

PR  *SENSE*

175

Volume 1

Indian Heritage

**Compiled by
Prime Point Srinivasan
Priyadharshni Rahul**

Prime Point Foundation | Chennai

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Introduction

Foreword From Dr. APJ Abdul Kalam For The First Edition PreSense100

Dr. A.P.J. Abdul Kalam
Former President of India



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New Delhi-110011

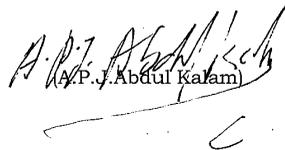
FOREWORD

I am very happy to know that the PreSense monthly ezine published by Prime Point Foundation is bringing out a book based on some of the unique articles, interviews and events published in its editions so far since from March 2006. The 100 issues of the publication have gone through an eventful journey, focusing on knowledge capture and important knowledge dissemination. I recollect my direct association with PreSense in July 2008, when I launched the cartoon character, 'Prince', created exclusively for PreSense.

I see PreSense continuing in its journey under the mentorship of Prime Point Srinivasan, maintaining its status as a must-read ezine, in the fast moving and evolving world of communication, knowledge and connectivity.

I congratulate the Editorial Team of PreSense for bringing out the 100th Edition as a Collector's Digest.

28th May 2015


Dr. APJ Abdul Kalam

Preface to the First Edition

The emergence of Internet in the 1980s changed the way of communication globally. When Videsh Sanchar Nigam Limited (VSNL) introduced the internet for commercial use on 15th August 1995, India too adopted the new communication model and medium.

Way back in 2002, we published our first electronic newsletter in a move that was viewed as progressive and visionary in nature. After 8 issues, we had to discontinue the newsletter as its electronic form was not regarded contemporary then. In March 2006, we resumed with an ezine titled 'PreSense' with a shift in focus to creating awareness about the essence in personal and corporate communication.

Interestingly, at that time, no bigwig was willing to give an exclusive interview for the re-launching ezine, or even launch it, as there was apprehension about the success of the concept of an electronic magazine. Dr Y S Rajan (co-author of the book, India 2020, with Dr APJ Abdul Kalam) however encouraged us and volunteered to launch the ezine online.

And so we progressed, introducing interesting interviews with eminent personalities recorded on podcast and synchronised with the ezine format, so that the readers were treated to both online reading of contents as well as audio version of interviews. This enabled the readers to a feel of listening to the personalities they have read about in the ezine. We also introduced the concept of Guest Editorship, enabling the association of renowned professionals to share their experience and viewpoints as Editor for the month. This move gave an uplift to the outlook of the ezine and a new trend in its journey ahead.

Many newsletters and ezines launched during the same period were discontinued later for various reasons. PreSense however, survived the test of time and continued till its 60th edition in February 2011. After a deliberate brief break of a few months, we resumed the publication of our ezine, with a new look and a shift again in the focus to a social and general

theme, with the tagline, 'Spreading Positive Vibrations'. This shift in focus enabled a more holistic approach to the theme and subject of communication. The attention moved to global current news, historically significant events, and knowledge-based breakthroughs in technology. This turned out to be an exciting challenge for the editorial team to sustain the positive strain while including novel and currently interesting topics for the reading pleasure.

Although an ezine might not be comparable with a giant-sized main line medium of communication, it has its own advantages as a medium of reaching out. The *Sansad Ratna* Award Scheme and the Education Loan Task Force were two major initiatives by our ezine, giving it the privilege of being recognised as the host to two major issues of national relevance.

Over a period of 9 years, our ezine has given opportunities to many young people to experience firsthand, the nitty-gritty of digital magazine making, editing and publishing. At the request of many of our loyal readers, we are now bringing out this book called 'PreSense 100', containing 100 plus articles, handpicked from the past 99 editions of our ezine. We felt that the selected articles qualified as a collector's item, and hence this special issue is described as a Collector's Digest. It is our belief that the reader too will appreciate it as one.

Up until now, our ezine has been published, not for commercial gains. We are proud to have many professionals on board, contributing their valuable time and talent in the making of the ezine every month.

I place on record my gratitude and appreciation to all the past Editorial Team Members like Satish Naaraj, Vidya, Tushar Panchal, Veena Vinod, Swetha and innumerable others who contributed immensely to make the ezine a professional one.

I personally thank our ezine's Editorial Team members for their sustained support in bringing out this book. I

acknowledge the valuable support given by Susan Koshy, V Rajendran, T N Ashok, Prof. Jagannathan, Sukruti Vadula and Dr Ramamurthy Natarajan for editing and formatting this book.

At this stage, it is pertinent to mention that during the process of publishing every edition of the ezine, there was the collective, professional and committed involvement and input of every editorial team that was associated then. It has been the endeavour of the team to maintain a progressively high standard of the contents and readability of the ezine. We believe these efforts met the expectations of the readers, based on the positive and constructive feedback we kept receiving from our diverse and loyal readership base.

Right from the beginning, we have always been the beneficiary of the blessings and guidance of Dr APJ Abdul Kalam, Former President of India. I also thank Mr V Ponraj, (Scientific Advisor to Dr Abdul Kalam) who supported us in the selection of its contents.

When we planned to publish this book for free distribution, Dr Maria Zeena of Sathyabhama University volunteered to sponsor the cost. I thank her and her team for the noble gesture. I thank Polaris (Padmini and her team) for designing the cover. I thank Sri Logeswari Prints and its owner, Shri M Muthaian for bringing out this book on time.

I thank the innumerable readers and well-wishers who have given unstinted and close-knit support during our journey. Finally, I thank God Almighty for the divine blessings during the journey of 100 editions.

K Srinivasan
Chairman, Prime Point Foundation
Editor in Chief, PreSense

Preface to the Second Edition

The First edition of PreSense 100 was released in June 2015 as a digest of articles published in the earlier 99 editions. The first edition received an overwhelming response from multifarious groups as students, IAS aspirants, parliamentarians, bureaucrats, and other intellectuals. In view of the support received from the readers, our editorial team decided to come out with the second enhanced edition titled PreSense 100+ with additional articles published between June 2015 and April 2016.

We thank Dr P Ganesan, Chairman of Sony Fire Works (Pvt) Limited and AAA College of Engineering and Technology, Sivakasi who volunteered to sponsor and print this second edition for distribution. The Editorial Team gratefully acknowledges the support given by Shri Bharath Matha Mohan (Educationist at Chennai) and Shri VSM Velmurugan (Chairman of VSM Groups, Kovilpatti) in bringing out this second edition. We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper. We thank innumerable other people who contributed to make this second edition possible.

K. Srinivasan
Editor in Chief
PreSense

Preface to the Third Edition

The first edition of the Digest titled PreSense 100, containing articles published in the first 100 editions of our ezine was released in June 2015. The second enhanced edition titled PreSense 100+, covering 110 editions, was released in June 2016. Due to the overwhelming response from our readers, we are now bringing out the third enhanced edition, covering important articles published in 130 editions of our ezine PreSense. This Digest is titled PreSense 130.

Dr P Ganesan, Chairman of Sony Fire Works (Pvt) Limited and AAA College of Engineering and Technology, Sivakasi has always been a source of inspiration to us. He sponsored the second edition of Digest. This time too, he has volunteered to sponsor and print this third edition for distribution among youth.

We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper. We thank innumerable other people who contributed to make this third edition possible.

K. Srinivasan
Publisher & Mg. Editor
PreSense

Preface to the Fourth Edition

The journey of the eMagazine PreSense since March 2006 is amazing and exciting. During this journey, we were able to publish in the print format three editions Digest of articles published in the 100,110 and 130 issues respectively.

We have been receiving large number of appreciation from readers on the contents of Digest. Enthused by this, we are now pleased to release the fourth edition of digest in digital format titled PreSense150 containing select articles published in the 150 issues.

We thank Dr B Muthukumaran, Co-Founder of Digital Security Association of India (DiSAI) and Advisor to Digital Journalists Association of India (DiJAI) for all technical support in making this eDigest. We also thank Smt. Padmini and her team at Intellect Design for designing the wrapper.

I personally place on record my gratitude to Mrs Susan Koshy, Mr Rajendran, Mr Triambak Sharma and other editorial team members for the sustained support they are giving for successful publication of the eMagazine PreSense every month. We thank innumerable other people who contributed to make this third edition possible.

K. Srinivasan
Publisher & Mg. Editor
PreSense
24 August 2019

Preface to the Fifth Edition

The eMagazine PreSense which was started in March 2008 on the suggestions of Dr APJ Abdul Kalam for positive journalism has reached the 175th edition in September 2021. This digital only eMagazine is passionately run by a group of eminent volunteers without any commercial motive and without accepting any advertisements.

Looking back, we have published high quality articles on various subjects, including current affairs in every issue. Earlier, we have published Digest of articles after 100, 110, 130 and 150th editions. We had the great honour of getting the Foreword from Dr Abdul Kalam himself for the first Digest published at the end of 100th edition.

This is the fifth Publication at the end of 175th edition. Earlier, we provided all articles in a single book. Due to the large number of important articles, we have grouped all the articles in 8 categories. We are now publishing PreSense175 in 8 volumes covering (1) Indian Heritage, (2) Spotlights from History, (3) Politics and Governance (4) Prince cartoons (5) Media and Communication (6) Science and Technology, (7) Health and (8) General and Exclusives.

