

Exploration

Metaphysical Analysis of Space, Energy & Time Based on Vedic Science

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Abstract

Space, energy and time are indispensable parameters of the universe. They are interrelated to each other. Every action and activity in human life, in any organization and in any mechanical system depends on space, energy and time. The applications of these fundamental quantities, their causes and effects and interdependence are metaphysically analyzed on the basis of Vedic and modern science. The analyses based on Indian Vedic literature are presented in this paper whereas the analyses based on modern science are presented in the succession paper.

Keywords: God, soul, om, ugadi, sankalpam, akash vani, matter, light rays.

I) Introduction -Vedic literature

The Indian Vedic scriptures are eternal of scientific information. The creation of the universe is described in Vedas, Shrimad Bhagwatham², Purans and Upanishads. The Bhagavad Gita¹ is considered to be the condensed form of all Vedas illustrate karma, outer planets and a constitution or a manual for the human beings. The vedic scholars believe that the main Trinity (Trimurthi) - Lord Brahma as Creator, Lord Vishnu as Preserver, Lord Shiva as Destroyer are responsible for creation of the universe, living entities and cosmic elements.

The vedic scriptures describe that God created the universe (space) and then added matter in the form of eighty four lakhs of living entities and further five cosmic elements: sky (akasha –ether), Tejas (fire -energy), air (vayu -forces/fields), earth (prithvi-atomic elements) and water (Apas - fluid) are introduced for their survival on this earth planet^{1,2}. The matter is nothing but energy. The energy moves in the space with time, hence the concept of time was introduced. The space (disa), time (kala), and energy (jiva/spirit) are well described in vedas.

The Lord Vishnu is the proprietor of the Universe and so He is the enjoyer of the Universe. The entire universe and space around us is called Akash ganga (Milky way galaxy) and solar system part of it is called Prakriti. The Rig Veda says never waste a single moment. God lives in time and space and moves with time (both are eternal)¹⁰. Heavens, earth, day and night all serve time, and time controls all (Rig Veda 1-95-7)¹⁰. Hence the universe is composed of space and energy

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and moves with time. All activities in this universe are governed by these three fundamental quantities, they are independent, but they are interrelated in very complex form from atomic to universal level. These are well narrated in the literature by the great saints and scholars such as Supreme Lord in Bhagavad Gita, Buddha, Arayabhata, Bhaskar, Adi Shakarachraya, Swamy Vivekanda etc.

The western philosophers, scholars and scientists such as Aristotle, Sakuhrai, Schrodinger, Bohr, Heisenberg, Einstein and many more admire Indian scriptures and admit that universe and motion of planets; living creatures were created by the God and it is under the control of supernatural powers of Supreme Lord.

In Quantum mechanics theory, Jun John Sakurai introduced three operators and they are named after as Creator (Bramha) , Preserver (Vishnu), and Destroyer (Shiva). As Einstein said, “When referring to how God created the universe in Bhagvad Gita everything else seemed superfluous.” There are many famous people, writers and noble laureates that hold Vedic literature in high esteem. However, atheists may differ on Vedic scriptures. But the scientific information can be correlated with Vedic science.

It is quite interesting to study applications of space, energy and time metaphysically to understand their causes and effects on living entities on the basis of Vedic literature and modern science. This present paper examines ancient thoughts, their skills, explorations in achieving their targets and to establish the moral ethics for coming generations; whereas the applications based on modern science are illustrated in succession paper¹⁶. The meticulous analysis presented in both papers may initiate research scholars and scientists to explore further in unknown fields.

II) Metaphysical Analysis

The Indian vedic literature and the two great epics Ramayana occurred in Tretha Yuga and Mahabharat, and presentation of Bhagavad Gita¹ by Sri Krishna to Arjuna in the battle field occurred in Dawapar yuga. They exhibit number of episodes which enlighten moral and ethical values and incidents contain lot of scientific information which needs to be explored to understand concepts, ideas and instruments used during their period and energy of the great warriors and powerful weapons used in the war. The metaphysical analysis of some of incidents which are studied meticulously based on space, energy and time are presented in this paper.

