

Into The Future With Knowledge from Our Past

A Sourcebook for

'VTT Scholar Quiz Competition 2007-08'

- Lessons from the *Panchatantra*
- Potential of *Ayurveda*
- Ancient Indian Technology
- *Srimad Bhagavad Gita* & Lessons for Modern Management
- *Siri Bhoovalaya* – A Unique Kannada Work of Cryptology
- India's Contribution to Linguistics
- Yoga & Leadership

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- Dakshinamnaya Sri Sharada Peetham, Sringeri
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PREFACE

Students from twenty-two colleges and pre-university colleges, other than the BMS College for Women, which co-sponsored the programme, participated in the sixth annual *Into the Future with Knowledge from Our Past* seminar. A majority of the students (51.3%) was from the Commerce stream followed by Science (30.68%). However, it was encouraging to find that students from all educational streams, including professional courses like engineering, business management and computer applications, attended the seminar. While each of the topics dealt with in the seminar was rated the “most liked” by at least ten per cent of the students, *Lessons from the Panchatantra* (73.02%) and *Srimad Bhagavad Gita and Lessons for Modern Management* (30.68) appear to have been the most popular among students. Almost 95% of the students indicated that they found almost all the lectures relevant. Nearly half of those who attended (48.6%) felt that they would like to have more than one such seminar every year, and 66% of them were happy with the duration of each of the lectures, though the consensus was that extra time for student interaction was necessary.

We find the response from the younger generation to this seminar extremely heartening and hope we can do more to realise their ideas for future programmes. At the same time, we also feel that it is our duty to address the concerns that some students have expressed through their suggestions in the feedback form. These are, one, why should we not have lectures on subjects like personality development, biotechnology and so on which will have a bearing on the student’s immediate future? The second question is, why is there so much of Sanskrit and Hindu religion? The common answer to both questions is this. The purpose of this seminar, primarily, is to inform ourselves of the long history of knowledge that India possesses. As Dr. Ganesh said in his talk, a country that does not have regard for the history of its heroes and its achievements is doomed to be stunted in its ability to dream about its future.

The history of our country did not begin with the advent of Christianity or Islam. According to historians, St. Thomas, one of the twelve apostles of Jesus Christ, came to India in 52 CE. About a hundred years after this, Malik bin Dinar, one of the thirteen followers of Prophet Mohammad reached the kingdom of Cheraman Perumal in Malabar and converted him to Islam, besides getting one of the world’s earliest mosques, the Cheraman Juma Masjid, built (612 CE). Surprisingly, both St. Thomas and Malik bin Dinar reached India through the ancient port of Musuris, now known as Kodungallur.

However, the continuity of religious traditions that have morphed into Hinduism as we know it today dates from periods as far back as five thousand years ago or more. Predecessors of Hinduism are the religious traditions of the Bronze Age Indus Valley Civilization (c. 3500-2000 BCE) and Iron Age Vedic Religion (the Iron Age began in the 12th century BCE in the ancient Near East and ancient India. In regions of Europe other than Greece the Iron Age began much later, only around the 8th century BCE). Hinduism as it is practiced today is an amalgam of ancient legends, beliefs and customs which has adapted, blended with, and spawned numerous creeds and practices. The earliest literature of Hinduism is made up of the four Vedas: the Rig-Veda, Yajur-Veda, Sama-Veda and the Atharva-Veda. Of these, the Rig-Veda is considered to be the oldest surviving work of literature. And, the language of these books is Sanskrit. So, if one really wants to consider the history of our country and its ancient knowledge wealth, objectively, one cannot but talk of Hinduism and Sanskrit.

The spirit of inquiry is what should inform our preferences. We should not allow other considerations to prejudice us in what is essentially a journey into our past.

January 2008.

Sri Tirunarayana Trust

A NOTE TO STUDENTS

Some of you may have attended the lectures at the seminar *Into the Future with Knowledge from Our Past* held at the BMS Engineering College Auditorium, Bangalore, on 25th and 26th September 2007. In this booklet, we have tried to capture the essence and spirit of those lectures given by eminent professionals from diverse fields. A brief profile of these speakers is given on page 3 of this booklet. An attempt has also been made to give the translation and transliteration of most Sanskrit and other Indian language terms that appear in this book.

As you know, there will be a Quiz competition based on the contents of this Sourcebook. The details of the quiz are given below.

