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Interconnection of vedic with modern mathematics and information technology (IT)

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Abstract

The main objective of this paper is to study some slokas of Veda(s) and its connection with Modern Mathematics, Information Technology relative to conveying message. The message or information delivered through Akashvani during the period of Satya Yuga to Modern (Kali Yuga) period without direct technology at that time.

Keyword: Vedic, information technology, akashvani, sloka

Introduction

'Veda' (Sanskrit: "Knowledge") a collection of poems or hymns composed in archaic Sanskrit by Indo - European-speaking peoples who lived in northwest India during the 2nd millennium BCE. No definite date can be ascribed to the composition of the Vedas, but the period of about 1500–1200 BCE is acceptable to most scholars^[1]. The Sanskrit word Veda(s) covers all Veda – Sakhas known to humanity and are the store house of knowledge and a treasure of ancient and modern mathematics. It also describe knowledge, insight and sacred writing. The shlokas of Vedas are in Sanskrit which gives the mathematical meaning. Vedas are not the texts on mathematics but maintain a lot of mathematical concepts, Vedic Mathematics is the mathematical knowledge of an ancient Indian culture traditional Mathematics is called so because of its origin from Vedas. To be more specific, it has originated from the "Atharva Veda". The shlokas of Vedas that are more related to mathematics. It deals with the branches of Mathematics, and all other sciences with which we are today aware of. The Vedas are the earliest records of human wisdom and it is a repository of all knowledge, fathomless ever revealing as it is delved deeper. The word Veda refers to the sacred ancient Hindu literature which is divided in to four volumes. That is, Rig Veda, Sama Veda, Yajur Veda and Atharva Veda. They were probably composed between 1500 and 700 BC. The Atharva Veda is sometimes called the "Veda of magical formulas", it could be constructed that mathematics as a science also existed. The Veda contains the following hymns / shlokas that explains the importance and development of Mathematics.

Today is the age of 21st century, Science and Information Technology (IT) all the new innovations technology and creations have been developing day by day. The developed countries have already made considerable progress in the immense of IT. According to the Yuga cycle, it can be found having akashvani in scriptures books that is, Veda(s), Purans, Mahapurana, Ramayana, Mahabharata, etc. in terms of Information Technology,

Slokas

Sanskrit Sloka is very important which indicates the meaning of information and Mathematics relative to others. The language of these slokas / hymns is in Sanskrit, which is difficult to understand for a common man. The interest of Vedic system is growing in education, research and information. In Hindu Sanatan philosophy, Yuga is the name of an epoch or era within a four age cycle. According to Hindu cosmology, life in the universe is created and destroyed once every 4.1 to 8.2 billion years, which is one full day (day and night) for Brahma. The lifetime of a Brahma himself may be between 40 billion and 311 trillion earth years. Four Yugas and their impact on humans according to Vedic scripts: Satya Yuga, Treta Yuga, Dvapara Yuga and Kali Yuga.

- The importance of mathematics in Hindu System can be understood by the following slokas as:

The following sloka is related to Mathematics in Rig Veda ^[2]

ज्येष्ठ आह चमसा द्वा करेति कनीयान्त्रीन्कृणवामेत्याह ।
कनिष्ठ आह चतुरस्करेति त्वष्ट ऋभवस्तत्पनयद्रचो वः ॥ ५ ॥

English translation, we have

jyestha āha camasā dvā kareti kanīyan trin kṛṇavāmetyāha.
kanistha āha caturaskareti tvaṣṭa ṛbhavastat panayad vaco vaḥ.

(Rg Veda, 4 / 33 / 5)

Meaning - Jyestha aha camasa dva = $\frac{1}{2}$, kareti kaniyan trin = $\frac{1}{3}$
kanistha aha caturas kareti = $\frac{1}{4}$.

Also, two beakers let us make,—thus said the eldest. Let us make three,—this was the younger's sentence.

Four beakers let us make,—thus spoke the youngest. Tvaṣṭar approved this rede of yours, O Ṛbhush.

The following sloka is related to Mathematics in Yajur Veda ^[3]

असंख्याता सहस्राणि ये रुद्राधि भूम्याम् ।
तेषां सहस्रयोजनेऽव धन्वानि तन्मसि ॥ ५४ ..

English translation, we have

asankhyātā sahasrāṇi ye rudrā adhi bhūmyām.
teṣaṃ sahasrayojane'va dhanvāni tanmasi.