1) Space, Energy and Time

Space has three dimensions, one can move in three independent ways length (forward and back ward), width (left and right) and height (up and down) (Fig.1). Any moment is combination of three directions.

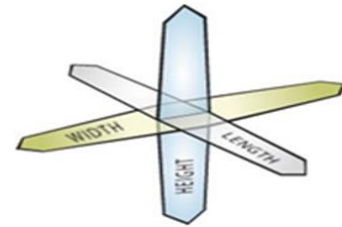


Fig.1: Three dimensions of Space- Length, Width and Height

Time has three divisions past, present, and future. Time binds humans in the present with only memories of the past and hope of the future (Fig.2). Only God is outside time. He is eternal, seeing past, present, and future.

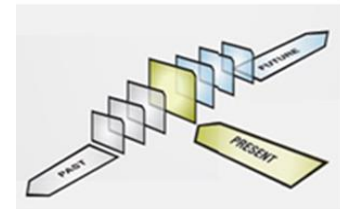


Fig.2: Three divisions of Time - Past, Present and Future.

Energy (Jiva) moves in three dimensions of space with time.

Perhaps God made space three dimensional to remind us of His triune nature. God is three (in persons), and yet one (in nature). Similarly, space is three (in dimensions) and one (in nature).¹¹ God can only see in past, present and future time whereas humans are given power to see only present time.

2) Distance between earth and sun

Sri Gosavami Tulasidas (16th century) a great devotee of Sri Rama composed Hanuman Chalisa¹⁵. It is regularly recited by many devotees. Hanuman in his childhood travelled in the space to swallow sun assuming be a delicious fruit. He writes this incident in one of these verses as:

*युग सहस्र योजन पर भानू ।
लील्यो ताहि मधुर फल जानू ॥*

*Yuga Sahasra Yojana Para Bhaanuu /
Liilyo Taahi Madhura Phala Jaanuu ॥*

It means: You (Hanuman) flew towards the sun who is thousands of years of Yojanas away, thinking of him as a sweet fruit. Here the unit Yojan represents the distance travelled by Hanuman to Sun. It gives accurate calculations between the earth and sun, which Hanuman travelled.¹⁵

1 yuga = 4,320,000 years = 12000 divine years

(1 divine year = 360 years according to human calculation)

Yuga – Sahsra - Yojana means = 1200 x 1000 Yojans

(1 Yojana = 8 miles = 8 x 1.60934 kilometers)

Average distance between Sun and Earth: 12000 x 1000 Yojanas

As per vedic science : 96 million miles = 153.6 million kms.

As per modern science : 94 million miles = 149 million kms.

This is much closer to the calculation of the modern scientists. The variation is due the orbit of earth which is not a perfect circle. Thus the great sage and philosopher Tulsidas in 16th century mentioned so accurately without any telescopes and modern equipment.

3) Energy (Mass) and Vibrations

Mass is equivalent to energy. Anything that has mass, automatically has energy and which travels in the space in the form of light. The universe Energy is completely filled with energy in and the energy is vibrating with a natural frequency. Thus universe is nothing but energy and vibrations. The Vedas, slokas (Hymans) in the ancient period were manifested by the great saints and scholars by meditating with devotion in the isolated areas such Himalayas and other mountains in India. It is also believed the energy starts vibrating in the space as “Om” syllable which was the first word originated from Lord while creating the universe. Hence the Om is treated as most sacred word in Hindu traditions. Thus every sloka begins and recited with divine syllable “Om”. The NASA scientists have recorded the vibrations of sound around the Sun^{12,13,14} (details are mentioned in another paper)¹⁴. One can watch video clips using the below websites in you tube^{12,13}.