Preliminary Written Round: (OPEN BOOK FORMAT. YOU CAN FREELY REFER TO YOUR COPY OF THIS SOURCEBOOK DURING THE WRITTEN QUIZ)

Date: March 1, 2008 (Saturday) at 2 P.M.

Final Oral Round:

Date: March 8, 2008 (Saturday) at 2 P.M

Venue for both the rounds: BMS College for Women, Basavanagudi, Bangalore.

Prize: Winner is declared the 'VTT Scholar for the year' and will get a scholarship of Rs. 300/- per month for one year and a medal in sterling silver. Runner-up gets a medal in sterling silver. All finalists get certificates of merit.

In the scholarship year, the VTT Scholar is expected to do some research on the relevance of ancient Indian knowledge to the present day. The findings need not necessarily eulogize; a critical, scientific appraisal will be appreciated. Besides the scholarship, the VTT Scholar will also be given an opportunity to present a paper at the subsequent year's seminar, based on the student's research into the topic of the series, *Into the Future with Knowledge from Our Past*. The research should exhibit some original thinking and spirit of enquiry. It must not be merely a reproduction from existing literature available in books or on the Internet.

The purpose of the seminar and the quiz is to reach the message to the younger generation that India has a rich heritage of knowledge of which we need to be justifiably proud, and also that there may be much to learn from our past for application in the present times as there is a yearning all over the world for simpler, more natural and sustainable alternatives to solutions which, though technologically advanced, are often effective in the short term and create an adverse impact in the long term. So read the Sourcebook from this perspective and think of newer avenues for research on the topics presented.

You can send your ideas and suggestions to us at the email tirunarayana@gmail.com.

Happy Reading!

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A BRIEF PROFILE OF OUR SPEAKERS¹

- 1) **Shatavadhani Dr R Ganesh B.E. (Mech), Msc., Engg (Mech) from the Indian Institute of Science), M.A. (Sanskrit), D.Litt.***
 - Formerly faculty member, R.V. College of Engineering, MS Ramaiah Institute of Technology; Research Associate, Indian Institute of Science; Director of Sanskrit Studies, Bharatiya Vidya Bhavan.
 - Published over 150 research papers in the fields as diverse as Science, Ancient Indian Technology, Sanskrit Literature, Philosophy, the *Vedas* and Sculpture.
 - Delivered over 5000 Lectures on Indian culture and heritage in national and international forums.
 - Published 23 books in Kannada, English and Sanskrit containing original research work, poems, plays and translation.
 - Only Shataavadhani to perform in eight different languages. Also a well known Carnatic classical musicologist.
- 2) **Prof. B Mahadevan, M.Tech, Ph.D., Industrial Engineering and Management Division of the Indian Institute of Technology, Madras.**
 - EADS—SMI Professor of Sourcing and Supply Management, Operations Management, IIM, Bangalore
 - Has more than 15 years professional experience in teaching, research, consulting and academic administration at IIM Bangalore, IIT Delhi and XLRI Jamshedpur.
 - Has been consistently rated among the top five professors in IIMB's academic and executive education programmes.
 - On the editorial board of leading journals including Production and Operations Management Journal (USA) and has published research findings in leading international journals.
 - Author of the best selling textbook *Operations Management: Theory and Practice*, published by Pearson Education and Tata McGraw Hill's *The New Manufacturing Architecture*.
 - Has been designing executive education programmes for more than a decade on contemporary topics of interest to senior management for private and public companies in India, large multi-national corporations and other professional organizations in India and abroad.
 - His other interests include researching the role of Sanskrit and ancient Indian wisdom in addressing contemporary issues in management.
- 3) **Mr. M. Mahadeva Shastri**
 - Formerly worked as an engineer in reputed companies, now provides engineering consultancy.
 - Has an abiding interest in Kannada and history of the language and its people.
 - Has composed and published poems and acted in plays and television serials.
- 4) **Dr B Narsing Rao, B.Tech, Chemical Engineering (IIT Madras), M.Tech, Industrial Engineering (NITIE Bombay), Ph.D, Industrial Engineering (University of Iowa, USA)**
 - General Manager at Interwoven Software, a company that specializes in software for enterprise content management.

¹ The names of the speakers are listed alphabetically.

