the society; without the industrialists/businessmen/commerce (the *vaishyas*) there cannot be economy; and without the labour and services (the *Śūdras*), I mean, without the legs, the other three cannot just stand (Griffith, 1896/1973; Kane, 1941).

'Varnam' means nature*/pravritti*/*prakruti*/*gunam*/quality; simply, it is 'tendency/propensity/inclination' of a person. I reiterate, this purely depends on time and place of birth vis-à-vis the positions of stars and planets around the Sun and their power (energy waves/vibrations) that is infused into the brains of the babies at the time of their birth, but not based on parentage/lineage. That means, whatever the *varnams* of parents are, their children can be a Brahmin or a Kshatriya or a Vaiśya or a Śūdra depending upon their respective places and times of birth vis-à-vis the star and planet positions. It is so rational and scientific. Yet, regrettably, the self-styled secularists and so-called liberals dismiss this profoundly scientific system of human classification with derision. Can one point to any other society in the world that sought to classify human beings on the basis of the innate qualities discernible in newborns? The answer is no—for elsewhere such attempts faltered in the absence of a decisive internal parameter for classification (Dumont, 1980; Klostermaier, 2007; Prudhvi Raju, 2024). Development depends upon knowledge. The instrument of knowledge is the mind/brain. No two brains are alike. What is that fundamental force that infuses potential into the minds of humans in pursuit of knowledge? This was the question that grappled the ancient Indian Masters! A clear answer dawned on them, and that became a basis for the classification of humans. Classification is a scientific activity. Western science classified plants, animals and humans. The ancient Indian science predates Western science. Western science classified humans based on external physical features and colour of the skin. Not bad, good enough. We too classified humans not based on external features and colour. Our classification is based on an internal factor. We were as scientific as the present-day scientists, and you must know a fact or two about our unique contributions. Our culture demands that one should know oneself first before one tries to know the rest of the world around. So, in our society and culture, the primary scientific question has been and is "Who am I?" Only after one finds an answer to this simple but significant

question does one get a qualification to know the rest. This question, 'Who am I', doesn't arise in everyone's mind. It comes up in the mind of one who has an inclination to be inquisitive. Two, everyone cannot find an answer to this question, as the path to travel to find the answer is beset with many difficult barriers to cross. Our Upanishads explore this question and explain "who you are". Ours is the only culture which has given a scientific classification of humans depending upon the directed energy levels based on the position of constellations of stars and the planets around the Sun vis-a-vis the place and time of birth of a child. There is no gainsaying the fact that the energies and forces from close and far influence the mind of a growing baby in the womb of a mother; and this influence is the greatest at the time of birth on the brain, the most delicate and powerful part of the human body. The die is cast at the time of birth in the brain of a baby, determining the 'dominant nature and behaviour'/*pravritti* of an individual (Olivelle, 1998; Radhakrishnan, 1948).

Now let us look at the dominant qualities/capabilities/characteristics of these four categories of humans. Measured on a scale of 4, a Brahmin has an IQ (Intelligence Quotient) of 4, a Kshatriya has an IQ of 3, a Vaiśya has an IQ of 2, and a Śūdra has an IQ of 1. These are the learning capabilities of four classes of humans. Using this as a factor of learning potential, our education system used to operate and used to function. A Brahmin is strong in his/her mind. A Brahmin thinks and reflects. A Brahmin yearns for knowledge. A Brahmin is one who cares for the well-being of society and will have a dominant tendency to part with what he/she has for the sake of the welfare of society. *Sarve janah sukhinobhavantu* is the motto of a Brahmin.

The Brahmin is traditionally conceived as one who relinquishes whatever lies within his or her begging bowl to satiate the hunger of the needy. Selflessness defines the Brahminic disposition detached from possessiveness, the Brahmin gives without consideration for kinship ties, embodying renunciation as a mode of ethical being. The Kshatriya, by contrast, is marked by strength of shoulder and a pursuit of glory. Valour and chivalry are the hallmarks of this order, expressed in the instinctive protection of the weak and the willingness to shed blood for the defence of country and dharma. While selfless in personal conduct, the Kshatriya remains invested in lineage, desiring that his or her children inherit the fruits of earned honour. Pride and dignity are worn as ornaments of this vocation.

The Vaiśya, associated with the strength of thighs, is oriented toward trade and the generation of wealth. Motivated by profit, the Vaiśya's concern extends not only to personal gain but also to the prosperity of descendants across generations, envisioning even great-grandchildren thriving amidst abundance. Though primarily self-interested, the Vaiśya contributes a portion of profit toward society, the nation, and dharma, thereby sustaining collective welfare. The Śūdra, endowed with strong legs, embodies labour and service. Through hard work, the Śūdra secures sustenance, prioritising personal survival before extending care to family. As the indispensable service providers, Śūdras form the foundation of social functioning; without them, society risks paralysis and famine. Indeed, while a community may subsist with a handful of Brahmins, Kshatriyas, and Vaiśyas, it cannot flourish without the multitude of Śūdras whose labour sustains the whole.

Although individuals may embody qualities across varṇas, one attribute typically predominates. Together, the four varṇas constitute a complementary system: the Brahmin generates knowledge, the Kshatriya safeguards polity, the Vaiśya sustains economy, and the Śūdra provides essential service. Each, in fulfilling their dharmic role, contributes to the preservation of social order. The metaphor of the Śūdra's legs underscores this interdependence: without their strength, the body politic cannot stand. Thus, the Śūdra varṇa is neither inferior nor superior, but equal in dignity to the others. Historically, society prospered when individuals assumed roles

aligned with their capacities and qualifications (Sargeant, 2009; Zaehner, 1969).