(Yajur Veda, 16. 54)

Meaning – Thousands are the Rudras (life – sustaining power) and countless are the Rudras (pranis, living forms) which are on the earth. We use their powers and properties in a thousand ways and, (in cyclic order) extend their powers and properties fold over vast areas of space.

Also, there are innumerable, thousands of terrible punishers on this earth. May we get their bows unbent even a thousand leagues away?

इमा मे अग्नऽइष्टका धेनवः सन्त्वेका च दश च दश च शतं च शतं
च सहस्रं चं सहस्रं चायुतं चायुतं च नियुतं च नियुतं च प्रयुतं चार्बुदं
च न्यर्बुदं च समुद्रश्च मध्यं चान्तश्च परार्द्धश्चैता मे अग्नऽइष्टका
धेनवः सन्त्वमुत्रामुष्मिल्लोके ॥ २ ॥

English translation, we have

Imā me agna'īṣṭakā dhenavaḥ santvekā ca daśa ca daśa ca śataṃ ca śataṃ ca sahasraṃ ca sahasraṃ cayutaṃ cayutaṃ ca niyutaṃ ca niyutaṃ ca prayutaṃ carbudaṃ ca nyarbudaṃ ca samudraśca madhyaṃ cantaśca parardhaścaita me agna'īṣṭakā dhenavaḥ santvamutra – musminlloke.

(Yajur Veda, 17. 2)

Meaning - O adorable Lord, these are my coveted milk cows; may, these become ten (dasa) from one (eka) from ten these may become hundred (shata, from hundred a thousand (sahasra); from a thousand, ten thousand (ayuta); from ten thousand a hundred thousand (niyuta); from a hundred thousand a million (prayuta)] and ten millions (arbuda) and hundredmillions (nyarbuda) and a billion (samudra) and ten billions (madhya), and a hundred billions (anta), and a trillion

(parārdha); these may be my coveted milkcows in the next world as well as in the present one, O adorable Lord.

The following sloka is related to Mathematics in Atharva Veda ^[4]

4 शतं सहस्रमयुतं न्यर्बुदमसंख्येयं स्वमस्मिन् निविष्टम् ।
तदस्य घनन्त्यभिपश्यत एव तस्माद्देवो रोचत एष एतत् ॥ २४ ॥

English translation, we have

śataṃ sahasramayutaṃ nyarbudamasam- khyeyaṃ
svamasminnivīṣṭam.
tadasya ghanan- tyabhipasyata eva tasmāddevo rocata eṣa etat.

(Atharva Veda, 10. 8. 24)

Meaning - Hundred, thousand, ten thousand, million, hundred million, uncountable, are the wealths of its own Prakrit mutations centered in this Supreme Divinity. People receive and benefit from them while he over watches them all. For this reason this divine, infinitely generous Brahma, is dear and adorable.

Akashvani in Vedas: Akashvani (आकाशवाणी) is a word of Sanskrit origin meaning "celestial announcement" or "voice from the sky / heaven". Akash means sky and Vani means voice. Akashvani is a supreme power of God because whatever is spoken has to be true coming from God. It is the sources of information which is invisible voice or incorporeal voice to convey important message for public without technology.

There is given some slokas on Akashvani during the period of Satya Yuga to Modern (Kali Yuga) age,

The following sloka is related to Akashvani in Rig Veda ^[2]

ऋचो अक्षरे परमे व्योमन्यस्मिन् देवा अधि विश्वे निषेदुः । यस्तन्न
वेद किमृचा करिष्यति
य इत्ततद् विदुस्त इमे समासते ॥ घट ॥

English translation, we have

ṛco akṣare parame vyoman yasmin devā adhiviśve niṣedu.
yaṣṭanna vedaḥ kim ṛca kariṣyati ya ittatvidu ta ime samāsate.

(Rg Veda, 1 / 164 / 39)

Meaning – "Upon what syllable of holy praise-song, as 'twere their highest heaven, the Gods repose them, who knows not this, what will he do with praise-song? But they who know it well sit here assembled."

The following sloka is related to Akshvani in Adiramayana ^[5]

अनयाकाशवाण्यापि सुस्पष्टं न निरूपितम् ।
अहिरावणनामासौ कुत्रास्ति क्रूरराक्षसः ॥ १३ ॥

English translation, we have

anyākāśvāṅyāpi suspaṣṭam na nirūpitam.
ahirāvaṇa nāmāsāu kutrāsti krūrārāṣaḥ.
(Ādirāmāyaṇa, Yudhakanda, 6 / 13)

Meaning - This language, uttered from the sky, is also unable to describe that where the cruel deman named Ahiravan exists.