* Avadhaanam is an ancient Indian classical art and a rigorous test of mental capacity, concentration and memory. A *shatavadhani* is one who has proved his capacity to perform a hundred mind-tasks at the same time, over several hours.

- Provides technical direction to the company and directs the development of complex software systems.
- Formerly senior executive at IBM Global Services, India; Professor at IIM Bangalore; and held positions in California State University and AT&T Bell Laboratories.
- Deeply interested in Vedic chanting and Sanskrit. Regularly chants and teaches the chanting of the Rg Veda and the Krishna Yajur Veda.
- Studying Vyakarana Sastra in depth, fascinated by the contribution to linguistics made by ancient Sanskrit grammarians.

5. Dr Sathyanarayana Bhat, BAMS, M.D (Ayurveda), Ph.D (Plant Chemistry)

- Executive Officer, Karnataka State Biodiversity Board, in charge of conservation, sustainable utilization and equitable benefit sharing of natural resources of the state.
- Has taught for 26 years as professor of Ayurveda.
- Has undertaken research projects, on Medical Tradition in Karnataka (with a grant from the Ford Foundation); Study of Herbalists of India (Union Ministry of Culture); National Biodiversity Strategy Action Plan (Dept of Ecology, Indian Institute Of Science).
- Has participated in regional, national and international seminars/ symposia and delivered a series of special lectures on medicinal plants, medical anthropology, folk medicine and history of medicine.
- Delivered over 250 guest lectures at various rural/urban/agricultural forums in India and conducted programmes on the electronic media to popularize herbal medicine and Ayurveda.
- Has written 57 books on Ayurveda, Siddha, Unani and allied subjects. A unique book on Indian traditional toxicology, *Khagendra Manidarpana*, is under print.
- Has contributed a chapter on folk medicine in Oxford University Press' *History of Philosophy, Culture and Medicine in India*.
- Has contributed over 1000 articles to mainstream journals and newspapers.
- Actively engaged in Social work. Has conducted over 500 Ayurveda *Mela* and free health camps to promote inexpensive, alternative medical help in rural areas.
- Consultant to Foundation for Revitalization of Local Health Traditions (FRLHT), Bangalore and to the Karnataka Medicinal plant Authority, Govt. of Karnataka.

5) Dr T V Subramanian, Fellow in Management from the Indian Institute of Management, Ahmedabad and Honorary Fellow of the Indian Institute of Materials Management

- A renowned management consultant and academician.
- Has executed more than 50 major consulting assignments and conducted more than 500 management development programmes in the areas of Strategic Management, Supply Chain Management, Operations Management and Information Technology Strategies.
- Deeply interested in the Shastras, Philosophy, Sanskrit and Tamil literature, and spoken Sanskrit.

6) Dr. Vadiraj H S, Bachelor's degree in Naturopathy and Yogic Sciences, and currently a Research Scholar studying for Ph.D at SVYASA

- Teaching Yoga and Life Sciences at Swami Vivekananda Yoga Anusandhana Samsthanam (SVYASA), Bangalore.
- Formerly Research Officer in M S Ramaiah Medical Teaching Hospital specializing in psycho neuro-immunology in the specific area of rheumatoid arthritis.
- Has published articles in national and international journals in the field of psycho-neuro immunology.

LESSONS FROM THE PANCHATANTRA

T V Subramanian *

Panchatantram, authored by Vishnu Sharman, a renowned scholar of ancient India, is considered the oldest surviving collection of Indian fables. It is generally dated to the 3rd century BCE. Most of us are likely to have heard at least some of the stories from the *Panchatantra*, though we may not be aware that the story has been drawn from that book. In fact, it is said that in the early centuries of the Christian Era, many travellers to India from Persia (now Iran) and Arabia heard these stories and took to narrating these fascinating tales back in their homelands. In due course, around 6th century CE, a version of the *Panchatantra* was composed in the *Pahlavi* language, in Iran. By the end of the 11th century, a Greek translation of the book had reached European shores. Not unsurprisingly, the animal characters found in the *Panchatantra* and the stories woven around them are familiar to people all over the world today.

