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Samvit



DEC
2014

A QUARTERLY STUDENT
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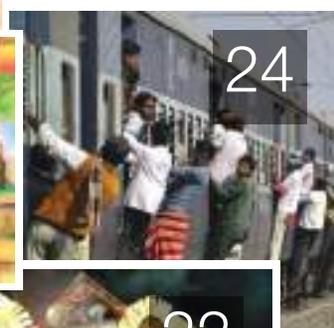
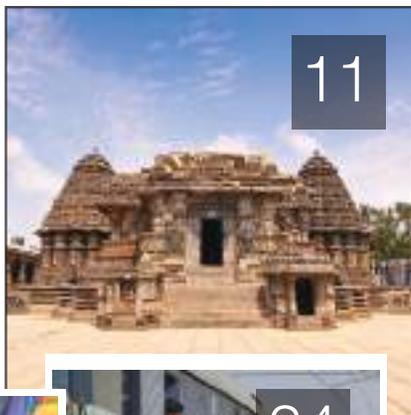
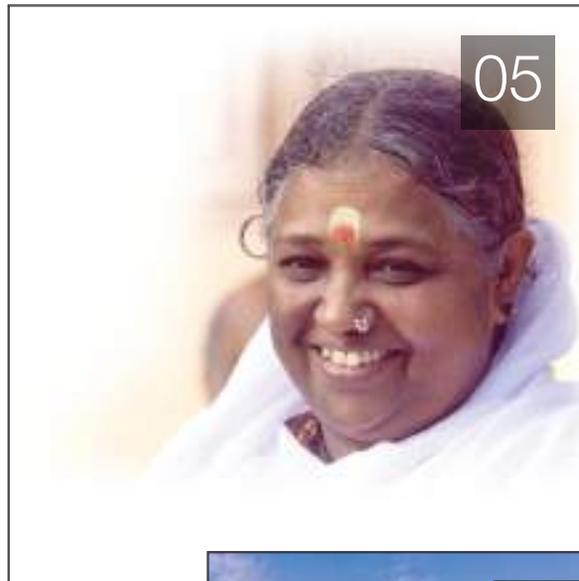
Issue 9



AMRITA
VISHWA VIDYAPEETHAM
UNIVERSITY

Established u/s 3 of the UGC Act 1956
Amritapuri, Clappana P.O., Kollam - 690 525
A multi campus university accredited by NAAC with 'A' grade

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EDITORIAL

This edition of Samvit provides the reader with a glimpse of the glorious past , happening present and prospects of the exciting future of our country . The articles on Somanathapura Temple and Patayani gives us an insight into the ancient and beautiful form of temple architecture and the age old dance form of kerala performed as a mode of worship . Somanathapura Temple built during the Hoysala dynasty is still an important tourist attraction in Karanataka. The Patayani dance form is performed on special occasions in Devi Temples .The distinguishing feature is the elaborate head dress , very similar to the ones used by Teyyam artists. The Railways contribute enormously to the economic activity of the country . Much improvement has been made but much more needs to be done .The author has presented many areas of concern that needs to be addressed with greater urgency than being exhibited . The media too is in the news these days .It is alleged that the media is a hand-maiden of their political and corporate owners . The writer has focused on the functioning of the media through the eyes of a layman .

The development of technology has forced upon us the need for Cyber Security. Cyber crimes are on the increase and this jeopardizes not only national security but also the privacy of a common man. Many innovations in the legal and technical fields will be required to tackle this growing menace .Happy reading !!



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CONVERSATIONS WITH OUR CHANCELLOR SRI MATA AMRITANANDAMAYI DEVI

“We should never forget that after every night, there is a dawn. We should never lose our optimistic faith.”
—Amma



Satguru Sri Mata Amritanandamayi Devi

- 1 Question: Amma, how does one learn to have pure, innocent love, as You say?

Only something that is alien to you can be learned. But love is your true nature. Within you, there is a wellspring of love. Tap that source in the right way and the shakthi(energy) of divine love will fill your heart, expanding endlessly within you. You can't make it happen; you can only create the right attitude within yourself for it to happen.

- 2 Question: Amma, how can one love without any expectations?

Human birth is meant for realizing our oneness with God. Yet, during the course of our life we develop so many attachments. These attachments give rise to expectations. And when those expectations are not fulfilled, sorrow, anger and the desire for revenge result. When two people fall in love, they rarely understand each other's hearts. They don't understand that, just like they are, the other person is also seeking love. Really, both of them are like beggars, begging for love. They each desire love, yet neither of them is willing to give love. This leads to problems in the relationship, even divorce. Remember, they are not jnanis [knowers of the Self]. They have not studied the scriptures. We should understand the nature of people and the objects of the world. For example, we know that if we touch fire, we will get burned. So, we are very careful when we handle fire. We should have similar awareness when it comes to relationships in life. If we dedicate our life to a higher purpose, such as realizing God, then all attachments will wither away and fall off. God is a state where there is only oneness.

3 Question: Amma how can one remain aware of God's love and its all-pervasiveness even in war-torn times?

There is nothing new about war. It has been happening since the beginning of creation. But we must realize war is man's creation, not God's. God is patience, love and compassion. In God, there is no dvaitabhava [no feeling of something other than one's self]. There is only love for all beings. It is because people lack the proper understanding about God that there is war. We cannot blame God for something we created.

Once a drunken driver caused a horrible accident. The police started to haul him away. The man protested, "Hey, why are you arresting me? I didn't do anything. It was because of the petrol that my car lost control." We shouldn't be like this, blaming God for our actions.

As we take what we need in our daily life, we should remember all the innocent people suffering from the violence of war and terrorism—the children who have lost their parents, the parents who have lost their children, the maimed and injured... The pictures we see on the news of mothers crying over the dead bodies of the children are too much to bear. But we cannot bring back the dead. We can only pray that their souls find peace. The ones who really need our prayers are those left behind. Let us pray that they gain the peace and mental strength to move forward in life.

We cannot say what change we will be able to bring about, but we should try. Spiritual understanding is what is needed: Take only what you need, give the rest to help others and understand the nature of the world. Amma is trying to bring about this understanding in people. If you plant 100 seeds, maybe only two will sprout. If you plant 1,000, maybe only 10 will sprout. But that itself is a change—isn't it?