The following sloka is related to Akshvani in Adbhut Ramayana [6]

कर्तव्ये मूढतामाप ततो खेऽभूत्सरस्वती ।
राजन् गृहाण कन्यां त्वं पालयैनां महाप्रभाम् ॥ ३९॥
कल्पयैनां दुहितरमित्युक्त्वा वाक् तिरोहिता ॥ ४२ ॥

English translation, we have

karṭvye mūḍhatamāpa tato khe' bhūt sarasvatī.
rājan pālaya kanyāṃ tvam pālayainām mahāprabhām.
kalpayainām ḍuhitaramityuktvā vāk tirohiṭa.

(Adbhūt Rāmāyaṇa, 8, 39, 42)

Meaning – He was stunned and dumbfounded into stupor, not knowing what to do. At that moment, there was an invisible voice from the sky that addressed the king. It said, 'Oh King! Accept this most glorious girl child who is radiant and splendid like the electric. Bring her up and take care of her as if she was your own daughter. Regard her as your own daughter. After this, the invisible voice went silent.

ततो गगनसम्भूता वाणी समुदपद्यत ।
भो रावण महावीर्य रामोऽयं समुपागतः ॥ २ ॥

त्वद्वाधार्थमिहायातो विभीषण वसुप्रदः ।
भ्रातृभिर्वानरैर्ऋक्षे राक्षसैर्मानुषैर्युतः ॥ ४ ॥

श्रुत्वा ह्यमानुषं वाक्यं रावणो लोकरावणः ।
क्रोधमाहारयामास द्विगुणं मुनिपुङ्गव ॥ ५ ॥

English translation, we have

tato gaganasambhūtā vāṇī samudapadyata.
bho rāvaṇa mahāvīrya rāmo'yaṃ samupāgata.

tvadvādharthamihayāto vibhīṣaṇa vasuprada.
bhratṛbhirvānarair ṛkṣai rākṣasairmānuṣairyuṭaḥ.

śrutva hyamānuṣaṃ vākyaṃ rāvaṇo lokarāvaṇaḥ.
krodhamāhārayāmāsa dvigunaṃ munipuṅgava.

(Adbhūt Rāmāyaṇa, 20, 2, 4, 5)

Meaning – At this, an invisible voice from the sky said, 'Oh the most brave and gallant Ravana! This is Sri Ram who has come here. He is the one who has given the kingdom of Lanka to Vibhishan. He has arrived here to slay you too; he is accompanied by his brothers, monkeys, bears, demons and humans. Oh exalted sage (Bhardwaj)! Hearing this super human voice (or non-human voice coming from some supernatural hidden source), Ravana, who was famous as the one who made the world weep and wail, became twice as much angry and annoyed as he was before. He said most contemptuously and vehemently.

The following sloka is related to Akashvani in Mahabharata, Book 1 [7]

ततस् सभार्यं नृपतिं सामात्यं सपुरोहितम् ।
चिन्तासम्मूढहृदयं वागुवाचाशरीरिणी ॥ ३ ॥
एष ते नृपते पुत्रः श्रीमाञ्जातो महाबलः ।
तस्मादस्मान् भेतव्यमव्यग्रः पाहि वै शिशुम् ॥ ४ ॥
न च वै तस्य मृत्युर्वै न कालः प्रत्युपस्थितः ।
मृत्युर्हन्तास्य शस्त्रेण स चोत्पन्नो नराधिप ॥ ५ ॥

संश्रुत्योदाहृतं वाक्यं भूतमन्तर्हितं ततः ।
पुत्रस्नेहाभिसंतप्ता जननी वाक्यमब्रवीत् ॥ ६ ॥

English translation, we have

tataḥ sabhāryaṃ nṛpatiṃ sāmātyaṃ sapurohitam.
cintāsamūḍhahṛdayaṃ vāguvācāśarīṇī.

eśa te nṛpate putraḥ śrīmān jāto mahābalaḥ.
tasmādamān na bhetaavyamavyagraḥ pāhi vai śiśuṃ.

na ca vaitasya mṛtyur vai na kālah pratyupasthitaḥ.
mṛtyurhantāśya śastreṇa sa cotpanno narādhipa.

samśrutyaodāhṛtaṃ vākyaṃ bhūtamantarhitam tataḥ.
putrasnehābhisaṃtaptā janānī vakyamabravīt.