Human beings become resources only when their abilities, interests, inclinations, and propensities are effectively harnessed. The traditional *varṇa* system was conceived as a rational framework to ensure that individuals were trained and employed in accordance with their inherent physical and mental capacities, thereby minimising waste of time, energy, and talent. Education was not indiscriminately extended to all, but rather tailored to aptitude, resulting in the emergence of India as a "super-knowledge society" and, consequently, a civilisational superpower. India attained the status of *Viśva Guru* (World Teacher), commanding respect through its intellectual achievements. This system, grounded in scientific principles, enabled society to function harmoniously, with each person fulfilling a role aligned to the cosmic order. Over time, however, external invasions and cultural disruptions distorted this rational design into a rigid, hereditary hierarchy, misrepresenting texts such as the *Manusmṛti* and fostering division under conditions of coercion and brutality (Ambedkar, 1936/2014; Sharma, 1958).

It is important to recognise that intellectual capacity is not confined to any single *varṇa*. With diligence and discipline, even those born into Śūdra families could attain mastery of the Vedas and rise to the status of *vipra* or Brahmin; as the aphorism reminds us: "hard work beats talent if talent does not work hard."

Numerous sages exemplify the fluidity and scientific rationality of the *varṇa* system: Ṛśyaśṛṅga hailed from a family of deer-rearers, Kauśika from grass-cutters, Jāmbūka from fox-catchers, Vālmīki from tribal hunters, Vyāsa from fishermen, Gautama from rabbit-catchers, and Vasiṣṭha's wife Arundhatī from a Śūdra lineage. Similarly, Agastya was born into a potter's family, while Mataṅga, the son of Śūdra parents, became revered, with his daughter worshipped as a goddess of *Śakti*. Other figures such as Aitreya, Ilusha, and Satyakāma Jābāla further illustrate this diversity of origins.

Conversely, there are examples of degeneration or transformation across *varṇas*: Naraka, born a Kṣatriya, became an *asura*; Hiranyakṣa, Hiraṇyakaśipu, and Rāvaṇa, though Brahmins, turned tyrannical; Trisanku, a Kṣatriya, descended into Śūdra status; while Viśvāmitra, a Kṣatriya, attained Brahminhood. Such fluidity underscores the principle that *varṇa* was originally conceived as functional and merit-based rather than hereditary.

The four *varṇas* thus represent the four pillars of society: Brahmins as intellectuals and knowledge-bearers, Kṣatriyas as rulers and protectors, Vaiśyas as generators of economic wealth, and Śūdras as providers of essential labour and services. A flourishing society requires the balanced contribution of all four; none can thrive in isolation. Even in modern contexts, this division of labour persists: scientists and intellectuals (Brahmins), rulers and military (Kṣatriyas), industrialists and entrepreneurs (Vaiśyas), and workers or service providers (Śūdras). The interdependence of these groups remains fundamental to the functioning of any organised society (Doniger & Smith, 1991; Sharma, 1999).

Our Ancient Method of Mind Science

Our ancient masters employed a distinct and systematic method of inquiry: the object was comprehended first, with its finer details examined subsequently. By contrast, modern Western science tends to prioritise the minutiae before attaining a comprehensive understanding of the object itself. From an early stage, we recognised that the force animating the universe—the supreme consciousness, or *paramātma*—is a divine principle without form or attributes. Accordingly, rather than attempting to comprehend it empirically, we accept its transcendence and offer reverence in acknowledgement. There is some exposition on this a little later in this commentary.

The ancient scientists of *Bhārat*—saints, sages, and seers (*ṛṣis* and *munis*)—adopted a holistic approach, directing their attention to the larger cosmic order of which they themselves were but a small, though significant, part. It is for this reason that a vast corpus of knowledge

concerning the universe was preserved within the Vedic texts. The foundations of Indian astronomy in the early medieval period (c. 500 CE) can be traced back to the intellectual traditions of the Vedic age (c. 5000–500 BCE). Celestial motions were observed, systems of time-reckoning devised, and astronomical phenomena predicted with remarkable precision. Aryabhata, in the fifth century CE, advanced a heliocentric model of the solar system long before Copernicus articulated his theory in the early sixteenth century. A question that naturally arises is how, some fifteen centuries prior to the invention of the telescope, Aryabhata was able to formulate his *Siddhāntas*—astronomical treatises replete with complex computations. The answer lies in the continuity of knowledge: Aryabhata did not begin from first principles alone, but rather drew upon a long intellectual inheritance transmitted across generations from the Vedic period, which enabled great masters such as himself to elaborate their theories with authority.