4 Question: Amma, I have heard and read many things about angels. Can you tell me about them?

For Amma, all of you are my angels. There is an angel in everyone. In Amma's view, when we do good actions for the welfare of others—that is what gives birth to, or invokes, an angel. The good actions we perform transform us into a vessel capable of receiving God's grace. So, you can say these actions come back to us as angels. Or you can say, these good actions are like a friend, or an umbrella, that protects us as we walk through life. This is my perspective. When we look into a mirror and smile, the mirror smiles back—doesn't it? When we scowl into a mirror, that anger reflects back at us as well. Remember, whatever we do in life comes back to us. ■

Compiled by :

Sudha Nair (S5 ECE)





Every individual should examine how far these issues are addressed. With the power to set the agenda, media successfully does it by telling the people not what to think but “what to think about”. They not only stress on which subjects are more important but also decides what parts of the subject should be thought about. This proves media’s power in setting a nation’s agenda by focussing the public’s attention on trivial matters. It is high time that they chose matters of concern – whether it is necessary to emphasize on a celebrity being the daughter or “daughter-in-law” of a country. The solution lies in the hands of journalists who must stop being insensitive to the much more significant issues of national and international concern. A paradigm shift is necessary from the obsession with sting journalism to development journalism and thereby speaking for

those who cannot. The lesser fortunate people whose lives are at stake because of the defective government policies and politics need to be addressed. This can be achieved only through self-regulation and by following professional ethics.

FREEDOM OF EXPRESSION OR LICENSE TO DEFAME?

“WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation:

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.”

Media, by being the agenda setters of the society, bombard the masses with irrelevant information for a prolonged period and force them to think about nothing else but what they want them to think. The common man becomes a puppet in the hands of the media. Their thoughts get caged and they become reduced to mere passive spectators of the affairs in the society. It is time for reawakening, to demand for what the society needs and to reject the worthless.

Another need of the hour in journalism is objectivity. In a scenario where most of the media in India are under the control of business men or politicians, achieving fairness and non-partisanship is out of the question. It has become an unwritten law that a television channel or newspaper should yield to the authority of one of the political parties and also to many other business magnets for a smooth existence. None of the media channels dare to question the supporting business or political tycoons. When politics and business become intertwined, it is the independence of the journalist

activities. At the same time the masses too hold the right to be informed and not misinformed. Why the media cannot bring the facts as facts and not as distorted news to the society? Freedom of press and media are welcomed in the democratic world and in India in its best form. The common man expects all the information delivered by the media to be objective and authentic in nature. Nobody expects a bird's eye view of events that affect the society but a comprehensive and thorough account. Journalists should make it their obligation to unravel the many layers of a piece of news. This rarely happens as the journalists themselves become the investigator, the prosecutor, and the judge. They are the news makers and the news reporters, all rolled into one.

The media should resolve on selecting news which benefits the country and not targeting their business growth. Indians need action against poverty, unemployment and other social evils and not film stars, sports and entertainment. The media also needs to emphasise the positive aspects of governance, the achievements of the government and private institutions need to be highlighted and made front page news. We would like to learn about and be inspired by the stories of hundreds of ordinary people who do extraordinary things. Rapes, murders and depressing news of all sorts should be relegated to the rear pages. The morning paper should greet the reader with joy, hope and faith in the future; rather than by frustration, fear and cynicism.

The issue of development is a matter that needs an in depth study by the media and it cannot be achieved with a peripheral overview of issues. Indian media must begin a task of examining the development patterns of Western as well as other Asian countries and embark on development centric journalism which would upgrade the diminishing status of our nation. Media's attention must be fixed on topics like city planning, agriculture, unemployment, hygiene, and the comprehensive development. Indian tourism, with a pool of cultures and much scenery, can be developed extensively with the help of media who can cater to the needs of prospective and actual tourist.

The Fourth Estate is one of the most imperative pillars of the nation. They are the torchbearers of the society. As they take the torch in their hands, the people of our nation hope that they would lead the country to the right path. They have the ability to construct or destruct,

thus they can either be a powerful force in destruction and violence or a positive instrument of peace.

Media should be the voice of the public. By giving voice and information to the people, the media automatically protects the freedom of speech.

As put by SevantiNinan, media columnist and editor, let media be "Substantially localised, as well as globalised" in the long run. ■

Ms. Aswathy Das K V
Asst Prof., Dept of English



The Eternal Beauty **SOMANATHAPURA TEMPLE**



Each region in India offers a different outlook and understanding of life in the society of the past. It is necessary to examine each aspect of the past thoroughly to understand India as she is today. With such an approach, a scholar can visualise the realities of life and formation of settlements from the lowest level of the society and also identify the forces of unity that bound the various aspects together.

From the period of the Guptas (300-600 A.D), when Hinduism was well developed, we notice the proliferation of temples and sculptures. In the typical Indian society of the past, a temple was not merely a place of worship of a particular deity which was popular in a locality. Around a temple, many socio-economic,

religious and cultural linkages were developed. Various sections of the society were involved directly or indirectly in the construction of a temple complex. It was due this combined effort that the temple as an institution was sustained. Indian art traditions with its rich iconographic forms and symbols, combined with Vastu traditions, provided a strong background for the emergence of the Hoysala temples in Karnataka, and out of them, the most prominent was the Somanathapura temple complex.

Somanathapura is now situated in T.Narasipura Taluk, Mysore District, in southern Karnataka. The settlement was part of what was known as Gangavadi during the Hoysala period. Before 1268 A.D, there

were no settlements in the area. The settlements came into existence only when temples and agraharas were established by Somanatha-dannayaka in that year. He built the Kesava temple, Panchalingesvara temple, Laksminarasimha temple, Yoganarayana temple, Purahara or Tripurantesvara temple (now extinct) and Murahara temple (also extinct). He also built the agrahara for Srivaisnava and Saiva Brahmanas. He constructed a fort-wall, enclosing the area. It is said that the wall around the village was about 3x2 furlongs. The ruins of the wall can be seen even today. The entire settlement, along with the temples was located on the bank of river Cauvery.

The inscription at Somanathapura clearly states that Somayya – dannayaka created the settlement after his own name. Somanatha –linga however, appears to have been named so after the deity at Somanath in Gujarat from where the ancestors of Somayya-dannayaka hailed. From historic and literary sources it is known that the Somayya-linga was first brought to Puligere and then to southern Karnataka. Somanatha-linga was consecrated by Somanathadandanayaka in the Panchalingesvara temple. He also set up five other lingas in the north east, viz. Bijjalesvara, Hemmesvara, Revalessvara, Bhiralessvara and Somanatha. The Somanatha temple complex is not only for Saivaites but also has smaller temples dedicated to Lord Vishnu. From the description given earlier, it was seen that in the temple-complex at Somanathapura there are 4 Vaisnava (Kesava, Laksminarasimha, Narasimhesvara and Yoganarayana) and 3 Saiva (Panchalingesvara, Purahara and Murahara) temples. Of these, Laksminarasimhesvara, Purahara and Murahara temples are now extinct. Laksminarasimhesvara is referred to as Bhava, equating the deity with Lord Shiva. Hence, it may be considered to have been a Saiva temple. This, in all respects, is an indication of conscientious peaceful co-existence and harmony.