(The Mahābhārat, Book 1, Sabhā Parva, Sisupāla – Badha Parva, Chapter – 43, 3 - 6)

Meaning - On that account, his father and mother along with their relatives, were struck with fear. And beholding these extraordinary omens, his parents resolved to abandon him. But an incorporeal voice, about this time, said unto the king and his wife with their ministers and priest, all with hearts paralyzed by anxiety, those words: - This thy son, O king, that hath been born will become both fortunate and superior in strength. Therefore thou hast no fear from him. Indeed, cherish the child without anxiety. He will not die (in child – hood). His time is not yet come. He that will slay him with weapons hath also been born.' Hearing these words the mother, rendered anxious by affection for her son, addressed the invisible Being and said.

The following sloka is related to Akashvani in Mahabharata, Book 2 [8]

दृष्ट्वा विमलं तोयं सारसैः परिवारितम् ।
पातुकामस्ततो वाचमन्तरिक्षात्स शुश्रुवे ॥ ११ ॥

मा तात साहसं कार्षीमम पूर्वपरिग्रहः ।
प्रश्नानुक्त्वा तु माद्रेय ततः पिब हरस्व च ॥ १२ ॥

English translation, we have

sa drṣṭvā vimalaṃ toyam sārasiḥ parivāritam.
pātu kākamastato vācamantarikṣāt sa śuśruve.

mā tāta sāhasaṃ kārṣīrmama pūrvaparigrahaḥ.
praśnānuktvā tu mādreya tataḥ piba hasasva ca.

(The Māhābhārata, Book 2, Vana Parva, Chapter – 312, 11 - 12)

Meaning – And beholding a crystal lake inhabited by cranes he desired to drink of it, when he heard this word from the sky, 'O child, do not commit this rash act! This lake has already been in my possession. Do thou, O son of Madri, first answer my questions and then drink of this water and take away.

The following sloka is related to Akashvani in Srimadbhagavata Mahapurana, Part I [9]

व्योमवाणी तदैवाभून्मा ऋषे खिद्यतामिति ।
उद्यमः सफलस्तेऽयं भविष्यति न संशयः ॥ ३१ ॥

English translation, we have

vyomavāṇī tadaivābhūnmā ṛṣe khidyatāmiti.
udyamḥ saphalaste'yaṁ bhaviṣyati na saṁśayaḥ.

(Śrimadbhāgavata – Mahāpuraṇa Māhātmyam, Chapter – 2,
31)

Meaning – Presently a voice was heard from the heavens saying: " O sage do not feel dejected. This effort of yours will prove fruitful no doubt."

इत्याकाशवचः स्पष्टं तत्सर्वैरपि विश्रुतम् ।
नारदो विस्मयं लेभे नेदं ज्ञातमिति ब्रुवन् ॥ ३४ ॥

English translation, we have

ityākāśvacaḥ spastaṁ tatsarvairapi viśrutam.
nārado vismyaṁ lebhe nedaṁ jñātamiti bruvan.

(Śrimadbhāgavata – Mahāpuraṇa Māhātmyam, Chapter – 2,
34)

Meaning – The voice from the heavens to this effect was clearly and perceptibly heard by all. Narada was struck with wonder and said. "What it means is not understood."

अनयाऽऽकाशवाण्यापि गोप्यत्वेन निरूपितम् ।
किं वा तत्साधनं कार्यं येन कार्यं भवेत्तयोः ॥ ३५ ॥

English translation, we have

anyākāśvāṇyāpi suspaṣṭam na nirūpitam.
kiṁ vā tatsādhanam kāryam yena kāryam bhavettayoḥ.

(Śrimadbhāgavata – Mahāpuraṇa Māhātmyam, Chapter – 2,
35)

Meaning – The voice from the sky too has spoken in a mysterious way. I wonder what may be the act which will have to be performed in order that the object of these two may be accomplished !

तुभ्यं नमो जगत्साक्षिन् ब्रूहि मे मुक्तिहेतुकम् ।
तच्छ्रुत्वा दूरतः सूर्यः स्फुटमित्यभ्यभाषत ॥ ४० ॥

English translation, we have

tubhyaṁ namo jagatsākṣin brūhi me muktihetukam.
tatchrutvā dūrataḥ sūryaḥ sphutamityabhyabhāṣata.