The example of the distance between the Sun and the Earth as mentioned in *Hanuman Chalisa* composed by the great poet-saint Tulsidas (16th century CE) is a classic example —'*Jug (1200) Sahastra (1000) Yojan (8 miles) par Bhanu (Sun)'* — this works out to be 153,600,000 km, which is very close to 152.1 million kms measured in the 20th Century CE by modern Western scientists. Tulsidas drew inspiration from Valmiki, who is either a near-contemporary of Lord Rama or a later figure of the post-Ramayana period, and he is supposed to have drawn from Vedic knowledge. The intellectual inheritance of the ancient masters enabled the computation of celestial phenomena, the preparation of precise almanacs, and the accurate prediction of astronomical events such as solar and lunar eclipses, with claims of such achievements extending as far back as 3200 BCE. Much before Aryabhata came onto the scene, intricate Vedic mathematics had been in use. Quite often we come across a mocking question from the world as to how ancient Bhārateeya scientists could make precise measurements and estimations of celestial bodies to come up with aphorisms expanding into perfect science and profound philosophy without supporting implements and instruments?! The answer to this question is simply 'mind power'. The ancient scientists of Bhārat have realised the potential of the mind, trained their minds, transcended the limits and boundaries, viewed the cosmos/the world, and measured it (Datta & Singh, 1935; Joseph, 2011; Pingree, 1981; Sarma, 2008; Subbarayappa, 2008).

The ancient masters were the first to recognise the power of the mind and to address the profound question posed by Nachiketa to Yama, the God of Death, in the *Kathopanishad*: "Who am I?" They understood that self-knowledge was a prerequisite for enquiring into the wider world. Having realised the potential of the mind, the seers perfected the art and science of employing it as an instrument to observe, measure, think, question, and reason. The training of the body through rigorous postures (*āsanas*) was considered essential for attaining mastery over the mind. Control of the mind involved first achieving a state of thoughtlessness or equilibrium, followed by the generation of an intensely concentrated wave of thought directed towards a chosen object and objective. From this discipline emerged the great science of yoga and meditation. Rather than dismissing these practices as myth, one must engage with them experientially in order to comprehend and appreciate their reality (Eliade, 1969; Feuerstein, 2008; White, 2014).

Sacred Narratives and Scientific Truths

Indian Knowledge Systems represent a synthesis of traditional, cultural, and investigative outcomes. In times when fields and forests yielded abundant sustenance without great struggle, the intellectually gifted minds turned to reflection. In an atmosphere of freedom, they first recognised the significance of the primordial elements, which were subsequently integrated into the concept of the *pañca mahābhūta* described in the *Upanishads*, forming the basis of the earth, its constituents, and the wider universe. The land (*bhūmi*) was understood as the mother, generating and sustaining the biosphere of forests, plants, animals, and humans, as articulated in the *Pṛthvī Sūktam* of

the *Atharva Veda*. These five primordial elements were personified and venerated as deities; their powers were perceived as far surpassing those of humankind. Observing the environment, the ancients discerned that heat and fire from the Sun, together with water and air, sustained the biosphere, and thus they worshipped the sun, water, and air as divine forces.

The practice of *yajña* was undertaken to preserve the purity of the *pañca mahābhūta*. Such rituals often involved offerings intended to influence rainfall, and precious produce such as grains, milk, and clarified butter were dedicated from household stores. *Yajña* was conceived as an act of giving, a sacrificial offering of pure and valuable materials. The inclusion of animal sacrifice at the conclusion of certain rituals carried a practical dimension. Priests, having fasted during the ritual, partook of the sacrificial animal. After several days of fasting, vegetarian food containing cellulose was considered less compatible with the human digestive system, whereas animal fat was more readily assimilated. This practice became embedded in aspects of Indian cultural tradition, and even today certain communities, after observing partial or complete fasting for ritual purposes, break their fast with food containing animal fat (Bloomfield, 1897/1964; Flood, 1996; Larson, 1998).

Ultimately, Indian thinkers recognised that the Earth, the Sun, and the other planets form part of a larger entity, the universe (*viśvam*). They conceived of the *viśvam* as extending infinitely and envisaged it in the form of a cylindrical pillar, the *viśva sthambha* or *liṅga*, which was venerated as a supreme deity since all existence was understood to be contained within it. By contrast, Western scientists later proposed that the universe might be in the form of a disc with a central bulge, though without substantial proof. Indian traditions also acknowledged the existence of space (*Brahma*, *Brahmāṇḍa*, *Hiraṇyagarbha*, the celestial womb described in the *Ṛigveda*) within which the universe or multiple universes are situated, as affirmed in the *Upanishads*. This is why Brahma is invoked first in the triad of Brahma, Viṣṇu, and Maheśvara, representing the most fundamental principle of *sṛṣṭi* (creation), *stithi* (existence) and *laya* (dissolution).

The universe is manifest and visible, whereas the surrounding space is unmanifest and unseen. Hence the term *Brahman*, formless and without attributes (*nirākāra* and *nirguṇa*) signifies the transcendent Godhead. The *viśva liṅga* or *sthambha* was personified and worshipped as *Śivam*. Western science has often overlooked the concept of space as the container of universes, yet Indian seers observed the cyclical processes of creation (*sṛṣṭi*), sustenance (*sthiti*), and dissolution (*laya*) in nature closely. Each of these processes was assigned to a deity: Brahma as creator, Viṣṇu as sustainer, and Maheśvara as dissolver. This framework represents the Indian science of conceptualising divinity, arising from the unfettered creative freedom of the *Sanātana* tradition.