Panchatantra is a book that belongs to a branch of study called *Neeti Shastra*, which may be translated as Moral Science or Ethics. The *Panchatantra* teaches us: **How to succeed and enjoy happiness in this world of men with varying dispositions by using the *pancha*, or five, *tantras*.**

Tantra is a Sanskrit word, which can be translated as strategy, formula or principle. The five fundamental principles of wise conduct enunciated in the book are:

Mitra bheda (मित्र भेद): Alienation of friends

Mitra sampraptikam (मित्र संप्राप्तिकं): Acquisition of friends

KakollukIyam (काकोल्लूकीयं): Of crows and owls (war strategies)

Labdha pranasham (लब्ध प्रणाशम्): Loss of what has been gained

Aparikshita karakam (अपरीक्षित कारकं): Consequences of rash action.

Tantra also means loop, string or continuity. Interestingly, each of the five fundamental strategies of wise conduct is taught through a story, which has a number of sub-stories and stories within the sub-stories, all 'strung' together in one 'continuous loop'.

Let us take the example of a small section of the *Panchatantra* and see how the author strings stories together in a continuous loop:

SOME PANCHATANTRA STORIES

The first *tantra*, which has *Mitrabhedam* as its theme, begins with the story of a lion called *Pingalaka* (पिंगलक) and a bull called *Sanjivaka* (संजीवक). The lion became such a good friend with the bull that it even stopped hunting. As a consequence, all the animals that did not know to hunt for themselves began to starve. They used to feed off the carcasses that the lion left behind after his meal, but then the lion had given up hunting! So, what was to be their fate? Naturally, all the lion's subjects deserted him and began to look for a king who would satisfy their needs.

* Based on Dr T V Subramanian's presentation at the sixth annual seminar 'Into the Future with Knowledge from Our Past' held in Bangalore on September 25 and 26, 2007.

To view Dr T V Subramanian's presentation slides visit:

<http://www.tirunarayana.org/Lessons%20from%20Panchatantra.pdf>

The lion had two ministers – jackals by name *Damanaka* (दमनक) and *Karataka* (करटक). They could not leave as they did not want to lose their posts as the king's most important courtiers. But they did not want to starve to death either. They decided that the only way out of the sticky situation was to drive a wedge between their king and his friend, the bull. They hoped that by alienating them, their king would stop listening to the bull and resume his natural urge to hunt.

Karataka was sceptical of their ability to engineer a split between such thick friends as their king and the bull. “*Sanjivaka* is wise and *Pingalaka* is fierce. They will see through our plans and that'll be the end of us,” he said.

But *Damanaka* was firm. “Even if I am not wise or fierce, I can still use my cunning and achieve results, like the crow that killed the black cobra,” he said.

“Oh, how did the crow manage to kill a cobra?” asked *Karataka*, surprised, and *Damanaka* narrated the story of the cobra and the crow.

In the thick canopy of a banyan tree, there lived a young crow couple. In a hollow of the same tree lived a vicious, black cobra. Every time the female crow laid eggs, the cobra would manage to make a meal of them. This went on for quite a few years and the crow couple felt very sad. They decided to move to a different place. But a friend of theirs, a jackal (not *Damanaka* or *Karataka*, but another one altogether), said: “Don't give up hope and move away. Instead, try to destroy your enemy and continue to live here itself.”

“But our enemy is so powerful. How can we destroy him?” asked the crows.

“Listen to this story of how a small crab killed a huge heron, and you will know,” said the jackal. He then narrated the story of the heron and the crab.

In a big pond, in the midst of a jungle, lived a heron. For many years, he had fed on the fishes in the pond. But, in due course, he became so old that he lost his agility and the fish always managed to escape his eager beak. He became thin and weak from starvation. Finally, he could stand it no more and decided to use a trick.

One fine day, the heron stood in the middle of the pond and began to cry loudly. The fishes, though wary, were curious to know the reason. They stopped a good distance from his reach and asked: “Heron uncle, why are you crying? What has happened to make you so sad?”

The heron replied: “I was born in this pond and I've lived here all my life. Now I hear that this pond is going to dry up because there will be no rains for the next twelve years. I'm old and feeble and don't have long to live. But I'm worried about all of you. I can fly away to a big lake that is nearby, but I feel sad that all of you will die in due course when the pond dries up. That's why I am crying.”

The worried fishes asked: “Heron uncle, please tell us a way out. Where is this big lake you're talking about? How can we get there?”

The heron, which had planned for this moment, said: “The big lake is not far from here. I can carry all of you on my back, a few each day, and drop you there.”