<https://www.youtube.com/watch?v=hFdWxnPCvSs>

<https://www.youtube.com/watch?v=DYk7s73dgog>

4) Time (Kaal/Samay)

The whole physical world cannot be described without the time parameter. Time is an indefinite quantity which continuously progress from the time of occurring the events and movement of matter and energy in the Universe. It is described as fourth dimension in space time. It is a quantity used to measure the sequence of events, and duration of events or intervals between the events.

a) Ugadi Festival - Time of Birth

As per the Vedic scriptures and it is believed that Lord Brahma created the universe with vibrations of energy as Om on a particular day. The birth of the universe is assumed to be taken place on an auspicious day. It is on Uttar ayanam (summer solstice-January to July), Chitra masam- first month (March – April), Aswani nakshatra (star) and Shukal padayami is called Ugadi. It stands for beginning of Yuga. This auspicious occasion is consider as a divine day termed as Ugadi (combination of two words Yuga {period} + Adhi (beginning)). It occurs every year during the period of March and April. It is calculated on the basis of astrological calendar by the scholars. It is called by different names at different parts of India and other countries. Among all festivals, Ugadi has a special significance as it is a festival pertained to birthday of

time (time of birth) whereas all other festivals are observed on the name of God or Goddess as birthday or victory day.

b) Auspicious Time

As per Astrology, the time of birth and time of death determine fortune of one's own life and his/her dependents. The time gives birth star (Nakshtras) which is significant and it predicts the activities as well as life processes such as fortune, education, employment, profession and family life and health. When a child is born, parents approach astrologers to know his/her horoscope. In case, the time of birth is unfavorable, shanti pujas (rituals for peace) are generally performed to nullify the evil effects. The astrologer is also consulted at the time of death to know if any evil stars are associated with the time of death. The five stars out of twenty seven are *shravanam*, *danishta*, *shthabisham*, *purva bhadra* and *uttar badra* are considered to be inauspicious and evil stars. On demise of any person on above stars, the family members are advised to vacate the space/ house for six to twelve months depending on the severity of evil effects for the prosperity of the family. The stars sometimes may be so power full that more deaths (one to five) may occur in the same house within a year. The family members may return back to home after performing shanti pujas (rituals) as per shastras.

5) Sankalpam

As per Vedic literature a sankalpam⁵ is performed before starting of any rituals and spiritual functions. The sankalpam is a kind of sending and recording coordinates of performer in terms space, energy and time. It is recited in Sanskrit language as:

Space coordinates

Shubeh Sobane Sri Mahav Vishnu Ragnaya pravarttha Manysa, adya Brahmane naya dviteeya parardhe (in the 2nd half of Brhama's life), Sveta varaha kalpe Vaivaswatha manvantare (in the 28th mahayuga), Kaliyuge (in this kali yuga) Prathame Padhe (in the first quarter of this yuga), Jambudveepe -(place of performing. India), Bharata Varshe, Bharata Kande (in the land of Bharat), Sathabde Mero, Dakshine Digbhage (exact location).

Time coordinates

Asmin Varthamane Vyavaharike, Chnadraman Samvatsare – (name of year, Hindu calendar) Ayane - Dakshinayane or Uttarayane, Ritou (one of the six seasons), Mase (Month), Pakshe (Shullka or Krishna Paksham, Shubhha Vasara (week), Subha Thithou (thithi), Shubha Nakshatra (star of the day).

Personal (Jiva- Energy) details

Shubha karane Evam guna Vishistyam Shubha thithu Sriman Gotra, Star and Name (name of person) sharma , Srimath Gitrasaya Srimathi Dharma Pathani (wife's Name) , Samathesaya (all family members) Mamopata Durthyasdwara , Sri Parameswar Prithyartam , Satyanarayana (type of worship / puja) Mupacise.

They represent the geographical location in the universe, time of performance with respect to the origin time of Lord Brahma, and astrological details of the performer (Jiva) and his family and informing to the respective Gods to whom he is worshipping, so that he gets boons and blessing for materialistic and spiritualistic benefits for himself and family.