The focus of a temple is the centre or sanctum (garbhagriha) where the image of the deity resides, so the temple architecture is designed to move the devotee from outside to the garbhagriha through ambulatory passageways for circumambulation and halls or chambers (mantapas) that become increasingly sacred as the deity is approached. The Keshava temple is built on a raised platform with an outer Pradakshina pathway. The temple has a stellar plan with three shrines and Vimanas. The walls are covered in beautiful friezes of scenes from the epics, figures of elephants and battle



scenes depicting cavalry. The stellar plan creates several corners and niches that provide different canvases for the sculptor and each row carries a different pattern. The exquisite carvings are like a jeweler's work. The ceilings also carry beautiful decorations. There are three shrines in this temple with three Vimanas, so this is a "Triakuta Temple".

S. Settar (Archaeologist) has a different view. According to him, the temple-complex at Somanathapura reveals a slight intolerance, declining influence of Saivism and ascendancy of Srivaisnavism. He comes to this conclusion on his study of the sculptural representation in the Kesava temple complex at Somanathapura, where he notices conspicuous absence of icons pertaining to Saivism, whereas, he says that this was familiar in early temple architecture of the Hoysalas.

From a different dimension, the Somanathapura temple complex may be viewed from the perspective of polity. Indian polity, from time immemorial, emphasized that the goal of the State was to attain the four purusarthas, namely Dharma, Artha, Kama and Moksha. The first three purusarthas, however, were emphasized more than Moksha.



Somanathapura is famous for the Chennakesava Temple (also called Kesava or Keshava temple) built by Soma, a Dandanayaka (commander) in 1268 CE under Hoysala Empire King Narasimha III, when the Hoysalas were the major power in South India.[1] The Keshava temple is one of the finest and most complete examples of Hoysala architecture and is in a very well preserved condition. The temple is in the care of the Archeological Survey of India as a protected heritage site.

The name of the place Somanathapura gives the impression of a centre designated for the worship of Siva in a particular form even though the name is derived from the establisher of the settlement, namely Somanatha-dannayaka. In the beautiful neighbourhood of the Cauvery river, with firm, lofty and handsome walls and a deep moat, having the streets of Sun and Moon, with many houses - the appearance of the city of Somanathapura was a delight to the eye of the beholder. With Brahmanas devoted to the study of Vedas, Sastras, all the Agamas, verses, mantra, tantra and tarka, the atmosphere purified by the merit of the performances of daily rites and rituals, describing the greatness of the splendid Somanathapura is too huge a task.

Thus, the thirteenth century temple complex at Somanathapura underlined the multifaceted lifestyles and perceptions which influenced and moulded the political, social, economic and cultural ideas of medieval Karnataka. ■

Aishwarya.Satheesh
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The symmetry of the temple architecture, the intricately sculpted shrines of Gods and Goddesses on the walls and spectacular pillars that support the temple speak volumes on the skills and aesthetics of the temple architect and the builders.



Mantapa with lathe turned pillars and domical ceilings in the Chennakeshava temple at Somanathapura



CYBER SECURITY NEEDS OF INDIA

Cyber security or digital security can be broadly defined as an area, which focuses on protecting the systems, networks, and data from any unauthorized change or destruction. But what does it mean to common man, to a country and to the world?

To understand why cyber security is important, one has to know how we are surrounded by cyber world in our day-to-day lives and a little bit of history. Over the last 20 years, throughout the world, information technology has brought in sea of change in our lives. The fundamental building blocks for this are advancement in computers and communication systems and utilizing them in each and every aspect of life.

Let us take ponder over a few scenarios on how this revolution has impacted us.

Communication:

Thirty years ago, if we had to communicate to someone there were three options: 1. Trunk dialing using phone services, 2. Snail mail using post office services, 3. Telegram.

In the case of phone services one had to go to the place where landline services were available which is very few. For example in an entire village, there would be one or two land line phones were available. Even in cities, the numbers were very low. And they needed to call the telephone exchange operator, and place a request to connect to the other party. And if you were lucky, you would get the connection anywhere between 30 minutes to 2 days. And to get the telephone line to get this feature, will take anywhere between 5 years to 15 years. (Yes ! It took 20 years to get a telephone connection in India, just a couple of decades ago.)

In the case of mail, if you have to send a mail/letter to someone, you need to go to post office which could be few kilometers away, and you need to purchase the letters, cards and stamps and affix the stamps to the letter which is given to the post office. The post office will deliver it to the destination, anywhere between 5 days to 3 months depending on your destination.

In the case of telegram, when the sender gives the content of the telegram information, the person at the telegram office will convert it to the relevant signals and send it. And depending on the availability of the postman and the distance, the message will be delivered anywhere between a few hours to a few days.

Now, fast forward to 2014, it takes 10 minutes to buy a mobile phone which you can use right away to call anyone, anywhere. And you can take the phone

“ **CYBER SECURITY OR DIGITAL SECURITY** ”

can be broadly defined as an area, which focuses on protecting the systems, networks, and data from any unauthorized change or destruction. ”

anywhere with you. And when you compare that it had once taken up to 15 years, one will understand the advancements in technology. Nowadays, our smart phone has so many advanced communication technologies like Whatsapp, Facebook, Google, Skype etc that we rarely use the phone to call other people in the traditional sense. In a second, one can communicate to the entire world.

The email system has revolutionized the world in such a way; many even have forgotten the existence of the post office. And the Indian government has officially closed the telegram services last year.

Financial Transaction:

Even as early as last decade, we got our salary in cash, (sometimes in big bundles of five rupees or ten rupees currencies) and we needed to go to the nearest (sometimes 50 kilometers away!) bank, fill the form, and stand in line for half a day, then deposit or withdraw some money for the monthly expenditure.

Now fast forward to today's almost cashless society. The money is directly transferred from the employer to the employee using e-transaction, which takes a few seconds. And we use credit cards to buy anything online and our purchases are delivered to our door steps. And in every shop, we pay using plastic credit cards, which is increasingly being replaced by phone and biometric based payment systems. Many of us don't carry / see the currencies for months.

Industrial Automation:

Most, if not all, manufacturing industries are highly automated, where machines and communications among the machines have replaced more than 95% of manual labor. In car manufacturing, and even in online retailing like Amazon portals, the robots perform most of the tasks than humans; it has increased speed, efficiency and reduced the cost significantly. Very similar transformation has occurred in critical infrastructure like power grids and nuclear plants etc.

Healthcare:

Due to the advancement in medical technologies and devices which are connected and communicate with each other, the health parameters like ECG, BP, Oxygen saturation etc can be monitored using sensors which are attached to patients and the crucial diagnostic information can be sent over networks to a doctor who is in another continent. This has paved way to telemedicine etc, where the patient can get treatment from their home without having to visit the hospital.