The sages themselves declared that Brahman, *Paramātma*, or the Super-Consciousness is the ultimate force driving the universe. This undefined, formless, and attributeless Brahman stands above the self-created deities, as articulated in the *Nāṣadīya Sūkta* of the *Ṛgveda*. Thus, the five primordial elements (*pañca mahābhūta*) were revered as gods, the *viśva sthambha* was elevated as a supreme deity, and ultimately the focus converged upon the *Paramātma*, the Brahman, the unmanifest *Hiraṇyagarbha*, the space within which the universe is propelled by a transcendent force. The cycles of creation, sustenance, and dissolution observed in nature are entrusted to Brahma, Viṣṇu, and Maheśvara. This is not mere imagination but a reflection of experiential reality, for these three phenomena are observable facts (Deussen, 1906/1966; Klostermaier, 2007).

On the Origin of the Universe

Modern science explains the Origin of the universe through its Big Bang Hypothesis. The Ancient texts of Bhārat on the origin and state of the universe (Weinberg, 1993) said this:

ॐ पूर्णमदः पूर्णमिदं पूर्णात्पूर्णमुदच्यते

पूर्णस्य पूर्णमादाय पूर्णमेवावशिष्यते ॥ Brihadaranyaka Upanishad, V 1.1

Ome poornamadh poornamidam poornaatpoorna mudachyate

Poornasya poornamadaya poornamevavashishyate

That is Fullness, This is Fullness, Fullness comes from Fullness

When Fullness is taken from Fullness, Fullness remains

पूर्णत्पूर्णमुदचति पूर्णं पूर्णेन सिच्यते
उतो तदध्य विध्याम यतस्त्तत्परिषिच्यते ॥ Atharva Veda, X 8.29

Poornaatpoorna mudachati poornam poornena sichyate

Uto tadadhya vidhyama yatasthatparishichyate

From Fullness, He pours forth the Full, the Full spreads merging with the Full

We'd know, from whence He thus replenishes Himself

The essence of these two similar principles (*Brahmasutras*) is that the universe, with all its full contents (matter) existing today, exists forever, either in an expanded (present) state or in a condensed state. The Big Bang theory postulates that the universe started expanding due to an explosion (what triggered the explosion is not known till today to the modern scientists) in a microscopic size of a condensed universe. What triggered the big bang/explosion is still a question unanswered by modern science. The Rishis and Munis of Bharat talked about what triggered the explosion: "Frequency, however fine it may be, is pollution". It is like a thoughtless condition in 'absolute equilibrium' (super-consciousness/*paramatma*) developed a thought to allow 'the seed/*beejam* to germinate'. Modern science says that there is a theoretical possibility of our expanding universe collapsing again back to condense into a small microscopic size of a body, the original state before the Big Bang. The quoted couplets above connote the same — nothing goes anywhere, everything remains—"that is fullness, this is fullness" either in a condensed state or in an expanded state; there is only a change in 'form'. It all goes on and on in a cyclic way from a condensed state (*beejam*/seed) to an expanded state and vice versa. The seed/*beejam* is the beginning and the end. Ours is not a mere speculation; our science is clear about both the beginning and the end (Kapoor, 2005; Radhakrishnan, 1953).

Cosmic Background Radiation

In the 1950s and 1960s, modern science came up with Cosmic Background Radiation (CBR), the all-pervading microwave drone in the universe which emanated from the Big Bang. The concept of CBR may be understood as the all-pervading *pranava nāda*—the primordial resonance of creation—symbolised by *Oṃe* (ॐ). This sound, often described as the genesis of silence from which all other vibrations emanate, is regarded as the generative principle underlying *śṛṣṭi* (the manifestation of existence). Its recognition and transmission by the great Indian sages, at an indeterminate point in antiquity, underscores its enduring significance within Indic philosophical and spiritual traditions. The recognition of CBR as the all-pervading *pranava nāda* finds resonance in Indic traditions, where the primordial sound *Oṃkāra* (ॐ) has been venerated for millennia. Long before modern Western science identified and recorded Cosmic Background Radiation, Indian sages had articulated the principle of *Oṃe* as the most potent monosyllabic *mantra*, regarded as auspicious and generative, for it symbolises *śṛṣṭi*, the genesis of all existence. The daily repetition of *Oṃkāra nāda* within Hindu practice underscores its enduring spiritual and cosmological significance. Strikingly, the recorded resonance of CBR is said to resemble the vibrational quality of *Oṃe*, itself a composite sound formed from *a*, *u*, and *m* (अ, उ, म). Taken together, these two strands of evidence, that is, the metaphor of the seed expanding into the vast tree of the universe, and the pervasive *pranava nāda* attest to the intellectual and scientific capacities of the ancient scholars of Bhārat, whose insights anticipated later

cosmological discoveries (Beck, 1993; Penzias & Wilson, 1965).

On Matter, Space and Universe

Much before modern science (Greek Philosopher Democritus in the 4th Century BCE and Dalton in the 20th Century CE) said that the universe is made up of matter, the ancient Masters of Bhārat have recognised matter and have declared that the universe and everything in the universe is made of five primary primordial elements. These five elemental substances: earth, fire, ether, air, and water are collectively designated in Indic thought as the *pañca mahābhūta*. Within the Indian tradition, each of these elements was personified as a deity and ritually venerated. Space (*brahmāṇḍa*), conceived as the vast expanse within which the universe subsists, was identified with *Brahmā*. The universe itself was envisaged in the form of a cylinder (*sthambha* or *liṅga*), a symbolic axis mundi, which came to be personified and worshipped as *Śiva*. Such worship, however, is not merely directed toward a deity in abstraction, but represents a profound reverence for the universe itself, an expression of gratitude towards the cosmic totality that sustains existence (Chattopadhyaya, 1986; Matilal, 1977).