I am thankful to Priyadarshni Rahul (Editor), T N Ashok (Consulting Editor), Dr R Jagannathan (Editorial Advisor) and Srinivas Gopal (Technology Advisor) who helped in compiling the select articles published in the past editions.

K. Srinivasan
Publisher and Managing Editor
PreSense
26th September 2021

Journey of Ezine PreSense - Milestones

Dec 1999	Launch of Prime Point Foundation, Publisher of the ezine.
Feb 2006	Launch of ezine, PreSense online by Dr Y S Rajan.
Aug 2006	Integration of Podcast with the ezine contents.
Aug 2007	Introduction of Guest Editors.
Feb 2008	Second Anniversary Edition with Dr Abdul Kalam's exclusive interview. Masthead changed.
Apr 2008	First ezine to become 'Media Partner' for a global event held at London.
July 2008	Introduction of cartoons – Cartoon Character 'Prince' launched by Dr Abdul Kalam.
Sep 2008	Change in layout, introducing photographs on the cover.
Jan 2010	Ezine's new initiative 'Education Loan Task Force' (ELTF) launched to create awareness among students and parents.
May 2010	Ezine's second initiative to honour top performing Parliamentarians, with the <i>Sansad Ratna</i> Award launched. Golden Jubilee (50 th) Edition launched.
Feb 2011	Diamond Jubilee (60 th) Edition.

A hiatus after 5 years of uninterrupted journey

Apr 2012	Ezine resumed in a new format of contents. The tag line changed from 'Communicate the Communication' to 'Spreading Positive Vibrations'.
Apr 2013	Tamil Nadu Governor launched a special edition on the Indian Parliament, coinciding with the <i>Sansad Ratna</i> Awards.

- Jun 2013 Platinum Jubilee (75th) Edition launched by the youth at three places simultaneously, across the nation.
- Jun 2015 100th Edition - PreSense 100 released in print format.
- Mar 2016 Ezine's third initiative 'Digital Journalists Association of India' (DiJAI) launched.
- Jun 2016 Second edition of PreSense 100+ released in print format
- Dec 2017 Ezine's fourth initiative 'Digital Security Association of India' (DiSAI) launched.
- Mar 2018 Third edition of Digest PreSense130 released in print format.
- Aug 2019 Fourth edition of Digest PreSense150 launched in pdf format.
- Sep 2021 Fifth edition of Digest PreSense175 in 6 volumes released.

The Journey Continues.....

Editorial Board – October 2021

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New Delhi

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R Nurullah, Senior Journalist and columnist

M B Jayaram, Chairman Emeritus, Public Relations Council of
India

Editorial Team

Srinivas Gopal, Technology Expert

Nandini Alagar, Digital Marketing Expert, Author, Writer and
Musician



Prime Point Foundation and its Initiatives

Prime Point Foundation, a Non-Profit Trust and NGO was founded in December 1999 by Shri K Srinivasan (popularly known as Prime Point Srinivasan), a former Senior Banker and a Digital Journalist and Communication Professional, to promote leadership and communication skills among the youth. Very eminent persons are associated with the Foundation.

In the past 21 years, the Foundation has organised several seminars, workshops, training and interactive sessions, both offline and online, on various subjects of national interest. The Foundation manages various online discussion groups and podcasts on communication, and digital journalism.

The Foundation has formed 5 initiatives to create awareness in various domains. All these initiatives are managed independently by passionate experts. These initiatives are non-commercial, and focussed on youth.

PreSense: The eMagazine PreSense was started in March 2006 on the suggestion of Dr APJ Abdul Kalam to promote positive journalism. Till September 2021, the Foundation has published 175 editions. This is a digital-only magazine. Digests, containing select articles upto 150 editions of the eMagazine, have so far been published. Dr Abdul Kalam has written the foreword for the Digest of articles upto 100 editions. PreSense publishes the cartoon character Prince, which was launched by Dr Abdul Kalam in 2008. PreSense will be publishing a Digest of select articles published upto 175 editions in the month of September 2021.



Sansad Ratna Awards: This is a flagship initiative started in 2010 to honour top performing Parliamentarians every year, based on various performance parameters, and selected by a Jury Committee of eminent Parliamentarians. Dr Abdul Kalam himself inaugurated the first edition of the Awards event in May 2010. Till 2021, the Foundation has conducted 11 editions and presented 75 Awards. IIT Madras was the supporting Partner upto the 9th Edition. 10th Edition was held at Raj Bhavan, Tamil Nadu. 11th Edition was held at Constitution Club of India, New Delhi.

Śaṅṣād Rātṅā
AWARDS COMMITTEE

Next Gen Political Leaders (NGPL) is an off-shoot of Sansad Ratna Awards. This is a registered NGO operating since 2018. NGPL has organised several workshops online and offline, for young political leaders and aspirants. Ministers, parliamentarians, legislators and retired constitutional authorities have participated and shared their views. NGPL will shortly be instituting Awards for young promising politicians.



Education Loan Task Force (ELTF) was started in 2010 to create awareness about education loans, among students and parents. More than 30,000 queries have been responded to, through email, and more than 5000 serious complaints have been taken up with the top management of the banks concerned, for redressal. Many policy issues have been taken up by Sansad Ratna Awardee MPs, in the Parliament for solution. ELTF does not facilitate loans.

Education Loan Task Force
ELTF
www.eltf.in

Digital Journalists Association of India (DiJAI): DiJAI is an independent NGO founded in 2017 to create awareness about digital journalism and its implications, among the public and particularly among the journalists. DiJAI



conducts several online and offline workshops and seminars, with panels of domain experts.

Indian Heritage (Select Articles)

Kumbha Mela is the Confluence of Knowledge, Comparable with Modern Day Seminars of Experts

Purpose



The Kumbha Mela is one of the oldest and largest congregations of Indian civilisation. In a sense, it is more a congregation than a festival.

The intention for the *Kumbha Mela* in the ancient days was for the rulers, the common people and the *Sanyasis* to gather

at a confluence of water bodies, stay for a period of three months and during that period, discuss the various aspects of *Sanatana Dharma*, its interpretations, its relevance for their present times, the problems that were faced by the society of that generation and the solutions for them within *Dharma*. This can be broadly compared with the modern day National and International Seminars on various themes bringing together various stakeholders under a single roof for discussions.

The *Snanas* (holy bath) that are taken on astrologically significant days are just ritual highlights. The primary objective of the *Kumbh* festival was to enable interactions among the rulers, the people and the *sadhus*.

In the *Kumbh* festival we see the connect between (a) the allegorical Puranic legend of creation from a *kumbh*, pot, (b) the traditional Vedic explanation of creation and (c) the modern cosmological scientific description of creation from the Big Bang.

Historical reference

There is mention of the *Kumbh* and the bathing ritual associated with it, in the Rig Veda (verse 10.89.7). It speaks

of the values of bathing in the river during this period and how it eliminates negative influences and rejuvenates one positively, when done with piety. The praying to the *Kumbha* is also expressed in other Vedas such as *Atharva Veda* and *Yajur Veda*. This tells us that the concept of *Kumbha* and what it portrays has been venerated from Vedic times itself which goes back to at least 5100 years.

We learn this from the accounts of both Huan Tsang or Xuanzang (602 - 664 CE), the Chinese traveller who visited India between 629 - 645 CE, during the reign of King Harshavardhana, as well as from Harshacharita, of Bana, the court poet in the kingdom of



of Harshavardhana. This act of Emperor Harshavardhana reflects the ethos of the land, of giving *Dhana* at such confluences.

Even as recent as 1895, Mark Twain, the celebrated author, wrote his experience of visiting the *Kumbh Mela* in his book "**Following the Equator: A journey Around the World**". The *Kumbh* festival was instituted and popularised by some of the ancient kings and saints as an occasion for congregating to discuss about creation as well as scientific and governance concepts. This festival was given the present format by Adi Shankara. Since then, for the last 2500 years, it has been celebrated in this format.

Types of Kumbh Mela

There are three types of *Kumbha Mela*: (1) *Ardha Kumbha Mela*, celebrated once every six years at Haridwar and Prayag, (2) *Purna Kumbha Mela*, which takes place every twelve years at four places in Prayag, Haridwar, Ujjain and Nasik and (3) *Maha* (Great) *Kumbha Mela* which comes after twelve *Purna Kumbha Melas* or 144 years, and is celebrated only in Prayag.

2013 *Maha Kumbh Mela* is celebrated from Sankaranthi day to Sivarathri. More than 100 million persons are expected to participate in this Kumbh Mela. This is the world's largest congregation.

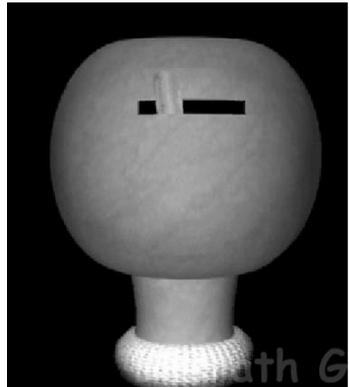
Input courtesy: Dr. D K Hari and Dr. D K Hema Hari, Bharath Gyan

Source: February 2013 issue of PreSense

Electoral System in Ancient India

The concept of People's Republic (*Janapada*) has been in existence in India since ancient times. Historical evidence in the form of inscriptions was found on the walls of the village temples in South India. These inscriptions in the village of Uttaramerur in Tamil Nadu indicate the existence of electoral systems and electoral code of conduct. They date back to the reign of the Chola King, Parantaka Deva Parkesari Varman between 907 to 955 CE. Scholars are of the view that while village assemblies might have existed even before the period of Parantaka Chola, it was during his reign that the village administration was honed into a perfect system through elections.