As per literature it is a system of maintaining minutes of a meeting or rituals of devotional activities recorded in one's personal files in the spiritual world. This may be useful in determining the next birth as per law of karma⁴.

6) Power, Mass and Energy transformations

Lord Krishna had taken birth on this earth in human form around 5000 years ago^{1,2} and played major roles and exhibited His capabilities and potential as a supreme Lord of the universe.^{6,7} in terms of the knowledge, energy and power; and established ethics and moral values for the coming generations.

a) Stealing of butter

Lord Krishna in His childhood was fond of butter and used to steal from Gopis houses. One day they all decide to tie him in their house and give a complaint to His mother Yashoda. But when they reached her house, it was amazing to see that Krishna was inside Her mother's house. It shows His material body is converted to energy and reappeared again in His form. *It is a clear illustration of conversion of matter to energy and vice-verse.*

b) Guarding of Drupathi

In the Mahabharata when the Kauravas tried to dishonor and disrobe Drupathi in front of all courtiers when Yudhishtir lost her in a game of dice with his cousins. When there was no help from any one she continuously prayed to Krishna. Then Lord Krishna came to rescue her. With His blessings, Drupathi's cloth became endless and she could not be disrobed^{6,7}(Fig.3). *It is another illustration of conversion of mass (Lord Krishna) into energy and the saree- energy to material form.*

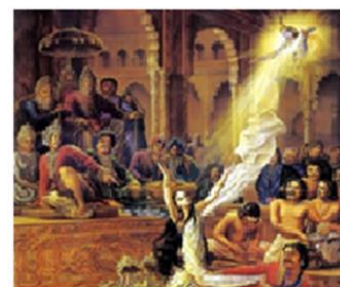


Fig.3: Lord Krishna is protecting Drupathi by sending Saree - conversion of energy into material form.

c) Energy of Krishna

When Lord Krishna goes to Hastinapura as ambassador for peace talks with Duryodana and Dhritarashtra for resolving the issues of Pandavas and Kuravas and asking for at least five villages for Pandavas. Duryodana had refused to give even five yards of land to them and ordered his soldiers to chain the Lord Krishna. *The Lord had so much mystic power that they could not lift even the chain.*

d) Lifting of Govardhan Hill

The little Krishna in childhood had asked people to stop worshiping Indra for rains and suggested they should do their duty or 'Karma' to the best of their abilities, by concentrating on farming and protecting their cattle, rather than performing pujas^{6,7}. This made Indra angry with the little boy Krishna. The Indra attacks whole village with thunder and storms etc. for seven days. All villagers got feared with devastating rains. The boy Krishna lifted Govardhan hill (parvat) on his little finger under which all villagers and animals and took safe shelter from the rains of Indra's fury (Fig.4). Indra ultimately, accepted defeat and offered his prayers to Lord Krishna and left to his heavenly kingdom. *It shows He is a Supreme Lord with divine powers and energy to lift the hill.*

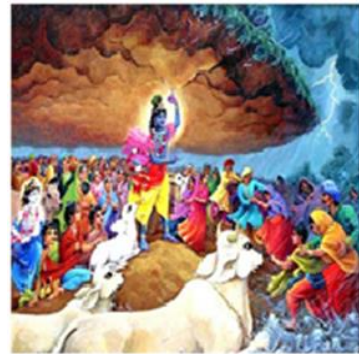


Fig.4: Lord Krishna is lifting a mountain.

e) Energy and Ethics

Lord Krishna had so much potential and energy, if He wanted He could have devastated entire army - Kuravas and their army and could have finished the war in a fraction of time. But He did not do and did not use his supreme powers since He wanted to establish dharma, righteousness and truth, moral ethics and preach the dharmic and adharmic activities in Kaliyuga so that people would lead happy life and would be free from the demons. It is also proved the wicked, evil and corrupt people will not have place on this earth. In case they are, they will have to undergo the same process as Kauravas and other people who supported Duryodan. It says people who indulge in illegal and unethical activities would undergo severe punishments either in this birth or next birth as per their karmic activities.⁴