Rishi Kanada in his Vaisesika Sutras (approximately 200 BCE) had given an elaborate exposition on Anu/atom and Paramanu/the god particle much before Dalton (19th Century CE) came up with his 'matter is made up of atoms'. It is not too far-fetched to say that gravity, as a force of attraction thought of by Rishi Kanada and expounded by Brahmagupta (7th Century CE) and Bhaskaracharya (12th Century CE), laid the foundation for Newton's universal law of gravitation in the 18th Century CE (Plofker, 2009; Seal, 1915/1958).

On Nature, Life and Environment

The ancient Indian thought considered Nature (**Prakriti/प्रकृति)** as of paramount importance, in which human **'पुरुष'/Purush** is considered as a significant element with an onus to protect, promote and preserve it because all the elements of Nature: plants, animals, air, water, soil, fire are contributing positively to preserve, promote and to sustain Nature and hence naturally humans who are superior to other creatures should have a greater sense of responsibility and are supposed to put in conscious and concerted efforts to sustain Nature for if Nature is disturbed, life on earth and human existence too will be disturbed. That is why, for humans, the ancient Masters (Sages) of Bhārat have ordained "to sustain life" as the prime duty*/Param Dharmam*. This is the core of *Sanaatana Dharma*/Hinduism. Hence, the great Masters of Bhārat have pushed environmental consciousness into the life and psyche of humans in various ways. These invocations are not just wishful thoughts and prayers; the Masters prescribed various practical rituals to sustain environmental consciousness. The sages prescribed a range of practical rituals intended to preserve the purity and integrity of nature and its elemental constituents. Central to this vision was the principle of *śānti/***शान्ति** (peace), regarded as a prerequisite for the sustenance of both nature and life. The invocation of peace remains integral to Hindu ritual practice, wherein prayers are offered for harmony in all aspects of existence. Even today, during auspicious occasions, the repeated supplication for peace in the environment and in all that surrounds us reflects this enduring cosmological and ethical commitment (Chapple, 2000; Dwivedi, 1990; Nelson, 1998).

ॐ द्यौः शन्तिरन्तरिक्षं शन्तिः
पृथ्वी शान्तिर आपः शन्तिरौषधः शन्तिः
वनस्पतयः शन्तिर्विश्वेदेवाः शन्तिर्भ्रह्म शान्तिः
सर्वे शान्तिः शान्तिरेव शान्तिः स म शान्तिरेधिः
ॐ शान्तिः शान्तिः शान्तिः

Ome dhyauh shantirantriksham shantih

Prithvee shantiraapah shantiroshadhayah shantih

Vanaspatayah shantirvishve devahshantirbrahma shantih

Sarve shantih shantireva shantih sa ma shantiredhi

Ome shantih shantih shantih

Peace is in space and the universe. May there be peace on earth, in the sky, and for all life everywhere. May the waters, the herbs and the trees shower peace on us. May all dwellers in all worlds be filled with peace. In the supreme reality there is only peace. Everything everywhere is filled with peace. May we also experience that infinite, universal peace.

So, that is it, the great Masters of Bhārat were and are egalitarian and prayed for peace in everything, everyone and everywhere. Here is another invocation that emphasises the importance of nature (Prime, 1992; Radhakrishnan, 1953).

मधुवाता ऋतायते मधुक्षरन्ति सिन्धवः माध्वीर्णः संत्वौषधीः ॥

मधु नक्तमुतोशसि मधुमत्पर्थीवं रजः मधुध्यौरस्तु न पिता ॥

मधुमात्रो वनस्पतिर्मधुमम् अस्तु सूर्यः माध्वीर्गावो भवन्तु नः ॥

Madhuvaataa ritaayate madhuksharanti sindhavah maadhveernah santvaushadheeh

Madhu naktamutoshasi madhumatpartheevam rajah madhudhyaurastu na pita

Madhumaatro vanasatirmadhumam astu sooryah maadhveergavo bhavantu nah

Let sweetness flow from the winds, the streams, the herbs, the nights and dawns, the dust, the sky, the forests and the Sun towards us from all directions.

In Srimad Bhagavadgita, a spiritual classic of Bhārat in Sanskrit language containing lessons for humanity for ideal living, it was said in Chapter 3 through Verses 14 and 15 -- where there is water, there is food; where there is food, there is life; where there is life there is action; where there is action, there is knowledge; where there is knowledge, there is sacrifice/offering; where there is sacrifice/offering, there is rain/water. Our spiritual scriptures tell us about this important part of human life. When all the creatures and plants, by living their life are contributing positively to the betterment of Nature/Environment, humans who are living at the expense of Nature have an onus to give something back to Nature so that Nature is sustained in its pure and pristine form to sustain life on earth. The performance of *yajñas* and *yāgas*—various forms of sacrificial rites—was traditionally understood as a means of safeguarding the purity and sanctity of the *pañca bhūtas*, the five primordial elements: air, water, earth, fire, and ether. These rituals were conceived not merely as acts of devotion but as practices aimed at maintaining the elemental balance essential for sustaining life and the cosmos. It should be noted, however, that here, sacrifice does not mean animal sacrifice; it is giving back something in gratitude (Dwivedi & Tiwari, 1987; Sargeant, 2009).