The inscriptions throw light on the mode of election and governance. The village assembly or panchayat consisted of 30 wards. The period of the assembly was one year. The area of operation of the village assembly, viz. the panchayat, included the village sabha - Grama Sabha, garden sabha - Thotam Sabha and tank sabha - Eri Sabha.



The inscriptions also give details about the constitution of the wards, the qualification of the candidates standing for elections, the disqualification norms, the mode of election, the constitution of committees with elected members, the functions of those committees, the power to remove the wrongdoer, and so on. The villagers even had the right to recall the elected representatives if they failed in their duty.

The election ballot was in the form of a pot, in which the electors cast their votes for the candidates of their choice. Each person's preferred vote was inscribed on a palm leaf and dropped into the ballot pot.

Some of the qualifying criteria for candidates, standing for elections were that they should know Mantrabrahmana, be well read, have general knowledge to teach others, be conversant with business and should not have been on any other committee for the previous three years. Only those in the age group of 35 to 70 could contest elections. They had also prescribed a minimum land or property holding to be eligible for contesting.

Those charged for crime were barred from standing as electoral candidates for life. The kith and kin of candidates standing for elections were not eligible to stand for elections.

These inscriptions reflect a far superior practice of democracy and a fair system of elections and governance in the ancient times, as against the flawed practices that prevail these days.

***By Susan Koshy, Editor, PreSense
with input from Dr. D K Hari, Bharath Gyan***

Source: March 2014 issue of PreSense

How Vedas Were Transmitted over Thousands of Years

Veda is the recording by various Rishis over a period of thousands of years. The four Vedas, viz. Rig, Yajur, Sama and Adarvana Vedas are a treasure trove of knowledge. The Veda was compiled on the banks of the Saraswathi River as this river is mentioned in 72 different places in the Veda.

Veda Vyasa, the Compiler

Approximately 5100 years ago, (around 3100 BCE), Rishi Krishna Dwaipayana, also known as Veda Vyasa, compiled the Vedas which was shared across various parts of the country, including some of the present neighbouring countries. Since then, the Vedas are transmitted down to our time orally. Hence, Veda is called ' Sruthi' - that which is heard and repeated.

Max Muller, a German Scholar was the first person to publish the Rig Veda in the 1860s. Max Muller described the sacred hymns as unparalleled in the literature of the whole world and their preservation as miraculous.

How Vedas were Transmitted over Thousands of Years

The unique aspect of Vedas is that the Samhitas (stanza) are recited verbatim even today, as it was recited 5000 years ago. On analysing, it was found that each Samhita or stanza of the Vedas was transmitted by 10 different methods, known as 'Pata' to maintain its purity. They are divided into 2 simple methods and 8 special methods called Ashta Vikriti.

Simple Pata - *Pada Pata and Krama Pata*

Ashta Vikriti- *Jata Pata, Mala Pata, Sikha Pata, Rekha Pata, Dhawaja Pata, Danda Pata, Ratha Pata, Ghana Pata*

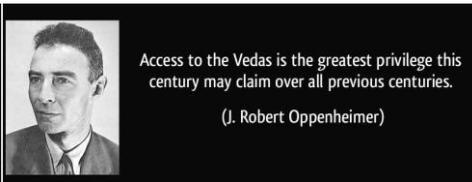
These 10 Pata recitations ensure that their purity is preserved. The recitation of the 10 Pata also acts as a self error-correcting methodology. Krishna Dwaipayana framed these 10

techniques so that its knowledge is etched in the minds of those who recite them. It is the oral system of knowledge transmission that has withstood the test of time.

Beyond Religion

The Veda text does not speak about the Gods in the way we relate to them now. They speak about the divinities only as natural phenomena.

In the last couple of thousand years, various scholars have understood and relished the Veda more from a religious perspective. There is also a very scientific way of looking at the Veda without the connotation of the religious gods.



A few scientists who have had the good fortune of going through the Vedas have realised this. Professor J Robert Oppenheimer who is considered the father of

the American Nuclear Bomb, said "access to the Veda is the greatest privilege, this century may claim over all previous centuries."

***By K Srinivasan, Editor in Chief
with input courtesy of D K Hari, Bharath Gyan***

Source: August 2013 issue of PreSense

Nalanda University

Nalanda University in Bihar, India was an ancient centre for higher learning. It was constructed in the 5th century C.E and



was supported by the patronage of the Gupta rulers, the Pala Kings and others in that region. The site is located near the then Capital city, Patna, and was a religious centre of learning for a very long period. There were over 10,000 students studying

there with nearly 1500 teaching scholars.

In the name Nalanda, Nalan means lotus and this flower symbolises Knowledge. Lotus is the flower that we use to relate to Goddess Saraswathy – The goddess of knowledge and arts. Buddha had stayed there on two occasions and hence this place was chosen. A Buddhist monk who visited Buddha, began to preach Buddhism, and a monastery was started. After the demise of this monk, his stupa was erected here. This place was close to Pataliputra- capital of Magadha Kingdom and with the support of the kingdom, the monastery was expanded to a university in a period of 400 years.

The University complex was built with red bricks. The area of the present excavation site is 14 hectares which is about one-tenth of the space of University. During its peak time, the university attracted scholars and students from as far away as Tibet, China (the land to the east), Suwarnabhoomi – Indonesia, Champa – Vietnam, Philippines, Afghanistan, Yavana - Greece, and Persia. Each block situated at the perimeter, had residential rooms and the central yard held the teaching rooms. There were many temples for Buddha and Surya – The Sun God. "Dwarapanditha" was the test conducted for admitting the students to the University. The tests were so vigorous that the success rate was 1 out of every

5. A similar practice is applied by the educational institutions and corporates in different forms nowadays.

The Nalanda University was destroyed three times on different occasions. The University was refurbished after the first two attacks. The third time, it was ransacked and destroyed by Bakhtiyar Khilji in 1193 C.E and was not revived. The great library of the Nalanda University was so vast that it is reported to have continued burning for a very long time after the invaders set fire to it, ransacked and destroyed the monasteries, and killed the monks at the site.

The value of the University was well recognised and the very concept of 'university' went to Persia, Arabia and the West only after the Nalanda University. Hence this place is marked as an important archaeological site of India today.

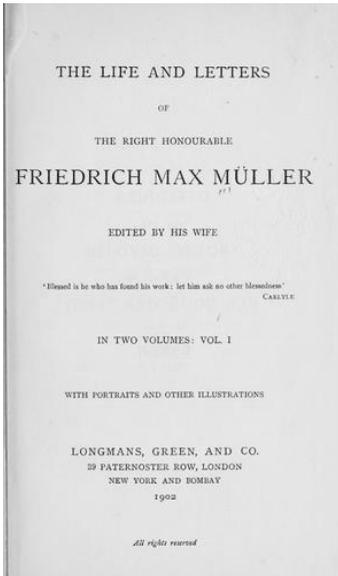
***By Sukruti A Vadula, Editorial Member
with input from Dr. D K Hari, Bharath Gyan***

Source: October 2013 issue of PreSense

The First 'Phonograph' was Tested with 'Rig Veda', which Passed through Thousands of Years in a Phonographic Way

Quoted verbatim from the book: The life and letters of the Right

Honourable Friedrich Max Muller; ed. by his wife (1902) – Published by London Longmans, Green 48 The Bell Telephone [ch. Xxm] (relates to the year 1878). Just before going to London to deliver his last lecture, Max Muller had asked his friends in Oxford to meet Mr. Graham Bell, the inventor of the Bell telephone, which preceded Edison's more perfect instrument. It was the first of its type ever heard in England. A large company gathered together, and intense interest and surprise were felt by everyone, including the scientific men present, little dreaming of the immense practical importance of the invention, and the possibility of the almost limitless extension now attained



to. Mr. Bell also brought down a microphone, only just invented, and a phonograph. The wire of the telephone was stretched from one end of the garden to the other, and even a whisper was distinctly heard. The wire of the microphone was brought from a room on the second story, and the sound made by a fly crawling along a board in the room upstairs sounded in the garden like the tramp of an elephant. The phonograph was not good, and even one person at a time found it difficult to make out what it repeated. The following week, in London, Max Muller was asked to speak into a better instrument. The scene has been well described by Mr. Moncure Conway:

'When the phonograph was invented, one of its first appearances was at the house of J.Fletcher Moulton, Q.C. (now M.P). A fashionable company, among them some eminent men of science and men of letters, gathered round the novelty, and Max Muller was the first called on to utter something in the phonograph. We presently heard, emanating from it these sounds: "Agnim i/e purohitam ya^;asya devam r/tvi^am — hotaram ratnadhatamam."

There was a burst of merriment when these queer sounds came from the machine, but a deep silence when Max Muller explained that we had heard words from the oldest hymn in the world, the first (if I remember rightly) in the Rig-veda:

"Agni I worship; the chief priest of the sacrifice, the divine priest, the invoker, conferring the greatest wealth." And then the young people gathered around the smiling scholar, to learn that the hymns had all passed through thousands of years, in a phonographic way, each generation uttering precisely what was poured into its ear by the preceding generation, until their language died, to be recovered in the West, where for the first time the real meaning of Agni, and the human significance of the hymns, were studied and known.