f) Power of Dhritarashtra

In Mahabharata king Dhritarashtra was highly energetic even though he was blind. After the end of war he wanted to kill Bheema by embracing with deceitful blessings. Lord Krishna had apprehensions about his evil intentions, He suddenly passed Iron statue similar to Bheema

towards Dhritarastra. The statue was crumbled with Dhritarastra's energy. *The high amount of impulsive energy was used in short time to crush the statue.*

g) Energy to material

In vedic literature we notice many incidents that when a devotee who mediate (Tapsya) with a great devotion to any Gods / Goddess, for their materialistic benefits are generally blessed and granted instruments or weapons so that they can defeat opponents in the war. The great demons like Hiranaya kashypa, Ravana and great devotees Arujuna and many more are blessed with weapons and other defense tools to destroy the opponents. *It is due to the supernatural powers of Gods the energy is transformed into material form and gifted to them.*

7) Man travels in Space

In Tretha yuga, the baby Hanuman traveled^{8, 9}, in the space to swallow the orange Sun, thinking that the Sun was a delicious fruit. He was an incarnation of Lord Shiva so it was not a tough task for him for reaching the Sun (Fig.5). He made a giant leap to catch the glowing ball on the sky. The Sun God (Suryadeva) seeing that, He got scared and started calling out for help. The Indira , the king of God's heaven asked him and warned several times not to go near the Sun, but he did not listen. Finally Indira threw thunderbolt Vajra, which hit the child and fell down to earth. Hence His cheeks were swollen.



Fig.5: Hanuman is travelling in space to swallow Sun.

In the Ramayana, when Laxman was seriously wounded and became unconscious in the battle field^{8,9}. Sri Hanuman was asked to fetch the Sanjavani, the powerful life restoring herb from Dronagiri Paravat (mountain) from Himalayas (Fig.6). Sri Hanuman had so much power and energy, He flies in the air and goes to the Himalayas. When He is unable to locate the required herb, He lifts the entire mountain , carries with His left hand, travels in the air and brings safely. Thus Laxman was finally rescued



Fig.6: Hanuman is carrying mountain and travelling in the space.

These two classic examples exhibit that a man can travel in the space. Of course He was God with supernatural powers and different from the ordinary humans.

8) Light Rays – Seven colours

The vedic hymn Adityahridayam¹⁴ was composed by Agastya in Yuddha kanda of Ramayan in Tretha Yuga (thousands of years ago). It was recited by him to Sri Rama before fighting the demon king Ravana and He requested Sri Rama to worship Lord Surya (Sun God) by reciting three times this vedic sloka before fighting with the demon king so that He would get enough strength to defeat Ravana in the battle field. The 11th verse of vedic hymn is stated as follows:

*हरिदश्वः सहस्रार्चिः सप्तसप्तिर्मरीचिमान्।
तिमिरोन्मथनः शम्भुस्त्वष्टा मार्ताण्ड अंशुमान्॥*

*Harid-Ashvas-Sahasra-Arcis-Sapta-Saptir-Mariicimaan /
Timiron-mathanash-Shambhus-Tvassttaa Maartaannda Amshumaan
//11||*

It means:

“The Sun God has thousands of light rays which come out of Him like reddish-yellow horse, His seven horses represent seven colours of Light which produce the light, He removes the darkness of both outside and inside and makes us Joyful, He floats in the Sky like a huge bird (Martanda), the Bird of Light, which emits light.” (Fig.7)

This scientific information presented in vedic literature was confirmed by Sir Issac Newton (1643 -1727), which say whit light consists of seven colours – VIBGYOR.



Fig.7: Sun God has seven horses. They represent seven colors of Sun Light.

9) Akasha Vani (Voice from sky)

In vedic literature it is said that God appears and speaks from the sky to devotees in granting boons, blessings or warning or cursing for their activities. In Mahabarath, the Sanjay was granted divine eyes known as Diyachkus to witness the war in the battle field and narrate the same to the blind king Dhrtarastra. This was an illusion for many centuries. The modern scientists had studied this concept in detail and finally successful in the invention of radio and television.