Current Scenario

Now coming back to the Cyber Security, all these advancements in technology which has changed our lives and made our lives easier, has also made criminals move to the Cyber world from the physical world. In 2013, research has revealed that there is a 136 percent increase in the attacks against Government organizations and financial service organizations in India.

Now the thieves need not (be physically strong) to break the secure vaults of the bank. He or she can sit just in front of a computer and steal crores of rupees without leaving a trace. The same thief need not wield a knife in front of someone to steal the contents of a wallet. He can be in another part of the world and steal the same or more amounts from the wallet in the form of identity theft and phishing etc.

In the case of war between nations, they need not fight with each other by deploying nuclear bombs, they can attack any critical infrastructure of the enemy nation just by interacting with computers. In June 2010, a computer worm called “Stuxnet” was discovered. The worm was used as a Cyber Weapon to destroy Iran's Natanz nuclear reactor. The computer worm was so effective in doing its mission of destroying the nuclear reactor that, without using any bombs and physical wars, a country's nuclear reactor was destroyed.



In today's highly connected world, we post our everyday events and happenings on online Social media like Facebook and Twitter etc which, instead of sharing our lives just with our friends end up in the hands of Cyber Criminals. Also, the very same technology which helped save lives in health care can be used for malicious purposes.

In the last couple of years, India has witnessed, some of the high profile attacks against the Navy's command systems, which oversee the critical military missions. During the same period, there was a report of the serious security breaches of sensitive systems at many sensitive Government departments including Department of Defense, National Security Agency etc. Also, there were reports in the media about the Chinese Peoples Liberation Army (PLA). Specific mentions of a special army division of China called as "Unit 61398" which is thought to perform highly sophisticated cyber Espionage activities including economic espionage activities that includes stealing of confidential information and intellectual properties, blueprints of military systems and equipment. These specialized units are also reported to have other offensive cyber war capabilities, which include destruction of every single critical sectors and communication networks.

In addition to the above mentioned attacks, there are cyber Crimes which are targeted towards citizens by

the way of phishing, bank frauds, social media cyber incidents, Internet attacks, ATM network attacks, hacking and mobile based crimes. These crimes are increasing at an alarming rate of 300% in a year. And our reliance of most of our hardware from other countries puts us in to serious risks, as we cannot trust the hardware which are made from other countries to run our Defense and other sensitive networks.

To further understand the seriousness on what Cyber attacks can do to our society and the country, it is worth reading about some of the attacks which acts as a true wake up call for our Country. Our government has taken many measures to combat and be prepared for tackling many of these attacks. Institutions like CERT-In /Indian Computer Emergency Readiness Team (www.cert-in.org.in) and NCIIPC / National Critical Information Infrastructure Protection Centre are tasked with protecting critical, sensitive infrastructure of India. However, we still need more than 500,000 talented cyber security professionals. They can be new graduates or training of the existing police and other related forces.

Some of the Cyber Attack incidences which has had crippling effects on the Critical Infrastructure:

In 2012, a Cyber attack was launched against one of the largest oil refinery in the world by completely destroying all the computers in the network, there by



crippling oil production. This attack on the critical infrastructure resulted in national level loss and shook the world markets.

The 2013 attack on the major financial institutions in the US has crippled the financial transactions and resulted in unimaginable loss to the economy.

We could give hundreds of examples on how these attacks are so serious that it is a big wake up call to our nation. As each and every industry uses automation and are controlled by computers and networks, all the systems are potentially vulnerable. And it is the nation's responsibility to prevent, prepare and protect against these attacks.

What has been mentioned in this article is just the tip of the iceberg, the number of Cyber attacks which happens are mind boggling. Crippling Internet attacks, Cyber attacks which can paralyze the transportation, Finance and stock markets etc are worrisome. In July 2013, the Indian government has published national Cyber security policy (the copy of which can be found at Deity.gov.in). The policy states that in the next five years, India needs 500,000 Cyber Security experts. While there can be debates on the exact number of the needed cyber security experts, we cannot deny the fact that we need a very large number of Cyber Security experts who can defend our country, its people, and its infrastructure.

What is the answer to all these? Two important solutions which can help address some of these concerns are: 1. Cyber Security awareness which each and every one of us should have starting from school children to the elderly and 2. The Government should keep vigil and keep up the technology innovations and identify the risks which each technology brings and frame policies which address these risks without hampering the growth of technological innovation.

To sum up, India should focus more on Cyber Security initiatives which include, talented manpower, indigenous Cyber Security hardware and software solutions and products which will put a stop to relying on other countries and become self-reliant in terms of securing and safeguarding our country and its interests. At Amrita, we have a public web site, which explains some of the Cyber Security threat and help us become aware and be safe. The name of the web portal is www.securityforall.in where you can learn more about the cyber security threats and the suggestions to protect ourselves in the Cyber World. ■

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MANDODHARI

Mandodari, the ravishing beauty was born to Mayasura and apsara Hema . She married the aspiring asura king Ravana and became the empress of his vast empire. She was well-known for her courage and intelligence. The Mother of valiant sons was the queen of a golden city. Unfortunately, her husband's roving eye led to Mandodari's constant suffering due to his lust for beautiful women but she handled Ravan with great skill and diplomacy. Despite Ravana's cruelty, Mandodari's love for her husband lead her to counsel Ravan with great care. Indeed, had he followed her advice, he would not have lost his life in the war. Mandodari was indeed an ideal wife and is described as a pious and righteous royal lady.

The great epic ramayana is a rare collection of values, thoughts and unimpeachable ethics. The vedic text of ours offers eternal truths that each and every soul should imbibe irrespective of their caste and creed. The cardinals of this epic are Rama and Sita. But, apart from this, as we all know, there are many more noble characters who deserve our respect and admiration. Mandodhari - the queen consort of Ravana - is one such character whose value has perhaps gone unheard and unheeded.

Ravana, the king of Lanka falls in love with Mandodhari (lit: soft bellied), the daughter of Mayasura and apsara Hema. Ravana was attracted to her by her beauty and proposes to marry her. Mayasura accepted the proposal and thus Mandodhari was married to Ravana. Ravana is an example of consumerism and materialism as per modern terms. In spite of all his luxuries and power, he was deeply driven by desires which eventually ended up in the destruction of his own self. However, Mandodhari's attitudes are in sharp contrast to that of Ravana. She is an image of tolerance, patience and sacrifice.

The Ramayana describes Mandodhari as a beautiful, pious and righteous woman. She is extolled as one of the panchakanyas [the recital of whose names is believed to dispel sin] such is the purity and radiance of her virtues and values. She bears three sons Meghanadha, Atikaya and Akshayakumara. When we analyze the role of Mandodhari in Ramayana, we come to know that the attribute is not in width but in depth.

Despite of her husband's faults, Mandodhari loved him and persuades him to follow the path of dharma. She repeatedly pleads Ravana to return Sita to Rama but her advice falls on deaf ears. Her forbearance is unique and her strong determination to keep persuading Ravana reveals the Dharmic conscience that underlay in her.