Source: September 2012 issue of PreSense

Shiva's Cosmic Dance is the Dance of Subatomic Matter



In 2004, a tall statue of the dancing Shiva was unveiled at CERN, the European Center for Research in Particle Physics in Geneva. CERN is Switzerland's pre-eminent center of research into energy, the "world's largest particle physics laboratory" and the place where core technologies of the internet were first conceived. A special plaque below the Shiva statue explains the significance of the metaphor of Shiva's cosmic dance with quotations from Fritjof Capra (73), an American Physicist.

"Modern physics has shown that the rhythm of creation and destruction is not only manifest in the turn of the seasons and in the birth and death of all living creatures, but is also the very essence of inorganic matter and for the modern physicists, then, Shiva's dance is the dance of subatomic matter. Hundreds of years ago, Indian artists created

different forms of visual images of dancing Shiva in a beautiful series of bronzes. In our time, physicists have used the most advanced technology to portray the patterns of the cosmic dance. The metaphor of the cosmic dance thus unifies ancient mythology, religious art and modern physics.”

The parallel between Shiva's dance and the dance of subatomic particles was first discussed by Fritjof Capra in an article titled "The Dance of Shiva: The Hindu View of Matter in the light of Modern Physics," published in Main Currents in Modern Thought in 1972. Shiva's cosmic dance then became a central metaphor in Capra's international bestseller, The Tao of Physics, first published in 1975. It is still in print with over 40 editions and still going strong.

By K Srinivasan, Editor in Chief, PreSense

Source: July 2012 issue of PreSense.

Ancient Indians Performed Sophisticated Surgeries through Ayurveda



Susrutha

Ayurveda is the knowledge of the life sciences of India developed thousands of years ago. Ayurveda is not just rejuvenation massages, Churan (herbal balls) and Kashayam (herbal decoction), as it is believed now.

In the Mahabharata, Ayurveda was called the science of eight components, which included internal medicine, paediatrics, surgery, ophthalmology, ENT, etc.

It is believed Dhanvantri is the God of Ayurveda. Charaka and Susrutha are just two names in this field. The Caraka Samhitā (or "Compendium of Caraka" is an early Ayurvedic encyclopedia on medicine. Sushruta Samhita is the main reference book for ayurvedic surgeons and details lot of surgical procedures. The medical compendiums of both Sushruta and Charaka were translated into Arabic language during the Abbasid Caliphate (750 AD). These Arabic works made their way into Europe via intermediaries.



Surgical instruments used by Susrutha

Charaka is considered as the 'Father of Medicine' and Susrutha is considered as 'Father of Surgery'.



Charaka

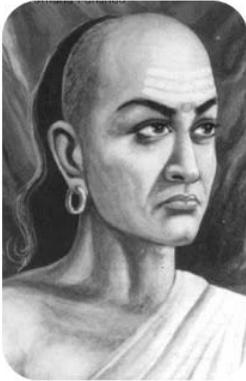
It is found from these ancient scriptures, they were performing plastic surgery, cataract surgery, surgery of the bladder, and dissection procedures too. The smallpox vaccination originated in India. 121 surgical instruments are described in these books.

Surgeons were trained. Takshasila – Maha Vishwa Vidhyalaya University specialised in advanced medical training for over 500 years and attracted students from various countries of the world.

With input from D K Hari, Bharath Gyan

Source: November 2012 issue of PreSense

Arthasastra Talks about Modern Day Governance Mantras, including Encryption of Communication



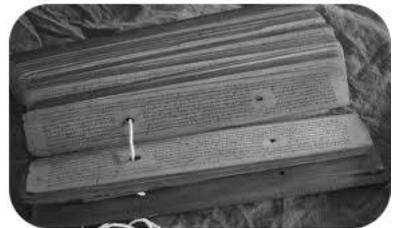
Arthasastra, the popular treatise on Indian administration, was written by Chanakya, who is also known as Kautilya. This book was written more than 2000 years ago.

Arthasastra is an Administration Manual for the rulers. Guidelines for administration of a state are not new to India. Even in Ramayana (7000 years back), Rama advises Bharatha about good governance, which is now called 'Rama Rajya'. Even in Mahabharata,

Bhishma at the time of his death, advises Dharmaputra about good governance.

Although Arthasastra dates back to 2000 years, the concepts are relevant even for the modern day governance of the State and the Corporates.

While there were many references found in the ancient literature, the original palm leaves of Arthasastra were found only 100 years ago. Till such time, it was considered a lost book. In 1911, the curator of the Oriental Research Institute, Sri Shyama Shastri stumbled upon the full palm leaf manuscripts of Arthasastra, while going through the bundles of palm leaf manuscripts.



Megasthenes, a Greek ambassador after Alexander's visit, travelled to India and wrote about Arthasastra in his work Indika and popularised Arthasastra in the Western world.

Arthasastra consists of 15 chapters. These chapters deal with the duties of the government, law making, managing war, spying, etc. What is more interesting is that even in those days, Arthasastra talked about land reforms, sustainability and prosperity, which are now considered new-age mantras. Kautilya says that Artha (Sound Economies) is the most important.

In these days of increasing instances of national espionage and usage of cryptography in communication etc. it would be interesting to note that Kautilya who was among the earliest to speak about usage of spies in national security, cryptography in communication, duties of rulers to guard the secrets of the nation and to protect those who give 'information', acting as spies etc.

It is no wonder that multinationals are now more interested in studying Arthasastra, to adopt some of the best practices.

Input by Dr. D K Hari

Source: December 2012 issue of PreSense

The Universal Word of Aum/ Om/ Amen/ Ameen/ Shalom

In the Beginning

Ancient teachings and modern science agree that all things in existence are made up of vibrating, pulsating energy. This energy is said to manifest as a humming vibration, inaudible to the human ear.



In the Sanskrit language, this sound is called Anahata Nada, the "Unstruck Sound". Literally, this means "the sound that is not made by two things striking together." The point of this particular distinction is that all ordinary audible sounds are made by at least two elements, eg. bow and string, drum and stick, two vocal cords, waves against the shore, wind against the

leaves. All sounds within our range of hearing are created by things visible or invisible, striking against each other or vibrating together, creating pulsating waves of air molecules which our ears and the brain interpret as sound. Sound that is not made by two things striking against each other is the sound of the primal energy, the sound of the universe itself. This sound is likened to the humming of an electrical transformer. It is the inaudible humming of the atoms and molecules within every creation.

The ancient scriptures say that the audible sound which most resembles this unstruck sound is the Word, Aum. Tradition has it that this ancient mantra is composed of four elements. The first three are vocal sounds: A(Aaa), U(Ooo), and M(Mmm). The fourth sound, which is inaudible, is the apparent silence before and after the audible sound, the silence which surrounds it.

The Religious Aspect

The sound, Aum is commonly associated with ancient Hindu scriptures. It is so sacred in Hinduism that it is prefixed and suffixed to mantras and incantations. It is undoubtedly the most representative symbol of Hinduism. The Hindus believe that before creation began, it was Shunyākāsha, meaning the emptiness or the void. In the state of Shunyākāsha, which literally means "no sky", everything in the void existed in a latent state of potentiality. As creation began, the divine, all-encompassing consciousness took the form of the first and original vibration, manifesting as the sound, Aum. The vibration of Aum symbolises the manifestation of God in form and it is said to be Adi Anadi, meaning without a beginning or an end, and embracing all forms that exist.

The significance of the word is not confined to the Hindu scriptures. The Bible talks about it in its New Testament, "In the beginning was the Word, and the Word was with God and the Word was God" (John 1:1). Other religions too recognise the sound or Word, Aum in its equivalents – Amen to the Christians, Ameen to for the Muslims, Shalom to the Jews, Om to the Buddhists.

The Scientific Aspect

A constant contention that science has with religious and spiritual thoughts, is that these religious 'truths' cannot be verified by experimentation or proof. Rational thinkers are therefore reluctant to accept these 'abstract' thoughts and beliefs. In this backdrop, the significance and effect of the utterance of Aum for the integrated well-being of the body, mind and inner being, gained recognition after scientific experimentation came out with some revealing observations in the following studies.

It is known that the audible range for human beings is between 20Hz(Hertz) and 20KHz(Kilohertz). What we know from the study of the musical sound is that the sounds we encounter in

routine settings have a range starting from just below the mandra saptak, or the lower octave (256-512Hz) to the tar saptak, or the middle octave (1024-2048Hz). However, the chanting of Aum requires very low frequencies - below 100Hz, with some components of infrasound (below human audibility). Since the utterance of Aum is a combination tone of three syllables, A-U-M, one study attempted to find out the frequency components by using a mathematical frequency analysis to transform function of time to function of frequency (FFT or Fast-Fourier-Transform). The sound Aum, recorded from a person, was fed to a cathode ray oscilloscope to observe the waveform.

The result showed component frequencies well below 100Hz. This is regarded as the meditative state of that person. Electroencephalograph (EEG) studies of Aum-chanting brain-wave frequency analysis revealed good, harmonious effects on the person during the low frequencies (lower than 100Hz, including infrasound lower than 20Hz). This observation led to the conclusion that the chanting of the universal Word had definite health benefits on the human body.

There is therefore more to this Universal Word than is currently recognised by the world. This Word is believed to be not only the sound of the Universe, but also a prayer by itself.

By Susan Koshy, Editor

Source: September 2014 issue of PreSense

Thanjavur Big Temple – An Architectural Marvel

Great Dream of Raja Raja Chola I

The Brahadeewarar temple, also known as the Big Temple at Thanjavur (Tamil Nadu) is dedicated to Lord Siva. It was built by the great Chola King Raja Raja 1 (985 -1012 A.D, and is one of the outstanding examples of our ancestors' architectural, engineering and astronomical heritage. UNESCO has declared it a World Heritage Monument recognising its importance.