On Water and its Importance

The ancient Indians recognised the fact that water is the essence of life. That is the reason why they venerated it and developed such a relationship with water that they worshipped it as God. The ancient seers expressed the importance and value of water in Water Hymn 9, Mandala 10 of the Rigveda. Here is the essence of water hymn--**प्राणवा आपः/*Pranava aapah*; अमृतंवा आपः/*Amritamva aapah*; शान्तिर्वै भेषजं आपः/*Shantirvai bheshajam aapah*; रसोवा आपः/*Rasova aapah*; अन्नम आपः/*Annam aapah*; वीर्यमवा आपः/*Veeryamva aapah*; आपोवै यज्ञाः/ *Aapovai yajnaah*; आपो रेतः/*Aapo retah*; अपोवै सर्वदेवताः/*Aapovai sarvadevatah*. *Water is life; water is ambrosia; water is peace, water is panacea; water is sap, water is food; water is strength; water is sacrifice; water is energy; water is all gods***(Feuerstein et al., 2001; Griffith, 1896/1973).

It is said in *Taittiriya Aranyak*, 6 *Prashna*, **आपोवै देवानाम प्रियमधामः**/*Aapovai devaanaam priyamdhaamah*/water is loved by gods**.** Thus, in Indic ritual practice, water occupies a uniquely exalted position, conceived as a gift more precious than any other. The ancient dictum that "what angels lack in heaven, humanity possesses on earth" underscores this reverence, situating water as the most vital offering to the divine. Within the daily *sandhyāvandana* prayers, performed at dawn, noon, and dusk, each stage is intimately connected with water, which is

repeatedly invoked and offered as the supreme medium of devotion. This ritualised relationship reflects the profound veneration that ancient Indians cultivated towards water, a reverence that contributed to the preservation of its sources in a state of purity and abundance (Prudhvi Raju, 2014).

The *Prāyaścittatattva* section of the *Brahmapurāṇa* (2.535) enumerates fourteen specific prohibitions intended to safeguard the sanctity of the river Gaṅgā. These restrictions include: (i) excreting in the water, (ii) brushing the teeth or gargling, (iii) bathing without clothing, (iv) combing the hair, (v) discarding hair, (vi) discarding dry garlands, (vii) disposing of ritual remnants (*nirmālya*), (viii) playing in the water, (ix) cultivating attachment to other sacred sites, (x) praising other sacred sites, (xi) washing clothes, (xii) discarding soiled garments, (xiii) striking or thumping the water, and (xiv) swimming. Collectively, these injunctions reflect the ancient concern to preserve the purity of the Gaṅgā and to maintain its status as a locus of ritual and spiritual reverence (Alley, 2002; Haberman, 2006). These fourteen 'don'ts' are not just specific to the river Ganga alone, they are for all water sources for, Ganga means water which comes from '*gagan se gaghar*' (sky onto the earth).

On the Importance of Forests and Plants

Indic traditions contain numerous references to environmental consciousness embedded within historical epics and philosophical texts. A notable example occurs in the *Mahābhārata*: when the Pāṇḍavas were exiled to the forest, the citizens of Hastināpura sought to accompany them. At the forest's edge, however, Kuntī, the mother of the Pāṇḍavas, implored the people to return, emphasising that the forest could not sustain such numbers. The citizens relented, demonstrating an early recognition of ecological limits and the need to preserve natural resources (Callicott & Ames, 1989; Gadgil & Guha, 1992).

Sacred trees such as the banyan (*vaṭa vṛkṣa*), neem (*Azadirachta indica*), and peepal (*Ficus religiosa*) were accorded special reverence, not only for their spiritual symbolism but also for their ecological functions. These species were recognised for their capacity to release significant amounts of oxygen, with the banyan tree in particular celebrated as the "king of trees" for its expansive canopy that provides shelter to diverse creatures. The veneration and worship of these trees exemplify the integration of ecological awareness into ritual practice, conveying the depth of environmental consciousness within *Bhāratīya Darśana* (Indian philosophy) (Lochtefeld, 2002; Krishna & Amirthalingam, 2026).

The instances presented here represent only a fraction of the ecological sensibilities articulated in ancient Indian thought. A broader survey of texts, including the Vedas, Upaniṣads, epics, and Purāṇas reveals a sustained engagement with nature and cosmology (Chapple & Tucker, 2000; Prime, 1992). Ancient Indian philosophy emphasised discernment in recognising that nature provides the resources necessary for human survival, while cautioning against excess driven by greed. This ethos was accompanied by practices of sacrifice and reciprocity, whereby offerings were made back to nature, and by a conscious regulation of procreation to maintain a balance between population and available resources. Such measures reflect a sophisticated ecological ethic aimed at sustaining life and the environment across generations (Dutta, 2006; Guha, 2000).

References

Alley, K. D. (2002). *On the banks of the Ganga: When wastewater meets a sacred river*. University of Michigan Press. https://doi.org/10.3998/mpub.12072

Ambedkar, B. R. (2014). *Annihilation of caste: The annotated critical edition* (S. Anand, Ed.). Verso. (Original work published 1936)

Appadurai, A. & Breckenridge, C. A. (1995). *Public Modernity in India.* In C. A. Breckenridge (Ed.). *Consuming Modernity: Public Culture in a South Asian World* (pp. 1–20). Minneapolis: University of Minnesota Press.