She warns him that his lust will bring his downfall. In all these instances, we can see a wife who stands by his husband and tries to correct him instead of blaming and ignoring. This might seem ridiculous to a materialistic age but the right understanding is effectual.

Another incident unveils her audacity and courage. This is when Mandodhari stops Ravana from slaying Sita. She warns Ravana that the murder of a woman is a heinous act and an unpardonable sin and thus Ravana should not kill Sita. Mandodhari succeeds in her attempt as Ravana gives up his wicked act. Apart from this, Mandodhari is described as a beautiful woman in Valmiki Ramayana. When Hanuman came to Lanka in search of Sita, he is flabbergasted by Mandodhari's beauty and mistakes her for Sita. Later, Hanuman describes this to other vanaras and this scene is exquisitely extolled in Ramayana. Though Mandodhari considers Sita inferior to her in beauty, she acknowledges Sita's devotion to Rama and compares her to Goddesses like Sachi and Rohini.

Despite all these virtues, Mandodhari, as a character, seldom got prominence. Unlike Ravana, she was driven by the light of knowledge which gives meaning to life. Mandodhari is one of the strongest woman character portrayed in Ramayana guided by dharma and moral principles. The lessons to be harvested from Ramayana will remain valid and valuable to human beings as long as we aim for the higher goals of life and cease soul-less consumerism and materialism. ■

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REFERENCE

RAMAYANA SAPARYA
SHRI PUTHEZHATHU RAMAN MENON

KETU

Phenomenon of the Heavens

A Brief History on Comet-lore in Ancient India



A comet is a very small solar system body made mostly of ices mixed with smaller amounts of dust and rock. Most comets are no larger than a few kilometres across. The main body of the comet is called the nucleus, and it can contain water, methane, nitrogen and other ices.

From time immemorial, the starry sky has been a subject of curiosity for all of mankind. This 'open air theatre' that we commonly refer to as 'space' has been observed, documented, and analyzed for ages by scientists and intellectuals across the globe. One of the most enigmatic aspects of the sky is the comet – which are large chunks of ice and rock that orbit the sun. When these heavenly bodies approach the sun during their elliptical orbit, the ice melts resulting in a characteristic tail. Ongoing research on this atmospheric phenomenon is inspired by the findings of various renowned astronomers including Aristotle, Ptolemy, Isaac Newton, Tycho Brahe, and Edmund Halley.

But even before the well-documented discoveries of these Western intellectuals, the ancient Sanskrit texts of India presented the concept of comets with incredible detail and accuracy. In fact, references to comets are spread over the Vedas and Puranas as well as a number of religious, semi-religious, and secular texts. Some of these early records even describe the form of several comets along with their positions, orbits, and symbolism in depth.

The earliest recordings of comets are depicted in the Vedas. The Rig Veda speaks of the term dhumaketu

which is derived from the word ketu (comet). Dhumaketu, which literally translates to smoke or dust - banner, is often interpreted in two ways - either as agni (fire) or utpata (anomalous phenomenon). The latter of the two interpretations is most likely a reference to a comet. The Puranas and Mahabharata also consist of allusions to certain mystical manifestations in the night sky and speak of the occurrence of comets with more personified imagery.

The next historical figure in ancient Indian comet-lore is the great rishi Parasara (circa 1400 BC) whose works were later scribed by other scholars as the Parasara Samhita. The earliest information on comets seen in India in a non-religious context is attributed to him. Parasara classified 101 comets into eleven categories based on their origin. Out of the 101 listed ketus, twenty-six were observed and described in full detail with name, form, and time interval between sightings. The comets are also associated with either adverse or benefitting effects pertaining to agriculture, health, disease, prosperity, and climate. These twenty-six comets were purported to have been sequentially starting from the time of Vishnu's first incarnation, Matsya. Since the total number of years calculated from the time frame of these comets is about 1300 years, this

A Few Comets as Described in Parasara Samhita	
Comet	Description and Effects
Jala-ketu (Water)	Rises in the west with its head bent to the west with a well-formed star - sujatatarah. It helps people for nine months with good health and agriculture.
Vasa-ketu (Flesh or Marrow)	Rises in the west with its crown bent towards north. Elapses 130 years in the floods and causes immediate destruction.
Kumuda-ketu (Night Lily)	Seen for only one night in the west like a bright spray of cow's milk with its head bent towards the east. Does good to people for a period of ten years.
Kali-ketu	Among the Rudra group of comets. Arises 300 years and 9 months after Mani-ketu. Rises in the east along the ecliptic path with a head like the tip of a spear. It travels one-third of the sky to be seen at the horizon. For that period, corresponding to the number of months seen, the comet reduces the population to one-third and leaves only one-eighth of the grain yield.
Dhuma-ketu (Smoky)	Preceded by earthquakes, dust veils, and exchange of heat or cold (seasonal changes). Occurs at no fixed intervals.

implies that the Matsya avatar took place around 2500-2700 BC and marks the termination of the Satya Yuga and commencement of the Treta Yuga. Thus, in this manner, a historical timeline of these ancient events can also be established.

Centuries after Parasara's era, the notion of Siddhanta or mathematical astronomy came into existence. Ages before the Renaissance blossomed in Europe, Indian siddhantic astronomers could predict times of eclipses, the location of various stars, the movement of planets and even the diameter of the Earth. The study of comets was not greatly addressed during this period, but was mentioned in the works of intellectuals like Varahamihira and Ballalasena. Both these authors included many of Parasara's observations in their treatises, thus implying the impact and validity of Parasara's observations.

Varahamihira, who lived during the 5-6th century AD, claimed in his *Brhatsamhita* that the orbits of comets cannot be mathematically determined but does mention a list of comets prevalent before his time. On the other hand, Ballalasena, the king of Mithila during the 11-12th century AD, penned the famous *Adbhutasagara* which translates to "Ocean of Wonders" – aptly named for Ballalasena's interest in the mysterious happenings he observed. This tome of astronomical wisdom imbibed the words of many intellectuals including Parasara, Varahamihira, VrddhaGarga, Atharva muni, and many others into a compilation on comets and other anomalous phenomena.

Although skeptics may claim that the statements of the ancient Indian rishis and scientists are primitive, current research indicates its accuracy. The possibility of a comet-dust veil obscuring the sun and having caused climate alteration is of considerable scientific interest. Researchers today have compared theoretical estimations with those recorded by ancient scholars to demonstrate that the night sky of 3000 BC must have been disturbed. Also, there are evidences to show that large parts of the earth went through climatic disturbances around 2300 BC, supposedly due to an intense encounter with the Taurid meteoroid stream as mentioned previously in these ancient works. Therefore, using the technology and advancements that are available today, scientists can confirm the sightings of these comets and provide precise accounts of ancient Indian comet-lore. ■

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PATAYANI

Padayani, also called Padeni, is a traditional folk dance and a ritual art from the central portion of the Indian state of Kerala. A ceremonial dance involving masks, it is an ancient ritual performed in Bhagavati temples.