Emperor Raja Raja Chola I was a great dreamer and aspired to achieve something 'great'. That motivated him to build this unique temple, which is an engineering marvel. Even today, civil engineering students and professors from various leading national and international institutes visit this temple to learn from this great marvel.

Chief Architect

"Kunjara Malla Perum Thachan' was the Chief Architect of this temple" says Sthapathi K P Umamathy Acharya who belongs to the clan of Kunjara Malla Perum Thachan. As per records available, the chief architect was honoured by Emperor Raja Raja Chola I with the titles, 'Veera Cholan' and



Inner hollow portion of vimanam

also 'Raja Raja Perum thachan', the highest honour of that time.

Interesting Facts about the Structure

During the present time, when buildings with huge foundations collapse in less than 100 years, this temple with a huge construction remains intact, braving all natural calamities, with a foundation of only 7 feet. Can you believe this?

The big temple complex was completed by Raja Raja Chola in 1010 AD. As per epigraphic evidence, the temple construction began in his 19th year of rule and was completed on the 275th day of his 25th year of rule. One wonders how such a big temple could be built in just 6 years, taking into account the amount of stone and soil to be moved and the lack of powered machinery available in those days.

The temple is made up of about 130,000 tons of granite. There are five stages of 'Gopurams'. The central 'vimana' is 216 feet from the ground level and has a 13-tier structure. The towering vimana weighs about 43,000 tonnes and has a square base measuring 96 feet. The whole vimana structure progresses up in a conical shape and has a shikara weighing 81.28 tonnes. This massive shikara was moved to this position by building a ramp of 7 kms from a village which still exists with the name "Sarapallam".

Foundation of 7 Feet and Vimana Architecture

The whole vimana has a foundation of only 7 feet and it is built in such a way that the weight is evenly distributed on the base foundation. The whole Vimana is built using granite rocks and is covered by a thin layer of mortar to preserve the granite sculptures inside. The vimana has a hollow structure similar to the Pyramids of Giza and the entire structure is made of stones interlocked with the ball and socket joint technique with no binding material used to hold the structural parts. This is nothing less than an engineering marvel considering the fact that this temple has withstood 6 recorded earthquakes and no major damage has been reported.

There is a big statue of Nandi (sacred bull), carved out of a single rock, at the entrance measuring about 16 feet long and 13 feet high

Paintings and Carvings

Chola paintings are partly visible on the walls and the ceiling, as they have been overlaid by the paintings of the rulers after the Chola era. These paintings were done with natural mineral colours called 'Varna Lepana' and these paintings continue to remain intact, even after 1000 years. 108 miniature dancers in different poses are carved on the basement of the upper passageway walls.

Rainwater Harvesting

The temple has been constructed in such a way that the water during rains, as well as the water used during the 'abhisekam' are fed to the adjacent 'sivaganga tank'.

In spite of the recognition by UNESCO, the Indian Government is yet to showcase it as a tourist attraction among the Indian and foreign tourists, and promote our ancient Indian wisdom.

Source: July 2013 issue of PreSense

Ravana had Six Airports in Sri Lanka

Nowadays, we see some of the State Governments and individuals owning helicopters. Around 7100 years ago, during the Ramayana days, the Sri Lankan King Ravana had 'Vimanas' (flying machines), in his airport hangars for his use. According to Valmiki Ramayana, Ravana had 6 such airports. They were Weragantota in Mahiyangana, Thotupola Kanda at Hoton Plains, Usangoda on the southern coast, Wariyapola in Kurunegala, Wariyapola in Mattale and Gurulupotha in Mahiyangana.



(picture)

When Rama was flying over Sri Lanka in the Pushpaka Vimana after killing Ravana, he described the aerial view to Vibishana, saying "Lanka shines on the earth, studded with many Vimanas" (Valmiki Ramayana, Yuddha Khanda, Sarga 20):

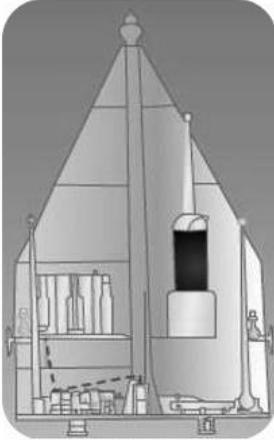
विमानै बहुमिल्लङ्का संकोर्णा भुवि राजते ।
विष्णोःपद्मिवाकाशे छादितं पाण्डुभिर्धनैः ॥१०॥

The story of Ravana flying in the Vimana with his wife Mandodari is etched as the insignia in the famous hotel, Galle Face Hotel of Colombo, Sri Lanka.

Books on Vimana Sastra

Texts like Ramayana and other Puranic texts speak about the stories of Vimana. The technical details on Vimana are available in a few other texts in India. The more prominent among these is the Vaimanika Shastra written by Maharishi Bharadwaja. In this treatise, Maharishi Bharadwaja states that he was only compiling information available at his time for various Vimana and that most of them were prior to his time. He writes about 120 different Vimanas that existed in different times in different lands. He also gives glimpses of fuels used, aeronautics, avionics, metallurgy and other manoeuvres that were deployed in flying these Vimana.

Besides, Yantra Sarvasva (by Maharishi Bharadwaja) and Samarangana Sutra Dara (by Raja Bhoja) also give more technical details about the 'flying machines'. These great books had with technical drawings of the ancient vimana and have also been translated into English in the last hundred years.



Sketch of Sundara Vimana

Four types of Vimanas are described in the ancient scriptures. They are (1) Rukma (Conical in shape, golden in colour), (2) Sundara (Rocket like with silver sheen), (3) Tripura (Three storied, wide body) and (4) Sakuna (Greyish in colour, long distance cruising model). Based on the description, technical sketches have also been drawn. The metals and fuel used and the various purposes are also found in these scriptures.

**By K Srinivasan Editor in Chief
with Input from Dr. D K Hari, Bharath Gyan**

Source: October 2012 issue of PreSense

Sri Ramanuja – Combining Spiritualism with Social Justice

The nation is celebrating the thousandth birth anniversary of Sri Ramanuja (1017-1137), a spiritual leader who lived in the 11th century. In those days of caste suppressions, Sri Ramanujam as a spiritual leader introduced several practices braving all oppositions, in order to promote social justice.



Sri Ramanuja as in
Srirangam Temple

Social Justice

Sri Ramanuja is believed to have lived for 120 years dedicating his entire life to a spiritual life with social justice. Although he was born in a Brahmin family, he selected his spiritual Guru from a different community.

One thousand years ago, when temples forbade the entry of 'lower' caste people, Sri Ramanuja allowed them into the temple and to participate in all the temple rituals. He accepted his '*sishtyas*' (students) from all communities, including the 'downtrodden' caste. He treated them all equally. He valued a person not by his birth or caste but by his devotion to God, irrespective of his social status. He addressed the downtrodden caste people as '*Thiru Kulathar*' (meaning Descendants of Maha Lakshmi). It may be noted that Mahatma Gandhi in the 20th century called them '*Harijans*' (Descendants of Lord Vishnu). Sri Ramanuja administered '*Pancha-samaskara*', to all people irrespective of their caste. '*Pancha-Samaskara*' was a ritual which was administered only to the upper caste people, to initiate them into '*Vaishnavism*'.

Management Qualities

He created 'Standard Operating Procedures' for all *Vaishnavite* temples, thus providing the opportunity to all the people irrespective of their community, to worship and participate in the rituals. The concept of 'social engineering' was introduced by him in those days. Even today, all the *Vaishnavite* temples in the South follow this procedure.

Muslim Princess Honoured in Hindu Temple

When the Moghul King conquered the Mysore area and took away the idol of Lord Vishnu from the Melkote temple, Sri Ramanuja went all the way from down south, to Delhi and brought back the idol and re-installed it in the temple. The Muslim princess at Delhi who was fond of the idol, could not bear the separation and came down to Melkote. In her honour, Sri Ramanuja established a shrine in the temple and named the shrine 'Bibi Nachiar'. Even today, only Roti is offered in this shrine in accordance with her tradition.

Social Responsibility

Sri Ramanuja provided free '*prasadam*s' to all devotees. He constructed many '*Ramanuja Kootams*', similar to the modern day '*Yatri Nivas*' and provided free food and shelter to all pilgrims. He insisted on the cleanliness of the temple kitchen in all temples. He was also a great visionary. He renovated many temple tanks and constructed tanks in villages. He insisted on 'rain water harvesting' to ensure sufficient water supply to the people all times. He designed and built a lake near Melkote between two rocky hills. He named this lake Thirumala Sagar.



Thondanur lake

This lake, popularly known as Thondalur Lake has medicinal properties and that its water has never dried up since its creation, even in severe drought conditions.

Spiritual Works

He travelled the entire nation and created a mass movement on 'spiritual renaissance', combining spirituality with social justice. He authored several books in Sanskrit. His books, *Sri Bhashyam* (inner meaning of Brahma Sutra) and *Gita Bhashyam* (inner meaning of Bhagwat Gita) are considered authoritative by scholars today. Sri Ramanuja's concept of social justice has greater significance in the world and the society today.