The fishes were all very grateful to the heron and each day there was a clamour to climb on to his back. They did not know that the wicked heron was not carrying the fishes to a lake but to a rock nearby. There, he would smash the fishes against the rock and eat them up.

This went on for quite some time, with none of the fishes any the wiser about their dwindling numbers, while the heron ensured his own survival.

One day, a crab requested that he be taken. "I was one of your first friends, but you're taking all the fishes and ignoring me," he said.

The heron, which had become quite fed up with the monotony of a fish meal every day, licked his lips at the thought of feasting on a crab. He immediately agreed to take the crab on his back.

When they were nearing the rock, the crab noticed many fish bones and immediately understood what the heron had been up to. Still, to make sure, he asked: "Heron uncle, how far is the lake? Is there still a long way to go?"

The foolish heron, with a smirk, said: "Silly crab, there's no lake. I'm going to dash you against the rock that's down there and eat you up. This is what I have been doing with the fish all these days. The entire story about the pond drying up is a figment of my imagination. I made up the story as I have become too old to fish."

No sooner had the crab got a confirmation of his suspicion than he put his claws around the heron's neck and strangled him to death.

The jackal, who was narrating this story to the crow couple, to encourage them to stay back and deal with the cobra, said: "Just as the crab put an end to the deceitful heron by keeping his wits about him, you too can kill the cobra by using your brains."

You all know, of course, how the crow then went on to steal the queen's necklace and drop it in the cobra's hole, and how the queen's guards then killed the cobra and retrieved the queen's jewel.

Damanaka, who was narrating the story of the *Crow and the Cobra* to *Karataka*, then narrates the famous story of the *Lion and the Hare* to emphasize the point that one can win over people with greater power and intelligence by being crafty or cunning.

And so the stories go on, chained to one another, till in the end *Sanjivaka* is killed by *Pingalaka*. A remorseful *Pingalaka* is then comforted by *Damanaka* who has actually thought up the whole scheme to alienate the friends for his own benefit.

There are more than 70 stories in the *Panchatantra*, with one third of these stories pertaining to the first *tantra* itself. The stories are interspersed with verses with special messages to drive home a point. Many of the verses also act as an introduction to the story that is about to follow. In all, there are about 1070¹ short verses scattered throughout the book.

The purpose of teaching the science of good, or wise, conduct through stories rather than through a series of statements is to:

- Arrest the attention of the students
- Educate them in an entertaining manner, and

¹ The printed Sourcebook mentions this number incorrectly as 170

- Create an abiding, insatiable interest in them (*Jigyasa – Jnatum iccha: जिज्ञासा – ज्ञातुं इच्छा*).

Messages presented in the form of theories, statements or formulae may be forgotten or not even understood, but when a context is made clear through a story, or a case study, the student is able to deduce the message on their own, and not only understand it well but also remember it for all time to come. That is why *Vishnu Sharman* employs the story-telling method to teach his students the art and science of living successfully in the midst of irrational human tendencies.

Animals and birds not only make the stories captivating, but the laughing, talking, scheming animals truly depict man's multifarious qualities, not all of them desirable. Besides, the characters in the *Panchatantra* have been given quaint names to highlight certain characteristics or qualities. Most often these words do not lend themselves to sensible translation and the translators would do well to retain the original proper nouns instead of translating them as well. For instance, one would rather hear about characters called *Amarashakti* (अमर शक्ति) and *Aghora* (अघोर) than their ridiculous, anglicised namesakes 'Mr. Eternal power' and 'Mr. Un-ugly'. Don't you agree? In any case, there's nothing like reading the texts in their original, for even the best of translations is unlikely to be able to retain the flavour of the original. It can, at best, only be a good translation.