Patayani, evolving from Kolam Thullal is typically a form of ritualistic worship offered in some of the Kali temples in the central regions of erstwhile Travancore in South Kerala. Patayani is multi-dimensional in character as it is not only religious but also displays artistic talent. It is also instrumental in instilling a sense of equality in the society as it involves participation of members of many castes. Patayani is believed to protect the village (where it is performed) from fatal diseases and epidemics. Patayani is spread over a number of days and includes dance, drama, religious and non-religious programmes and episodes from Puranas and modern life.

The central theme of Patayani is the ritualistic dance to invoke the enraged goddess Bhadra Kali after the slaying of the demon Daarika. Kali's fury is depicted as uncontrollable and worthy of destruction of the three worlds. Lord Sree Subramanian had the idea that if Devi could see a caricature-like presentation of Her then hideous form, Her rage might ebb away. This idea was executed by the celestial beings. On seeing this representation of Herself, the Devi suddenly burst into laughter, and her anger melted away.

The characters taking part in Patayani deserve detailed study. Other than the central figures of Goddess Kali, others like Bhairavi, Pakshi, Yakshi, Kuthira and so on are also important. The masks used in Patayani are for one-time use and are subsequently abandoned, by hanging them on a tree as it is held they contain the negative charges which they have drawn out from the surroundings during that day's performance.

Patayani does not take place on a particular stage but in the open courtyard of any important Kali temple. It is always enacted in the midst of a circle of spectators



seated on the ground. The creation of Kolams is in itself an intricate art. Kurutholas play an important part in the embellishments. The colour and brushes are from natural products. The important Kolams of Patayani are BhiraviKolam, PakshiKolam (bird kolam), YakshiKolam, KaalanKolam, MaruthaKolam and PishachuKolam.

Patayani is usually conducted in the Malayalam months of Makaram, Kumbham, Meenam, Medom and Idavam. The festivals normally last for seven days, though rarely they require a duration of 28 days. The first two days are characterized by "ChootuVepp", in which the temple priest ignites the chootu from within the sanctum to the village chief who circumambulates the temple with the accompaniment of "Pachathappu".



The third day ushers in the solo dance of the GanapathyKolam, thus named not because it portrays Lord Ganapathy but as it is the maiden Tullal of the festival. "Pulavritam" is another important ceremony of the third day in this ritual in which all the members of the backward Pulaya caste, sing and dance with devotion.

On the fifth Day, the Panchakolam Thullal takes the stage with performance of the Slokams. This nocturnal dance drama, starting on the fifth day, lasts for the entire duration of the day and ends in the pre-dawn hours of the sixth day. "Adavi" is another ritual that takes place on the fifth day in which 28 tender coconuts are placed on plantain leaves and decorated with areca nut flowers and are offered to the spirits of Devi. Branches of certain



identified trees are brought and planted on the temple ground to create an illusion of the jungle.

On the sixth day "Poopata" and "Ita Patayani" take place. In "Ita Paatyani" the entire Patayani is presented in a capsule with short intervals.

A full scale Patayani, spectacular and awe-inspiring, is presented on the seventh day, named as "VALLIYA PATAYANI". There is a procession of carved wooden figures of Gods and Goddesses, hoisted on shoulders of men along with music and beating of drums. The highlight is their arrays of kolams, coming in order one after another, required to arrive at the destination within one hour. This is known as "ETHIRELPPU" or reception. The kolams then dance separately infusing spectators with veneration, awe and admiration. Fancy dress and humorous impersonations are also conducted.

Patayani, thus, is a multifaceted art form, which due to Bhagavathi's grace is still vibrantly alive. It is a visual extravaganza, a meeting ground where the rich and poor, artists and art lovers and people from all walks of the society gather to celebrate in a very special manner. ■

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REFERENCE

GLIMPSES OF KERALA CULTURE
PRINCESS ASWATHI TIRUNAL GOURI
LAKSHMI BAYI



GATHERING STEAM

Putting INDIAN RAILWAYS on the Growth Track



Imagine being able to commute daily to work from Mumbai to Ahmedabad. If the Indian Railways has its way, commuting between Mumbai and Ahmedabad will be far cheaper than travelling by air. At a speed of 300 km per hour, the 'Bullet' train will cover the 650 km between these two cities in just a little over two hours. At present the travel time is about 7 hrs. The government has announced its plan to build a diamond quadrilateral - a high speed rail network connecting all the prominent metros across the country.

While discussing these latest developmental projects of the Indian Railways, one has to remember that it has come a long way from its modest beginning in the year of 1853 with its first train plying from Mumbai to Thane covering 34 kms. Since then, there has been no looking back. Today, it covers 65,436 km connecting 7172 stations across the country. In addition, the Railways transport over 25 million passengers and tons of freight every day. For long considered a microcosm of India, Indian railways not only acts as a transportation network for people to commute from one place to another but has become the connecting link of the nation, knitting the far-flung places of our nation through its tracks. Trains have emerged as the major means of transportation for the masses and have become an integral part of the day to day life of our people. The Railways have also been the back bone of the Indian economy, contributing close to 1.25% of GDP through transportation of people and goods.

The World Bank has predicted that India's GDP would be reaching double digit growth in 2020, surpassing few of the world's largest economies. A modernized Indian Railways ought to provide a more vital infrastructure to enable the overall national growth.

What Ails Indian railways?

While discussing the greater possibilities of future, it is important to know where the Indian railways stand in terms of its potential. Indian railways are plagued with so many issues at different levels. The important aspect is the pace of infrastructure development to meet the demands of an ever increasing customer base. To illustrate this point, the Indian Railways have added only 13000 km of tracks since 1947 (approximately 197 km per year), where as China, according to the Ernst & Young report has added 14,000 km between 2006 to 2011. In addition, China is planning to invest \$104.1 billion (USD) in developing its railway infrastructure.



The next issue is speed, when the entire world is all about high speed trains connecting far places in the shortest possible time with the advent of technology, Indian trains still run at abysmal low speeds when compared to the speed of trains elsewhere in the world. This is not only about the speed of train but a matter of wastage of precious resource. Time is a resource, which any country aspiring to become a super power, can least afford to waste. The Indian railways' highest operating ratio is 94 %. Its surplus after expenditure is a meagre 602 Crores for the current fiscal year, clearly inadequate for any modernization effort. In spite of being a monopoly in the sector, the railways are just

scrapping through with the meagre surplus. This is symptomatic of a larger disease within the system.