By K. Srinivasan, Editor in Chief

Source: April 2017 issue of PreSense

Indo-Korean Connect Through Ayodhya

In the backdrop of the recent visit of the South Korean President to India, it is interesting to note that history traces strong links between India and Korea. Dating back to the year 48 CE (Common Era), one of the famous kings of Korea, King Kim Suro, who started the Kara Dynasty, married the



History Book, Sam Kuk Yusa

Indian princess of Ayodhya. She became the queen of Korea and took on the name, Hwang Huh. History records that Queen Huh was a princess in the kingdom of her father, the king of Ayodhya. It is believed that the king of Ayodhya, on receiving a divine revelation, sent her on a long sea voyage to the Kara kingdom in southern Korea to marry King Suro.

The Kara clan, of which King Kim Suro was the first king, comprises about two-third the population of Korea. The children of King Kim Suro and Queen Huh, formed the Kim Hae Kim clan and took on the surname of Huh from their queen mother of Indian origin. Today, there are 6 million Huh descendants of the Korea-India

lineage spread across the world. Much of the information relating to this lineage is recorded in the Korean history book, "Sam Kuk Yusa" i.e. "History of Three Kingdoms", written in the 11th century.



Statues - King Suro and Queen Huh

In the year 2001, the mayors of Ayodhya and Kim-Hae City (in South Korea) signed a "Sister City Bond", and a monument in commemoration of the ancient ties between Korea and Ayodhya, was erected in Ayodhya. The international President of the Huh clan, Professor B.M.Kim made an official ceremonial visit to Ayodhya to install a plaque affirming their ancient royal lineage with Ayodhya.

This plaque was shipped all the way from Korea and is a place of pilgrimage for the six million descendants of this lineage. The lines inscribed on the plaque trace the origin of the historical ties, to the middle of the first century CE. The plaque also states that according to Sam Kuk Yusa, the ancient history book of Korea, Queen Huh, wife of legendary King Suro, who founded the Kara Kingdom, was born in Ayodhya.

Later in 2004, the Korean government declared Ayodhya as the sister city of Kim-Hae City, and another monument in the memory of Queen Huh was erected there.

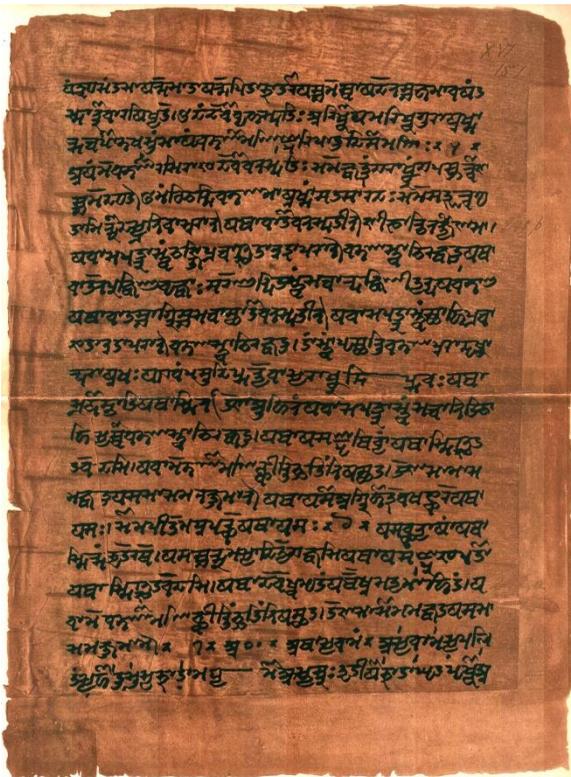
***By Susan Koshy, Editor-in-Chief
(with input from the book, "Ayodhya – War and Peace"
by Dr. D.K.Hari & Dr. D.K.Hema Hari, Founders, Bharath
Gyan)***

Source: July 2018 issue of PreSense

Vedic Vibrations Stimulate the Brain – Experts

Origin of Vedas

Vedas in Sanskrit, meaning 'Knowledge' are the distilled wisdom of ancient India. The origin of Vedas is not clearly known yet. Even historians estimate the period as 1500 BCE based on available data. But still nobody can estimate the origin of the Vedas. Even in Ramayana (7500 years old) and Mahabharata (4000 years old), Vedas are referred to. We



have four Vedas given to us by the scholars.

For thousands of years, Vedas were passed on to the next generation orally by the masters to the students. It is said, Sage Vyasa compiled the available scriptures and classified them properly. Hence he is known as Veda Vyas.

Vedas originated before the religious structures came into existence in

the world. In those times, it was called 'Sanadhana Dharma',

meaning 'way of life'. Vedas contain lot of scientific facts on astronomy, astrology, civil engineering, medicine, management, biology, Mathematics, etc. Once Dr Abdul Kalam said that scientists should learn Sanskrit and explore the hidden treasures in ancient scriptures. Unfortunately, Indian scientists have not given the importance to our own ancient wisdom that it deserves.

Even our education system has been designed in such a way to glorify the history and legacy of our only the invaders but not our ancestors. In the course of a discussion with PreSense through Zoom last year, one of the renowned Rocket Scientists concluded that India should regain the glory of 2000 years back.

Indian Culture is based on Science

Though Indian Universities have not given much importance to research to our own ancient scriptures like Vedas, many developed countries, including the US, UK and Germany have been doing extensive research on our scriptures. That is how, Yoga became globally known and acceptable. Not only do we ignore our ancient wisdom belittling and defaming it sometimes, but also give more credence to our invaders. We simply cannot ignore the fact that every part of our Indian culture is based on scientific thinking, reasoning and facts, which may need proper citation and validation.

Many developed countries, including US, UK and Germany have been doing extensive research on our ancient scriptures

Vedic Vibrations

The Vedic Mantras, when recited, produce vibrations and sound. These vibrations impact the body and in particular the brain.

To get an expert perspective on this subject, PreSense invited Dr N Ramamurthy, a Sanskrit scholar with a doctorate on the subject, to speak on 'Vedas, Vibrations and brain' through a Zoom platform amidst a distinguished audience interested in the theme. Dr A V Srinivasan, a globally renowned neurologist explained how the vibrations stimulate the brain. The YouTube links are given at the end of this article.

Five methods of recitation

Presently only 5 types of recitation are in practice. They generate different types of sounds and vibrations.

According to Dr N Ramamurthy, though there were various methods of recitation of Vedas, presently only 5 types of recitation are in practice. They generate different types of sounds and vibrations. The sentences comprise words, known as 'PADAS'. While reciting, the Padas (words) are regrouped or rolled back and forth, depending on the type of

recitation.

These five types are:

Samhita Pata: If the sentence comprises 1,2,3,4 and 5 as Padas, then they are recited as it is 12345 in a bunched form.

Krama Pata: The same sentence is recited combining two words at a time.

E.g.: 1-2, 2-3, 3-4, 4-5, 5-6 and so on.

Jata Pata: The same sentence is recited taking two words in combination of six. Eg:

1-2-2-1-1-2 | 2-3-3-2-2-3 | 3-4-4-3-3-4 | 4-5-5-4-4-5 | 5-6-6-5-5-6

Ghana Pata: 3 words are taken in combination of 13. The recitation is very tough and complicated.

E.g:

1	2	2	1	1	2	3	3	2	1	1	2	3
2	3	3	2	2	3	4	4	3	2	2	3	4
3	4	4	3	3	4	5	5	4	3	3	4	5
4	5	5	4	4	5	6	6	5	4	4	5	3

While reciting, the Pundits follow a musical pattern called 'swara', the notations of which are indicated both on the upper and lower side of the Mantra. Let us see the sequence of Gana Pata now and how the text is marked with notations.

1	2	2	1	1	2	3	3	2	1	1	2	3
---	---	---	---	---	---	---	---	---	---	---	---	---

1. ग॒णाना॑म् । त्वा॒ । ग॒णप॑तिम् ।

ग॒णाना॑म् त्वा॒ त्वा॒ ग॒णाना॑म् ग॒णाना॑म् त्वा॒ ग॒णप॑तिम् ग॒णप॑तिम् त्वा॒

ग॒णाना॑म् ग॒णाना॑म् त्वा॒ ग॒णप॑तिम् ।

Vedic Scholars undergo more than 10 to 12 years of rigorous Gurukul

training to learn Vedas. The Vedas are taught in the traditional pattern orally.

They memorize the Mantras with the sequence. *Sama Veda* is chanted in a musical form and hence it is called 'Sama Gana'. When they recite these Mantras, they generate a specific vibration that impacts the body and the brain at the same time.

Please watch the demonstration of the various types of recitation through this link to understand the concept better and to feel the vibration.

(We request readers to kindly watch this YouTube video to understand the concept better and feel the vibrations. This will help the readers to understand the next part)

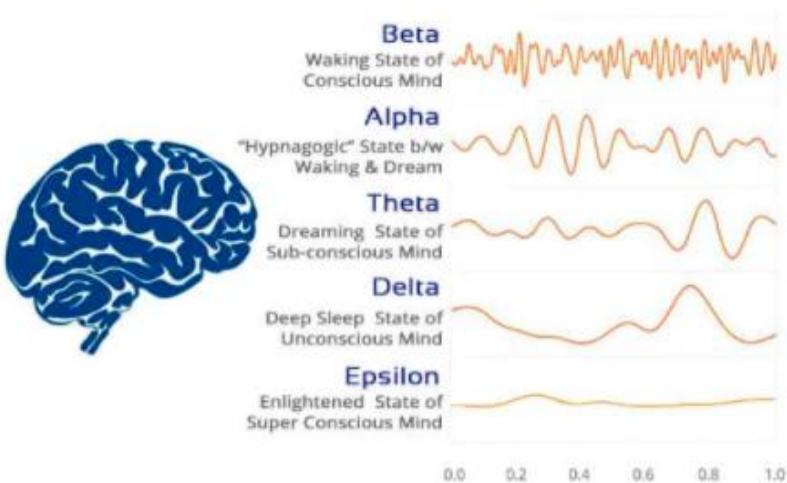
https://youtu.be/bd8d_tmQoW0

Albert Einstein said "Everything in life is Vibration". Dr A V Srinivasan explained in detail how these vibrations stimulate the brain. Both Dr Ramamurthy and Dr A V Srinivasan agree that these vibrations can only be felt and cannot be measured. However, Dr A V Srinivasan, a noted neurologist, says that experiments are going on in research labs across the world to measure the impact of vibrations to a certain extent.