Appadurai, A. (1981). *The Past as a Scarce Resource. Man,* 16(2), 201–219.

Appadurai, A. (1996). *Modernity at Large.* Minneapolis: University of Minnesota Press.

Basham, A. L. (1954). *The wonder that was India: A survey of the history and culture of the Indian sub-continent before the coming of the Muslims*. Sidgwick & Jackson.

Beck, G. L. (1993). *Sonic Theology: Hinduism and Sacred Sound*. University of South Carolina Press. https://doi.org/10.2307/j.ctv2z5510b

Bhattacharyya, R. (2013). *Are We Empowered? Stories of young Indian working women,* Saarbrücken, Germany: Lap Lambert Academic Publishing, ISBN: 978-3-659-20580-4

Bhattacharyya, R. (2009). *Examining the Changing Status and Role of Middle-Class Assamese Women: Lessons from the Lives of University Students*. PhD thesis. Newcastle University, UK. https://theses.ncl.ac.uk/jspui/handle/10443/303Bloomfield, M. (1964). *Hymns of the Atharva-Veda* (Sacred Books of the East, Vol. 42). Motilal Banarsidass. (Original work published 1897, Oxford University Press)

Bose, D. M., Sen, S. N., & Subbarayappa, B. V. (Eds.). (1971). *A concise history of science in India*. Indian National Science Academy.

Bryant, E. F. (2001). *The quest for the origins of Vedic culture: The Indo-Aryan migration debate*. Oxford University Press.

Callicott, J. B., & Ames, R. T. (Eds.). (1989). *Nature in Asian traditions of thought: Essays in environmental philosophy*. State University of New York Press.

Chapple, C. K. (2000). Toward an indigenous Indian environmentalism. In C. K. Chapple & M. E. Tucker (Eds.). *Hinduism and ecology: The intersection of earth, sky, and water* (pp. 13–37). Harvard University Press.

Chapple, C. K., & Tucker, M. E. (Eds.). (2000). *Hinduism and ecology: The intersection of earth, sky, and water*. Harvard University Press.

Chattopadhyaya, D. (1986). *History of science and technology in ancient India: The beginnings*. Firma KLM.

Danino, M. (2010). *The lost river: On the trail of the Sarasvati*. Penguin Books India.

Datta, B., & Singh, A. N. (1935). *History of Hindu mathematics: A source book*. Motilal Banarsidass.

Dutta, A.K. (2006). Āryabhata and axial rotation of earth. *Resonance*, 11, 58–72 (2006). https://doi.org/10.1007/BF02839373

Deussen, P. (1966). *The philosophy of the Upanishads* (A. S. Geden, Trans.). T & T Clark. (Original work published 1906)

Doniger, W., & Smith, B. K. (Trans.). (1991). *The laws of Manu*. Penguin Books.

Dumont, L. (1980). *Homo hierarchicus: The caste system and its implications* (M. Sainsbury, L. Dumont, & B. Gulati, Trans.; Rev. ed.). University of Chicago Press.

Dwivedi, O. P. (1990). Satyagraha for conservation: Awakening the spirit of Hinduism. In J. R. Engel & J. G. Engel (Eds.). *Ethics of environment and development: Global challenge, international response* (pp. 201–212). Belhaven Press.

Dwivedi, O. P., & Tiwari, B. N. (1987). *Environmental crisis and Hindu religion*. Gitanjali Publishing House.

Eliade, M. (1969). *Yoga: Immortality and freedom* (W. R. Trask, Trans.; 2nd ed.). Princeton University Press.

Eliot, T. S. (1934). *After strange gods: A primer of modern heresy*. Faber & Faber.

Feuerstein, G. (2008). *The yoga tradition: Its history, literature, philosophy and practice* (3rd ed.). Hohm Press.

Feuerstein, G., Kak, S., & Frawley, D. (2001). *In search of the cradle of civilization: New light on ancient India*. Quest Books.

Flood, G. (1996). *An introduction to Hinduism*. Cambridge University Press.

Gadgil, M., & Guha, R. (1992). *This fissured land: An ecological history of India*. Oxford University Press.

Gaonkar, D. P. (2001). On Alternative Modernities. In D. P. Gaonkar (Ed.). *Alternative Modernities* (pp. 1–23). London: Duke University Press.

Ghurye, G. S. (1969). *Caste and race in India* (5th ed.). Popular Prakashan.

Griffith, R. T. H. (Trans.). (1973). *The hymns of the Rigveda* (Rev. ed.). Motilal Banarsidass. (Original work published 1896)

Guha, R. (1999). *Environmentalism: A global history*. Oxford University Press.

Haberman, D. L. (2006). *River of love in an age of pollution: The Yamuna River of northern India*. University of California Press.

Hameroff, S., & Penrose, R. (2014). Consciousness in the universe: A review of the 'Orch OR' theory. *Physics of Life Reviews, 11*(1), 39–78. https://doi.org/10.1016/j.plrev.2013.08.002

Joseph, G. G. (2011). *The crest of the peacock: Non-European roots of mathematics* (3rd ed.). Princeton University Press.

Kak, S. (2000). *The astronomical code of the Ṛgveda* (2nd ed.). Munshiram Manoharlal.