How the *Panchatantra* stories came to be

There was a kingdom called *Mahilaropyam* (महिलारोप्यं), ruled by an intelligent, benevolent ruler called *Amarashakti*. He had three sons, none of whom took after him. They were dullards of the first order and none could educate them. The worried king approached *Vishnu Sharman*, a teacher in his eighties, who was reputed to be a great teacher. *Amarashakti* told *Vishnu Sharman* that he would present him with several acres of land in a tax-free village if he could get his sons to learn sufficiently to run the kingdom after his time. An agitated *Vishnu Sharman* says that wealth is the least of his concerns. He agrees to take up the assignment as a challenge, though, and says that he would give up his name (स्वनाम त्यागं करोमि) if he could not educate the princes within six months

The first step in teaching is to arrest the interest of the students. It is with this end in view that *Vishnu Sharman* begins by telling the princes stories rather than teaching them axioms. After getting the students interested, the stories retain their interest by provoking them to think, and then create a lasting impact by getting the messages across through a process that involves the student in serious debate. His stories are intended to cultivate in his students the qualities that a good king would need – the most important of which, perhaps, is to be a winner at all times, whether at war, or in mental games with other kings or in keeping his subjects in good humour. Indeed, Vishnu Sharma says that all those who listen to the *Panchatantra* stories, and REFLECT on them, would never be vanquished, even by *Indra* the king of the heavens!

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Why did not Ancient Indians advertise themselves?

“The indifference on the part of the ancient Indians towards the personal histories of their great men was due to a realization by them that individuals are but the product of their times – that they grow from a soil that is ready-made for them and breathe the intellectual atmosphere which is not of their own making. It was perhaps not less the result of the humble sense which those great men had of themselves”

– Prof M Hiriyanna, an eminent scholar and formerly Professor of Sanskrit, University of Mysore, in the introduction of his book ‘Outlines of Indian Philosophy’.

POTENTIAL OF AYURVEDA

Sathyanarayana Bhat *

Curiosity and pursuit of knowledge are eternal pastimes. Though many weeds and plants exist, not all are burnt (in a yajnya - यज्ञ) and used for curative purposes. Our ancient people conducted experiments with various elements of Nature and derived conclusions that have stood the test of time.

The discovery of various ayurvedic medicines can be described as an act of deliberate human behaviour for self preservation for, Ayurveda teaches you the art of self-preservation – how to live longer and healthier lives. It is the Science of Life, and believes in preventing diseases though cures also exist. But the emphasis is on following certain routine steps like getting up in the Brahma Muhurta (ब्रह्मी मुहूर्त – at around half past four, early in the morning), and later basking in the rays of the rising sun, and so on, which lead to a disease-free life.

There is much in this ancient wisdom of Ayurveda which can give us ideas for the betterment of society for, the various branches of Ayurveda deal not only with *Kaya* (काय – or internal medicine), but also with *Bala tantra* (बाल तंत्र - paediatrics), *Graha tantra* (ग्रह तंत्र -psychology), *Shalakya tantra* (शालाक्य तंत्र - ophthalmology and diseases of the head, ear, nose and throat), *Visha tantra* (विष तंत्र – toxicology) and *Shalya tantra* (शल्य तंत्र - surgery) besides prescribing treatments for a variety of conditions – from how to grow thick, lustrous hair to treatment for infertility. Many of these treatments were part of the kitchen and home remedies known to every household in India till about a hundred years ago.

Vedic culture is the gateway for all Indian wisdom and Ayurveda is no exception. The contents of Ayurveda are culled from all the Vedas.

AYURVEDA IN BUDDHIST AND JAIN CULTURE

Buddhist monks and Jain scholars dedicated their life to the cause of exploration in medicine. *Jivaka* (जीवक), who lived during Buddha's time (6th century B.C.E.), and *Nagarjuna* (नागार्जुन ~ 150-250 C.E.) are among the better known. *Nagarjuna* is credited with redacting (that is compiling from various sources and editing) the famous 6th century B.C.E. Sanskrit treatise *Sushruta Samhita* (सुश्रुत संहिता), by one of the earliest surgeons of the world, *Sushruta*. *Nagarjuna* is also known as the 'father of alchemy'.

Mangarasa (मंगरस – meaning 'beautiful king' in the older version of Kannada or *Halegannada*), a great Jain scholar of the sixth century C.E., authored what is, most likely, the world's first text on toxicology. The book discusses the causes and management of toxins, plants that can be used to treat ailments caused by poisoning, poisonous plants and poisoning as a weapon of war.

* Based on Dr. Sathyanarayana Bhat's presentation at the sixth annual seminar 'Into the Future with Knowledge from Our Past' held in Bangalore on September 25 and 26, 2007.