Research in US

According to Karthik Raghavendran, an Entrepreneur and Researcher on Neuro technology at IIT Madras Incubation Cell, latest research at a University at the USA using Electroencephalography (EEG), has shown some significant changes in Brain activity when a person was hearing Vedic Mantras and Vedic chants. EEG record showed a significantly higher coherence in specific frequency bands (Theta and Alpha) which was generally seen only in deeper meditative states.

How vibrations stimulate brain



Says Dr A V Srinivasan, Noted Neurologist: The universe comprises vibrations. The oscillating sun vibrates and produces a sound, planets orbiting the sun and rotating on their axis produce a sound through vibrations, which some Indian scientists say resemble the sound AUM (OM). But there is no scientific study. But NASA has produced evidence that the Sun produces vibrations and sound. This has been recorded. Scholars believe OM is the basis of vibrations and sound in the origin of the universe and they affect us.

Dr Srinivasan says that these vibrations have an effect on the human body and the brain. These are classified by researchers as temporal and spatial. Temporal no one knows the origin – within or outside. But spatial is from the environment surrounding us.

All the sounds and vibrations emanating from nature effect or affect our body, brain and mind. That is why meditation can be used to control the effects of vibrations on the mind and body. The first stage is relaxation, the second is drowsiness and the third is sleep.

The next stage is called Epsilon the state of extended relaxation, where you experience complete joy, enjoyment and bliss. We

call it Nirvana and scientists call it the stage of enlightenment. It is our awareness that is at the top of the mind that merges with the universe and its all-pervading consciousness.

Tibetan Llamas reach this stage and it is said that if you threw an ice blanket on them, it would dry up in no time because of the energy they exude. They can control the onset of fever or bring fever to bodies. Indian sages have gone into samadhi, another higher form, considered as hibernation by scientists.

Videos to watch

Part one containing the presentation of Dr Ramamurthy can be watched from this link.

<https://youtu.be/A6pKmkUpWyw>



Part Two containing the speech of Dr A V Srinivasan can be watched from the following link.

https://youtu.be/Zq_sSqOhmp4



By Prime Point Srinivasan, Managing Editor

Source : July 2021 issue of PreSense

Ancient India and Mathematics

यथा शिखा मयूराणां, नागानां मणयो यथा ।
तद्वद् वेदाङ्गशास्त्राणाम् गणितं मूर्धनि स्थितम् ॥
वेदाङ्ग ज्योतिषम्

Yathāśikhā mayoorāṇām nāgānām maṇayo yathā |
Tadvad vedāṅgaśāstrāṇām gaṇitam moordhani sthitam ||
Vedāṅga Jyothiṣa – Lagadha, Verse 35

“Like the crest of the peacock, like the gem on the head of a snake, so is Mathematics at the head of all knowledge”.

The sloka (see above) from Vedanta Jyotisham, part of both Rig and Yajur Vedas, shows the brilliance of our ancient mathematicians. Even as 5,000 years ago, our ancient Indians demonstrated their brilliance in a difficult subject, but made it easy for learning and glorified Mathematics. They treated Mathematics as the fountain of all knowledge.

According to Dr Ramamurthy N, Author of the book “Number System in Samskrutam”, throughout India, in ancient times, almost all the mathematics related books were written using three types of number systems viz., *Kaṭapayādi Sankhyā*, *Bhūta Sankhyā* and *Āryabhaṭīya Sankhyā*. They used alphabets and words to denote numbers.



Kaṭapayādi Sankhya, (beginning with *Ka, Ṭa, Pa* and *Ya*), is one of the common methods of representing numerals through alphabets in Sanskrit. This method was developed by the sage *Vararuchi*. The nine numbers and the naught were represented by the letters in the Sanskrit consonants.

Bhūta saṅkhyā is a method of recording numbers using ordinary words having connotations of numerical values. The method was popular among Indian Astronomers and Mathematicians in ancient times. Sanskrit was the language from which words were chosen to write numbers in the *Bhūta Saṅkhyā* system. This method was used in the encrypted format, which the modern IT professionals talk about. Dr N Ramamurthy

Āryabhaṭīya Saṅkhyā: Aryabhatta created his own way of representing the numbers through Sanskrit alphabet by about 499 C.E., in his book called *Āryabhaṭīyam*. Sometimes, they write numbers in alphabets and words. While decoding, the reader has to transpose the numbers. E.g.: 123 is to be read as 321.

Aryabhatta (476 to 550 C.E.) in the following sloka (Pada 3 Stanza 4 of the book called **Āryabhaṭīyam**) indicates the circumference of the earth-

सरअद्रिरामअनलयोजनानिक्खयुकक्षयपरितः

Nyadbhuta	10^8	Hundred Million
Samudra or Abja	10^9	Billion
Madhya or Sarva	10^{10}	Ten Billion
Nikharva	10^{11}	Hundred Billion
Mahāpadma	10^{12}	Trillion
Śanku	10^{13}	Ten Trillion
Jaladhi	10^{14}	Hundred Trillion
Antya	10^{15}	Zillion
Madhya	10^{16}	Ten Zillion
Parārdha	10^{17}	Hundred Zillion
Titilamba	10^{27}	
Sarvabala	10^{45}	
Tallakṣana	10^{53}	

Śaraadrirāmaanalojanānikuvayukakṣyaparitaḥ

Śara(5) adri(7) rāma(3) anala(3)
 yojanānikuvayukakṣyaparitaḥ= the circumference of the earth
 is 3375 (transpose of 5733) yojanās.

Interestingly, our ancient Indians had the words to denote the mathematical values ranging from 1/16 to 10⁵³. See the table below. Modern Mathematics has notations only from Quarter (1/4) to Zillion (10¹⁵) – Source: Yajurveda Samhita (1200-900 B.C.E.)

Kala	1/16	One sixteenth
Kāṣṭha	1/12	One twelfth
Saptha	1/8	One eighth
Pāda	¼	Quarter or one fourth
Eka	1	One
Daśa	10	Ten
Śata	10 ²	Hundred
Sahasra	10 ³	Thousand
Ayuta	10 ⁴	Ten Thousand
Niyuta or Lakṣa	10 ⁵	Hundred Thousand or One Lakh
Prayuta	10 ⁶	Million or Ten lakhs
Adbhuta or Koti	10 ⁷	Ten Million or one Crore

By K. Srinivasan, Managing Editor

(As narrated to K Srinivasan, Mg Editor, by Dr Ramamurthy N, Author of the book "Number System in Samskrutam". He is a Doctorate in Sanskrit as the preferred language for computers. He can be reached at ramamurthy.n@gmail.com)

Source : June 2021 issue of PreSense

Glory of Ancient India – Amudasurabhi Show through Zoom (Tamil)

Prime Point Foundation in association with this eMagazine PreSense and Next Gen Political Leaders (NGPL) organises from October 2020 a 'Talk Show' titled "Amudasurabhi – Ancient Bharath" with historians and experts on ancient India to highlight the glory of our past beyond 1000 years, that is, before the invasion by foreigners. This programme is conducted in Tamil.

In the first episode held on 4th October 2020, Mr Veda Sridharan, Researcher and Author shared his views about the ancient temple town "Srirangam" in South India. He explained how in the ancient days, temples were used for social welfare, including the development of art and culture. The discussion can be watched at

<https://youtu.be/ASKruZQdRrA>



Episode 1 – 4th October 2020



Episode 2 – 11th October 2020

In Episode 2 held on 11th October 2020, Dr D K Hari and Dr Hema Hari shared their views on how the birth dates of Lord Rama and Lord Krishna were calculated. They have done

extensive research on the historical dates of Ramayana and Mahabharata. It was interesting to know from Dr Hari that in the original version of Ramayana and Mahabarata, the date and time of important events, including birth of Rama and Krishna, Kurushetra war are indicated through the astronomical positions of various planets. This indicates the wisdom of our ancient people.

This discussion can be watched at <https://youtu.be/7l8V5m5WcoY>

The above discussions were streamed live through YouTube, Twitter and Facebook. The shows were moderated by Prime Point Srinivasan and Sridhar Raj. Srinivas Gopal provided the technical support.

By Editorial Team

Amudha Surabhi – Ancient Bharath

Your eMagazine PreSense, Prime Point Foundation and Next Gen Political Leaders (NGPL) invite eminent historians and researchers to talk about the glory of ancient Bharath, beyond 1000 years. This programme is conducted in Tamil.