Railways have always been a victim of "populist" policies targeted to reap political dividends by ruling parties. The railway ministers in the past have generally not favoured hiking passenger fares fearing political backlashes from their respective constituencies. In addition, they announce populist schemes only to be left in the lurch for want of financial wherewithal. For example, out of 676 projects announced in last 30 years, not one has been completed till now. Instead of functioning as a commercial entity with social responsibility, Indian railways have been functioning like a social welfare entity with occasional commercial gigs. The railways have really taken the people for a ride!

Safety is another area of concern. Though the number of accidents have reduced drastically in the recent years, (still the loss of human lives is substantial due to accidents, derailing, unmanned level crossing etc) almost 70 percent of the fatalities are due to accidents at the unmanned level crossings. Currently we have around 17000 unmanned crossings all over India. Most alarming fact is that the most of these casualties is the result of human negligence. Quality service for passengers is another huge setback and an area that needs a lot of improvement. Much more needs to be done on board trains and at stations. Indian railways falls behind in comparison with its western and south eastern counterparts.



Capacity Creation

The modernization of Indian railway cannot happen without increasing adequate capacity to handle the demand of fast paced economic growth.

This could be achieved by doubling, quadrupling of railway lines, complete segregation of passengers and freight lines on HDN (High Density Network), complete electrification on busy trunk lines.

Revamping freight lines are essential for meeting the rapidly increasing economic activity.

The Indian Railways is planning to develop DFCs (Dedicated Freight Carrier) across the country, connecting all the key industrial hubs and logistical hubs with easier access to ports.

Passenger Service

Indian railways have been the favourite choice for the majority of Indian population as the cheapest and safest mode of travel compared to the other modes of transport.

Though the customers keep patronizing Indian railways with their unflinching loyalty, our Railways have not prioritized providing a world class customer service experience to the passengers.

Customer experience is an area which government and railway has to focus before we ever dream of developing a world-class railway network.

It's good sign that the government in the latest budget has announced to provide facilities such as banking, wi-fi services to the passengers on select trains.

Road Ahead for Indian Railways

While the discussion of what ails the Indian railways could be endless, the need of the hour is to harness all its resources to focus on improving the core areas.



Introducing High Speed Trains

The immediate task is to strengthen the existing infrastructure to accommodate high speed trains. With the help of technology, the trains which are running at relatively lower speeds (70Km/h to 120Km/hr) could be increased to higher speeds (250 to 300 kph).

With the announcement of high speed corridors, we are well on the way to addressing the speed issue which is very critical as it will have huge impact on economic growth of our country.



India's first high speed train that will link New Delhi and the Taj city of Agra

Resource optimization & Sustainability

One may wonder how the railways can support itself financially given the meagre amount of surplus (620 Crores) it generates, and to implement the various projects as it needs a massive investment. The first thing is to rationalize the ticket fares of passenger and freight, which the government has already done. (Passenger fares by 14.2 percent and freight rates by 6.5 percent). Indian railways own vast swath of land (4.32 lakhs hectare) all across the country. These lands could be used for commercial purpose to generate revenue for the railway. Indian railways with its vast transport network can start parcel/cargo business delivering goods at the door steps. This can be an entirely new business opportunity which has lot of scope to grow in this burgeoning economy. The government has

proposed its plan to allow FDI in railway in the operational areas which can be a game changer for Indian railways.

There are vast opportunities waiting to be tapped if Indian railways can get its act together and modernize and manage its operation in a more professional and pragmatic manner. If that happens, as they say, the sky is the limit. ■

Mohana Sundaram S
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Network Expansion

The route network of Indian Railways has expanded very slowly. 13000 km since 1947 is nothing to boast about. While doubling of lines, gauge conversions, electrification and many other positive things did happen during the last six decades, the overall expansion of the Indian Railways in areas it did not serve earlier has been unacceptably slow.



Level crossing with egg-shaped radar sensor system for automatic level crossing free detection

Safety measures -

zero tolerance for accidents

Train safety is an important focus area which needs drastic measures as it involves human lives. Innovative technologies should be used to provide early warning to engine drivers or sensors should be deployed to close the gates automatically. Advanced technologies should be deployed in critical operational purpose such as signalling. High quality training should be given to employees to be adept in handling the technology upgradation.

Kanchipuram is most famous for two things – temple and silk, the two major ingredients that make our culture and heritage unique. Spirituality, culture, tradition, temples and worship have been divinely connected with the holy silk sarees of Kanchi. The intricate process involved in the making of a sari is truly fascinating. While there are other silk saree centres in Arni, Dharmapuri, Salem and Rasipuram, Kanchi has always been considered the silk capital. The traditional silk saree weaving industry of Kanchipuram is believed to have a very early origin. The Kanchi silk sarees have always been passed from mother to daughter like the throne of the king to his son.

According to historians, the Kanchipuram silk got its royal patronage during the reign of Vijayanagara Kings. The large number of Telugu weavers is an evidence for this. While we are subjected to change every single day in this modern world, it is quite interesting that over all these years, the process of weaving this saree hasn't changed much. Perhaps, the preservation of this ancient talent could be the reason for its lasting success. To a great extent, our Government has also been helpful with its decision to avoid automated power looms in the making of the saree due to which the industry continues in the same tradition as centuries. The innovation and craftsmanship of an Indian weaver can be clearly seen when one takes a close look at the making of the saree.

Now let's see how this magic takes place. The silk yarns that are used to weave silk sarees are the boon of silkworms. Even the mulberry



KANCHIPURAM *Silk*



Kanchi Kamakshi Temple

Kanchi Kamakshi Temple is a beautiful temple located in the historic city of Kanchipuram near Chennai. The temple is dedicated to Goddess Kamakshi, a divine form of Parvati. This temple is popularly associated with Adi Shankaracharya.



Ekambareswarar temple

Ekambareswarar temple is located at the northern part of city (Shiva kanchi) Kanchipuram. The gopuram of the temple is tallest one (59 m long) and sculpture is very finest. Main deity of the temple is Lord shiva. Shiva worshiped as linga in this temple.



leaves have a role in the making of saree. Who would have thought while wearing a saree that every golden thread has a connection to thousands of silkworms and the mulberry leaves that grew somewhere? It's when a lot of these elements and efforts combine that a material of such serenity is evolved. The silkworm form cocoons with their saliva. These cocoons are removed from the mulberry bush. They are sold as it is or after converting into yarns. Now comes the painful part. The cocoons are put into boiling water. So, every time you wear a saree, remind yourselves of the thousands of silkworms who sacrificed their lives to beautify your attire. A strand of the yarn is taken and is reeled. If the yarn is broken in the process, it is taken again and connected. An average of 10-20 cocoons put up a yarn. The main raw material, the silk yarn is obtained from Chittagutta from the state of Karnataka.