Kane, P. V. (1941). *History of Dharmaśāstra: Ancient and mediaeval religious and civil law in India* (Vol. 2, Pt. 1). Bhandarkar Oriental Research Institute.

Kapoor, K. (2005). *Text and interpretation: The Indian tradition*. D. K. Printworld.

Keay, J. (2000). *India: A history*. Harper Collins.

Klostermaier, K. K. (2007). *A survey of Hinduism* (3rd ed.). State University of New York Press.

Krishna, N., & Amirthalingam, M. (2026). *Sacred plants of India*. Penguin Books India.

Larson, G. J. (1998). *Classical Sāṃkhya: An interpretation of its history and meaning* (2nd ed.). Motilal Banarsidass.

Lochtefeld, J. G. (2002). *The illustrated encyclopedia of Hinduism* (Vols. 1–2). Rosen Publishing Group.

Mark, J. J. (2012, November 13). Ancient India. *World History Encyclopedia*. https://www.worldhistory.org/india/

Matilal, B. K. (1977). *Nyāya-Vaiśeṣika* (A history of Indian literature, Vol. 6, Fasc. 2). Otto Harrassowitz.

Nelson, L. E. (Ed.). (1998). *Purifying the earthly body of God: Religion and ecology in Hindu India*. State University of New York Press.

Olivelle, P. (Trans.). (1998). *The early Upaniṣads: Annotated text and translation*. Oxford University Press.

Penzias, A. A., & Wilson, R. W. (1965). A measurement of excess antenna temperature at 4080 Mc/s. *The Astrophysical Journal, 142*, 419–421. https://doi.org/10.1086/148307

Petraglia, M. D., & Allchin, B. (Eds.). (2007). *The evolution and history of human populations in South Asia*. Springer Nature.

Pingree, D. (1981). *Jyotiḥśāstra: Astral and mathematical literature* (A history of Indian literature, Vol. 6, Fasc. 4). Otto Harrassowitz.

Plofker, K. (2009). *Mathematics in India*. Princeton University Press.

Pollock, S. (2006). *The language of the gods in the world of men: Sanskrit, culture, and power in premodern India*. University of California Press.

Possehl, G. L. (2002). *The Indus civilization: A contemporary perspective*. AltaMira Press.

Prabhu, P. H. (1940). *Hindu social organization: A study in socio-psychological and ideological foundations*. Popular Book Depot.

Prime, R. (1992). *Hinduism and ecology: Seeds of truth*. Cassell.

Prudhvi Raju, K. N. (2010). A dream of Pt. Madan Mohan Malaviya: From a super knowledge society to a super knowledge society. *Prajna, 56*(2), 261–265.

Prudhvi Raju, K. N. (2014). The sense and science of water in ancient India: Can the past be the key into future? *Prajna, 60*(2), 40–44.

Prudhvi Raju, K. N. (2024). Let me lead you into light. *Prajna, 69*(1–2), 337–343.

Radhakrishnan, S. (1929). *Indian philosophy* (Vols. 1–2). George Allen & Unwin.

Radhakrishnan, S. (1948). *The Bhagavadgītā*. George Allen & Unwin.

Radhakrishnan, S. (1953). *The principal Upaniṣads*. George Allen & Unwin.

Sargeant, W. (Trans.). (2009). *The Bhagavad Gītā* (25th anniversary ed.). State University of New York Press.

Sarma, K. V. (2008). Astronomy in India. In H. Selin (Ed.). *Encyclopaedia of the history of science, technology, and medicine in non-western cultures* (pp. 317–321). Springer. https://doi.org/10.1007/978-1-4020-4425-0_9554

Seal, B. N. (1958). *The positive sciences of the ancient Hindus*. Motilal Banarsidass. (Original work published 1915)

Sen, A. (2005). *The argumentative Indian: Writings on Indian history, culture and identity*. Farrar, Straus and Giroux.

Sharma, A. (1999). *The Hindu tradition: Religious beliefs and healthcare decisions*. Park Ridge Center.

Sharma, R. S. (1958). *Śūdras in ancient India: A social history of the lower order down to circa A.D. 600*. Motilal Banarsidass.

Subbarayappa, B. V. (2008). *The tradition of astronomy in India: Jyotiḥśāstra*. Centre for Studies in Civilizations.

Thapar, R. (2002). *Early India: From the origins to AD 1300*. University of California Press.

Trautmann, T. R. (1997). *Aryans and British India*. University of California Press.

Weinberg, S. (1993). *The first three minutes: A modern view of the origin of the universe* (Updated ed.). Basic Books.

White, D. G. (2014). *The yoga sutra of Patanjali: A biography*. Princeton University Press.

Wink, A. (1991). *Al-Hind: The making of the Indo-Islamic world: Vol. 1. Early medieval India and the expansion of Islam, 7th–11th centuries*. Brill.

Wright, R. P. (2010). *The ancient Indus: Urbanism, economy, and society*. Cambridge University Press.

Zaehner, R. C. (1969). *The Bhagavad-Gītā*. Oxford University Press.

Conflict of Interest

This is a self-funded passion project of mine. I have no conflict of interest to declare.

Ethical Clearance

Does not arise

Artificial Intelligence (AI)–Assisted Technologies

This manuscript was not prepared using any AI tools.

Acknowledgements

I wish to place on record my grateful thanks for the great job done by the reviewers and editors in enriching the draft of the original article by inserting many relevant references.