Amudha Surabhi – Edition 3 | Sea Trade in Ancient Bharath

Prof. K A Narasaiah, historian explained in detail about the sea trade in ancient India. He explained how ancient Indians traded with the other countries. He also described the ships owned by Rajendra Chozhan. Prime Point Srinivasan, hosted the show. The conversation can be watched at <https://youtu.be/Qem1s9PAnsw> .



Amudha Surabhi – Edition 4 | Traditional Medicines in India

Dr T Thirunarayanan, a leading Siddha Practitioner and Researcher, talked about the ancient systems of medicine like Siddha and Ayurveda, in conversation with Prime Point Srinivasan. The conversation can be watched at: https://youtu.be/Orzms_PAxIA .



Amudha Surabhi – Edition 5 | Common Aspects of Indian Languages

Mr S Ramachandan, Researcher in ancient inscriptions (epigraphy), in conversation with Prime Point Srinivasan, talked about the commonality in Indian languages like Sanskrit, Tamil and other languages. The conversation can be watched at: <https://youtu.be/vTHoftd8pl8> .



Amudha Surabhi – Edition 6 | History & Architecture of Ancient Tamil Nadu Temples



Mr Naga, Researcher and a popular TV Serial and film Director (of *Marmadesam*, *Chidambaa Rahasiyam*, *Rudra Venai* fame) spoke about the architecture in the ancient temples. He explained how the temples were built, keeping in mind the various aspects of rain water harvesting, drainage, etc. The talk show was hosted by Prime Point Srinivasan. The conversation can be watched at:

<https://youtu.be/wyhFs4HDxX8> .

Amudha Surabhi

Edition 7: Sri Ramanuja and His Social Reforms 1000 Years Ago



Mr Amaruvi, Author, and Mr Tada Periasamy, Leader of the Scheduled Caste shared their views on how Sri Ramanuja was boldly implementing social reforms one thousand years ago.

The programme can be watched in the following link:

<https://youtu.be/zvsU6kaxLQU> .

Edition 8: 'Sri Kanda Sashti Kavacham' – Unknown Facts

Dr M Sivachandran, author of various books on *Saiva Siddantha* and Professor, explained about some little-known facts about *Sri Kanda Sashti Kavacham*. The discussion can be viewed in the following link:



https://youtu.be/_6hB0fpDrtI .

Edition 9 and 10: Architecture and Sculpture in Ancient India



Sthapathy Dr K Dakshinamoorthy, a renowned expert on temple architecture and sculpture, explained elaborately about the various aspects of ancient building and sculpture *sastras*.

The popular film director, Naga joined in the conversation. The programme is presented in two parts in the following links:

Part One: <https://youtu.be/KEqC7V1ko2E>

Part Two: <https://youtu.be/0o0HIZXCnII>

Source: October, November and December 2020 issues of PreSense

Restoring the Stolen Heritage of India

Every country has its own unique heritage to be proud of. India has its heritage of ancient idols and statues that are unique in its character and style, to be proud of. Many of us may not be aware that in 2011, UNESCO had estimated that 50,000 idols and artefacts were stolen out of India till 1989, a number which could have trebled by now. In Tamil Nadu alone, 1,200 idols were stolen between 1992 and 2017, according to an audit by the Hindu Religious and Charitable Endowments (HR&CE) Department that administers the state's many temples. Many of them are lying in the museums of various foreign countries. According to Anuraag Saxena, Founder of the Singapore-based India Pride Project (IPP), in every decade in the past, India lost about 20,000 objects to an organised international network of politicians and smugglers. In June 2016, over 100 idols/sculptures stolen from temples, were seized from a house in Chennai. India Pride Project is a volunteer-based network spread across the globe, that tracks and arranges to bring back the stolen statues and idols of gods to India.

In spite of thousands of our heritage idols being lost in theft, so far only feeble attempts have been made to bring them back to India. India has been able to recover only about 40 pieces of stolen heritage since its independence. Interestingly, 27 of these came back in the last five years.

The Comptroller and Auditor General of India (CAG) report of 2013 to the Archaeological Survey of India (ASI) states, "There is a need for a more concerted approach for retrieval of Indian art objects stolen or illegally exported to other countries. The ASI, as the nodal agency for this purpose, needs to be more proactive and vigilant in its efforts."



Anuraag Saxena

In February 2015, the United Nations Security Council (UNSC) expressed its concern that the Islamic State of Iraq and Syria (ISIS) “are generating income by engaging directly or indirectly in the looting and smuggling of cultural heritage items, to support their recruitment efforts and strengthen their operational capability to organise and carry out terrorist attacks”.

UNSC then adopted Resolution 2199, formally recognising heritage trafficking as a tool for terror-funding. Since then, many nations, like USA and Pakistan have passed laws preventing heritage-trafficking.

The KP (Khyber Pakhtunkhwa) Antiquities Act, 2016 was recently enacted in Pakistan and it increases the financial penalty on heritage-crimes by 40 times. The law also establishes the Antiquities Trade Control Wing to regulate and monitor illegal trafficking of antiquities. Unfortunately, India has neither an updated law nor a dedicated enforcement wing.

How are the Temple Statues Stolen?

After the invasion of the Indian sub-continent by foreign rulers in the 13th century, many temples were looted for their valuable jewels and idols. Most of the ancient North Indian temples were desecrated by the then invaders. South Indian temples were not much affected. For fear of invaders, many people of that time saved the valuable temple idols by burying them in the earth.



In ancient times, the temples in the South were managed by religious and dedicated people as trustees. After India’s independence, when the temples were brought under the control of State Governments, even non-believers were

appointed as trustees. According to Padma Bhushan Dr R Nagaswamy, Former Director of Archaeology, the smuggling of temple statues was in connivance with the influential people in power.

Since many temples are very poor and without revenue, they are not able to maintain adequate security to protect the valuable temple idols. "In Tamil Nadu alone, more than 35,000 temples are under the control of the State Government. These temples belong to various periods ranging from 500 years to 2000 years old. See how many valuable idols are available in Tamil Nadu alone," says Dr Nagaswamy.

"There is a big network of people at the global level who steal these statues in connivance with the local people, and sell them to international museums for a very high price. International museums buy these idols for their aesthetic and artistic value. Smugglers produce fake documents to these museums," adds Dr Nagaswamy.

Although thousands of valuable idols have been smuggled out to various other countries and are available in their art galleries and museums, India has to fight a legal battle to identify these idols and to bring them back.

Lack of Documentation

Unfortunately, until 60 or 70 years ago, no one was permitted to take pictures or document the dimensions of the idols in temples. India therefore, could not produce proper evidence to prove that these statues belonged to a specific temple. It is only recently that the Government has started documenting all the idols.

In South India, the documents of those days are available on the wall as inscription. Sometimes, we get documents through inscriptions which can be produced to international authorities to get the statues back.

Some Case Studies

The stolen Nataraja idol of the 11th century, belonging to Sripuranthan Temple (Tamil Nadu) was handed over to the Indian Prime Minister Modi by the Australian Prime Minister Tony Abbott in September 2014. It was made possible through diplomatic relations and efforts.



Australian Prime Minister Tony Abbott with Indian Prime Minister Narendra Modi while Handing over the Nataraja Idol for Restoration

India marked its 71st Independence Day with the return of a priceless Buddha statue stolen from Nalanda, Bihar, almost 57 years ago.

A landmark judgement was given by a London Court in the case of a smuggled Nataraja statue kept in the London Museum. The statue belonged to a ruined temple at Pathur (Tamil Nadu State). Padma Bhushan Dr R Nagaswamy, then Director of Archaeology established the identity of the 800-year-old statue by producing authentic copies of inscriptions from the temple walls. Based on his deposition, the Court ordered the release of the statue and ordered that the statue be kept in the temple. In this landmark judgement, London Court clarified that the idols have to be restored to the original temples and not to museums in India. The Court also ruled that even if the temple were in ruins, the location could be considered as the temple for the purpose restoration of the idols.

Dr Nagaswamy said, "These idols were not made by our ancestors to be kept as art pieces. They were created by the then society for worship. They made the idols as beautiful as possible. These idols used to be decorated and taken out in processions during the festival time. I deposed in the London Court that these idols were meant to be kept in the respective temples for worship and not as art pieces in museum. The court ordered accordingly".



Nataraja of Pathur Temple

"Nataraja statues are preferred by foreign buyers for their intrinsic beauty and artistic value", adds Dr Nagaswamy.

According to Anuraag Saxena, under the 1970 UNESCO Convention for preventing the illicit export or transfer of cultural property, which India ratified in 1972, items taken out of the country after that date have to be forfeited and returned home with no compensation.

The Road Ahead

Every Indian should be concerned about the pride of the heritage and the glory of the past. It is the responsibility of the Union and State Governments to ensure that all the available heritage properties like idols, paintings and temples are preserved properly for posterity. The most important task for this is to document all the available heritage properties and idols/statues. Nowadays, scientific evaluation can be done without harming the idol.

Presently, there is no proper academic course in any university in the country to study and research temple heritages and

inscriptions. The Government should immediately introduce such specialised courses in the universities.

Although thousands of images are stolen from India, only 40 of them have been recovered since independence. With the support of voluntary organisations like India Pride Project and experts like Padma Bhushan Dr Nagaswamy, the Government can speed up the process to bring back our statues and restore them in their original prestigious locations.

Everyone should have a feeling that he belongs to this great nation with a rich heritage and cultural values and it is the responsibility of every person to protect the heritage.

by K. Srinivasan, Publisher and Managing Editor with Susan Koshy, Editor-in-Chief

Source : October 2019 issue of PreSense

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