Sheen and weight are some of the major factors that make the Kanchi sarees different from other sarees. The difference arises right from the twisting of the yarns. They are twisted in the ratio 7:10 respectively. This twist enables the saree to retain a long span after which

it is subjected to the process of winding, doubling, degumming and dyeing. Then it is given 'dressing' by stretching it out in the open and looping it at each end. Then comes sizing - this is done before sunrise as the ends do not stick to one another - followed by piercing. The 18 yard sarees are woven in the loom.

Mahatma Gandhi had said, "The spinning wheel is our nation's second lung." Next to agriculture, the handloom industry provides a major source of employment to the rural people in India and Kanchipuram is one of the biggest production centres of pure silk handlooms with more than 60,000 silk weavers. Many revolutionary changes may take place in the fashion industry, but the position of Kanchipuram Sarees are above all these and they still own a special place in the hearts of every Indian woman. ■

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REFERENCE

INDIAN RESEARCH JOURNAL (VOL2)
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VRIKSHAYURVEDA

An Insight in to the Plant Traditions in India

Vedas, the perennial source of knowledge, exhibit a deep sense of respect for nature and natural phenomena. Adharvaveda praises mother earth with prithvisuktha; “Matha Prithvi; puthroham prithvya...”

Glimpses about tree-life can be seen in Varaha Mihira’s “Brihatsamhita”, “Agnipurana”, “Arthasasthra of Kautilya” etc. Mahabharata, Yanjavalkyasmriti, Manusmriti etc also gives us information about tree-life. Though the term Vrikshayurveda was first coined

in Arthasashtra, a Sanskrit work devoted exclusively for different agricultural operations can be obtained in "KRISHI PARASARA", a work by Sage Parasara. The presently available manuscript on Vrikshayurveda is by "Surapala". It comprises the glory of trees proclaimed in our puranas like Matsyapurana, Brihatsamhita which gives us extended knowledge on horticulture and botany.

The treasured knowledge can be adopted in the field of Agriculture, Horticulture, Ayurveda and other life sciences. Right from the Vedic periods, plants have been used for making weapons, utensils, instruments and for medicine preparations. This utilitarian side probably might have given the first stimulus to the scientific study of plants. Association of human beings with trees deepened the concern about health of forests, which made the Sages think about the ailments of plants, its causes and cure. Plants have been part and parcel of the myths and customs of India. They were considered as Divine and identified with Gods, Planets and Months. Bael leaf is worshipped by the name of lord Shiva, tulsi leaves as Lord Vishnu, and thus naturally fosters their protection. Our Ancestors believed that plants also have special senses and athma. Hence Shodasa Kriyas, Upanayana, Vivaha etc were done to plants like Ashwatha and Nimba. God is described by the characteristics of a tree, the Omnipresent tree of swedasweda Upanishads, Presence of Jeevathma [chethana] of trees is explained to us by emphasising that they also have desires, and unless they are satisfied, they would not bear flowers. As example, they quote blooming of Priyangu [Calicarpa macrophylla] by the touch of maidens, flowering of Ashoka tree by the presence of ladies etc.

Planting trees is considered better than building ten houses. The benefit obtained by planting a tree is worth having 10 sons at home. Plants are treated as objects having direct or indirect bearing on the social, economic and political life. Ideal land for plantation should have soil that has "thaptatha suvarnabha" [complexion like hot gold] and "Suka Paksha Komala", ie: soft and tender like the feather of a parrot. It must be Sama [plain] and Haritha [with greenery]. Classification of land has been made on the basis of Varna [colour], Rasa [taste] and geographical contents of soil.

Proper guidelines for making "Vatika yojana" [garden layout] can be found and it is desirable to set the garden towards the east or west part of the house. Planting

trees in specific number, like Ashwadha[1], Amlaki[3] brings heavenly blessings.

One should avoid planting thorny and latex yielding plants near the house. Trees, their Aropanam, Poshanam, Pushpolpathi, different ailments and their treatment are described as "Vrikshadi, Prasadharopa, Palanadikrithijnan". In Vishnu Purana, the entire morphology of a plant has been described as Ankur (embryo), Nala (stem), Patra (leaf), Pushpa (flower), Moola (root), Ksheera (milky sap), Tusha (husk), Beejakosha (seed), Kana (endosperm) etc.

Proper guidelines about collection and selection of seeds, germination techniques, grating, cutting, sowing, planting, nursing and maturing of plants is clearly mentioned. Cultivation of plants under favourable materiological conditions, pest and disease management etc mentioned in Vrikshayurveda can be utilized in the field of modern agriculture. Seed viability, propagation of plants with seed, stem and their transplantation methods are also well explained. Land fertility can be increased by vegetable farming and intercropping with seeds of Cucurbitaceae family. Honey, Sarshapa, leaves of Nichula, Vasa (animal fat) mixed in water is administered during irrigation. Fumigation with Vidanga, Sarshapa, Ghrita (ghee) etc helps to control pests.

Plant diseases, their etiopathology, symptoms of diseases like glandular formations in fruits, delayed fruiting, paleness of leaves, immature falling of fruits are also discussed in detail. Treatment of diseases is done with Dhupana dravyas like Nimba, Sana, Ghrita, white mustard, Asafoetada and Vidanga. To disinfect the plants, Aragwadha, Karanja, Lasuna (garlic) etc are ground into a paste with cow's urine and is applied on the affected part. Medicaments to relieve the anomaly of drying of trunk - "Sushkataru" can also be obtained. Sterility in plants is treated with regular use of Tila, Kuladha, Yava, Masha and Mudga paste with water. After treatment, they are found to bear profuse number of flowers and fruits regularly (Nityam Pushpa Phalaih).

Vrikshayurveda also opens a new vista towards agrotechnology to make certain desired effects on plants, leading to surprising results like acquiring specific smell (Gandha Samutpathi), production of fruits without seeds, changing flower as a whole (Pushpa Parivriti). The concept of bonsai plants might have taken its origin from "Padapa Vamanathwa" (dwarfing). Several crores are being spent every year on pesticides that are proven

Samvit

to be environmentally disastrous. A detailed study on Vriksha Ayurveda may provide valuable information on pest management based on sound ecological principles which can provide valuable alternatives for chemical fertilizers.

The great knowledge of our sages on plants and their effort to preserve and protect them with an emotional relationship with nature has to be appreciated. Though many of the facts conveyed may appear fanciful and far-fetched, it mirrors the sentimental attachment of

our ancestors with nature. Traditional knowledge does not adopt the 'observe –observed' frame for the study of nature. In fact, they immerse themselves into nature and study it by becoming one amongst them. ■

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*“When the last tree is cut down,
the last river poisoned,
the last fish caught,
then only man will discover
that he cannot eat money.”*

Cree Indian Wisdom



Samskriti
Amrita Vishwa Vidyapeetham
Amritapuri Campus