10) Soul is an energy

It is well known that living entities cannot exist without a soul (Atma). As per the conservation of energy principle, the energy cannot be created nor destroyed but it is transformed from one form to another. All eighty four lakhs of living entities created by the God are energy sources having respective souls. And some people call it as spiritual energy or divine energy. When the soul becomes embodied, then it is called birth, when the soul leaves a body it is called death. The

soul transmigrates from one body to another body based on karmic reactions⁴. They are entangled in birth and death cycle till the positive karma is attained and then they get liberated and will go to spiritual world to merge with God. At the time of demise of any person we pray “May the soul be rest in peace”. It manifests that the soul (Atma) is an energy component, going in the form electromagnetic wave to merge permanently and reside peacefully with God in spiritual world (Heaven).

11) Needs of living creatures

All living creatures struggle to acquire more and more energy in all accessible forms to survive comfortably on this earth.

a) What do they do?

Not only a man, but all living entities travel some distance (space) everyday (time) for acquiring energy for their survival on this earth. They basically do only two activities- sometimes they sit (rest) for certain time to get energy and then they walk (motion) for some time, during journey they again lose energy. Thus it continues. Therefore there are only two states - rest and motion. The sitting yields potential energy whereas the motion leads to kinetic energy. Thus the energy gets converted from one form to other while moving in the space with time . *It is nothing but the conservation of energy principle in space and time .*

b) What do they want?

Every living entity would like to acquire only three things - space, energy and time.

a) Space

The ancient Kings, demons in the past as well as the present rulers , in fact every human wants to acquire more and more real estate property (land) and would like to travel whole world and go to other planets in the space. They would like to buy flats, independent houses , farm houses and acres of land.

b) Energy

Every human wants to acquire materialistic power- movable and immovable properties; money power - flats, palaces and business etc.; muscle power - bodyguards and securities; education: qualifications and awards; spiritual power to become scholars, saints for self-realization and knowledge of absolute truth etc.

c) Time

Every living entity prays and cries for additional time to complete the works and spend more time happily on this earth.

12) Vedic Slokas

The two universal vedic prayers are generally recited at the end of every function for peace, harmony and welfare of people. They are:

- a) लोकः समस्ताः सुखिनो भवन्तु ॥
Lokah samastah sukhino bhavantu ॥
- b) सर्वे जन सुखिनो भवन्तु ॥
Sarve jana sukhino bhavantu ॥

The vedic prayers are also consists of space, energy and time; *Lokha (Sarve)*. It means a world - *space*; *Samastah (Jana)* means all living species- *Energy*; *Sukhino bhavantu* means be happy during the time you live on this earth represents *Time*.

III) Discussions

The above metaphysical analysis confirms that there is no activity or action in this universe which does not have effects of space, energy and time. One can infer from the cited illustrations in this paper that lot of information and concepts can be obtained from ancient Indian scriptures. The recitation of space, energy and time coordinates in sankalapam while performing rituals, in calculations of distance between earth and sun in Hanuman Chalisa, Akash vani, viewing the incidents or occurrences at far distance places through divine eyes and the transformation of energy to matter, energy in lifting the Govardhan hill and moral and ethics established in Bhagavad Gita as depicted in Mahabharata, are classic illustrations for modern scientists to explore further possibilities life in another planets and advancement of science and technology in the field of materialism and spiritualism for the progress of living entities.

The vedic literature we notice many incidents that Gods and Goddess have blessed staunch devotees as boons in the form of gifts, materials or weapons for self-defense. This was possible because they had extraordinary divine powers. We may say that this concept is based on transformation of mass and energy principle.

These vedic thoughts and concepts would help scientists to explore the God's creations of for progress of the society. Two Hundred years ago no one had imagined the present development of scientific technology and the standard of living. One day our children may see the transformation of material at a very fast speed.

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