(Śrimadbhāgavata – Mahāpuraṇa Māhātmyam, Chapter 5, 40)

Meaning - He prayed to the sun - god as follows: "Hail to you, O witness of the universe ! pray, tell me the means of release of Dhundhukari." Hearing this the sun – god spoke distinctly from afar as follows:

श्रीमद्भागवतान्मुक्तिः सप्ताह वाचनं कुरु ।
इति सूर्यवचः सर्वैर्धर्मरूपं तु विश्रुतम् ॥ ४१ ॥

English translation, we have

śrīmadbhāgavatanmuktīḥ saptāhavacanam kuru.
iti sūryavacaḥ sarvairdharma-rūpaṁ tu viśrutam.
(Śrimadbhāgavata – Mahāpuraṇa, Māhātmyam, Chapter – 5,
41)

Meaning – "Liberation will follow from Srimad Bhagwata. Give a complete reading to it in the course of a week." This

pious exhortation of the sun – god was, as a matter of fact, clearly heard by all.

The following sloka is related to Akashvani in Srimadbhagavata Mahapurana, Part II ^[10]

गिरं समाधौ गगने समीरितां निशम्य वेधास्त्रिदशानुवाच ह ।
गां पौरुषीं मे शृणुतामराः पुन-विधीयतामाशु तथैव मा चिरम् ॥ २१ ॥

English translation, we have

giraṁ samāḍau gagane samīritam niśmya
vedhastridaśānuvāc ha.
gāṁ pauruṣīm me śṛṇutamaraḥ punarvidhīyatāmāśu
tathaiva mā ciram.

(Śrimadbhāgavata – Mahāpuraṇa, 10 / 1 / 21)

Meaning – Hearing in the course of a trance (state of complete absorption) a voice uttered in the sky (the source of which was invisible), the creator clearly said to the gods as follows: "Hear from me, O gods, the word of the Supreme Person, and then do accordingly at once; let there be no delay."

पथि प्रग्रहिणं कंसमाभाष्याहाशरीरवाक् ।
अस्यास्त्वामष्टमो गर्भो हन्ता यां वहसेऽबुध ॥ ३४ ॥

English translation, we have

pathi pragrahiṇam kamsamabhāṣyāhāśarīravāk.
asyāstvamaṣṭamo garbho hantā yāṁ vahase'budha.

(Śrimadbhāgavata – Mahāpuraṇa, 10 / 1 / 34)

Meaning – Addressing Kamsa, who held the reins while on the way, an incorporeal voice said, "O foolish one! The eighth child of this girl, whom you are now conducting, will slay you."

The following sloka is related to Akashvani in The Padmamahapurana ^[11]

विषादमगमत्सद्यस्ततः खं तमुवाच ह ।
गच्छ वाडव चाण्डालं मूकं परमधार्मिकम् ॥ २८ ॥

तत्र धर्मं च जानीषे क्षेमं ते तद्वचो भवेत् ।
खाच्च तद्वचनं श्रुत्वा गतोऽसौ मूकमन्दिरम् ॥ २९ ॥

English translation, we have

viṣadamagamatsadyastataḥ khaṁ tamuvācaha.
gaccha bādava cāṇḍālaṁ mūkaṁ paramadhārmikam.

tatra dhārmaṁ ca jāniṣe kṣemaṁ te tadvaco bhavet.
khacca tadvacanaṁ śrutvā gatosau mūkamandiram.

(The Padmamahapurānam, Part 1: Sṛiṣṭikhaṇḍa, Chapter – 50,
28 - 29)

Meaning – He instantly became dejected. Then a voice from the sky said to him: " O Brahman, go to the candala Muka (by name), who is very righteous. There you will know your duty, and his words will be beneficial to you." Hearing the words from the sky, he went to the home of Muka.

Conclusion

In this paper, the given Sanskrit slokas / hymns are related to mathematics and Akashvani. It has taken some slokas from Vedas (i. e. Rig Veda, Yajur Veda, and Atharva Veda) which

is interconnection with modern mathematics and these slokas have given a lot of mathematical concepts and interpretations. Our study implies that there is an equivalent relation between the notions of Information Technology (IT) in terms of Akashvani through available sources as slokas in Vedic literature. The available slokas related to Akashvani is taken from the period of Vedic to Modern Yuga (i.e. Satya, Treta, Dvapara and Kali) which are the sources of information for public to convey message without technology at that time.

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