THE EIGHT BRANCHES OF SPECIALISATION IN AYURVEDA

1. Kaya (Internal medicine),
2. Bala (Paediatrics),
3. Graha (Psychiatry),
4. Shalya (Surgery),
5. Shalakya (Otorhinlaryngiology and ophthalmology),
6. Visha (Toxicology),
7. Jara (जर - Rejuvenative therapy),
8. Vajikarana (वजीकरण - Fertility and virility therapy).

SOME PLANTS IN AYURVEDA

Though plant medicines constitute the major thrust of Ayurveda, animals, insects and minerals contribute. For instance, eight types of honey extracted from the smallest honey bee to the biggest are indicated, each with its own therapeutic properties. Elaborate preparation of medicines using sixteen types of *Maharasa* (महारस - minerals) and ten to twelve types of metals in combination with various herbs is prescribed. Ghee, which is a by-product of milk got from cows, as you all know, is an important constituent of many Ayurvedic prescriptions.

BUTEA (COMMONLY CALLED PALASH (पलाश) OR FLAME OF THE FOREST)

The butea gum, the seeds and leaves of the tree have medicinal properties. The leaves act as an aphrodisiac. They are also beneficial in the treatment of diabetes and leucorrhoea. The gum of the tree is useful in the treatment of diarrhea and dysentery. Its action is however mild, particularly suitable for children and women of delicate disposition. The seeds are administered internally, either in the form of powder or made into a paste with honey as an anthelmintic to kill intestinal worms. They are especially useful in the treatment of roundworms and tapeworms. The seeds are also beneficial in the treatment of certain skin diseases.

APAMARAGA (अपमरग)

The plant, a common weed found by the wayside throughout India, is much valued in indigenous medicine. The whole plant, the plant juice, even ash of the burnt plant, its leaves, bark and seeds are all used. The plant is useful for eye and liver complaints, rheumatism, scabies and other skin diseases and also for treating fistula. An alkaline powder of this plant is used in the para-surgical ayurvedic procedure called *Kshara sutra*. (क्षार सूत्र).

Kshara Sutra

Kshara-sutra is a medicated thread, prepared by applying the coatings of specific Ayurvedic herbs with latex of the herb *snuhi* as a binding agent. With the help of the thread these medicines are excellently delivered at the specific site so as to have optimum localized effect.

The *Kshara sutra* procedure has been proved to be effective in the clinical trials conducted by the Indian Council of Medical Research at AIIMS, PGI, Chandigarh and other premier medical institutes. The procedure has found advocates abroad, even in countries like Japan.

“We used *Kshara sutra* for a 35-day-old female infant with anal fistula. *Kshara sutra* as a typical form of traditional Indian therapy and representative form of Ayurvedic treatment can be applied in a treatment for female infantile anal fistula.”
(From the author abstract, Treatment of female infantile anal fistula with *kshara sutra*, Hokuriku Journal of Surgery, Japan, Vol. 15-1, pp. 79-82, 1996)

In some diseases *kshara sutra* has been found to be a more effective and convenient method of treatment than surgery.

COMMIFERA MUKUL (GUGGUL)

This is one of the most famous herbs in Ayurvedic medicine. Guggul can lower blood cholesterol by 14-27% and can lower triglycerides by 22-30%. (Triglycerides are the chemical form in which most fat exists in food as well as in the body. They are an important measure of heart health.) Guggul works on the liver by increasing the metabolism which helps to break down bad cholesterol, known as LDL Cholesterol. Studies have shown that after taking Guggul under medical supervision for 4 to 12 weeks, total cholesterol levels can drop, triglyceride levels can drop and an increase in HDL (the good cholesterol) of approximately 16% can occur.

MESWAK

Recent research recommends and encourages the use of the sticks of Meswak (*Salvadora Persica* in Latin and *Gudaphala* (गुद फल) in Sanskrit) as an effective tool for oral hygiene. Using Meswak twigs to brush your teeth on a regular basis is likely to reduce incidence of gingivitis, dental caries and act as an anti-bacterial on dental plaque.

VENGA (PTEROCARPUS MARSUPIUM)

The city of Bangalore actually gets its name from this tree, known as Benga, Venkai or Venga tree. Once, there was a proliferation of this tree in the city, but now there are only two trees in the whole city. It has beautiful, fragrant, yellow flowers and was once worshipped as God. It has been found that Epicatechin, a chemical compound which is found in abundance in the wood of this tree, commonly called Vijaysar or Bijiyasal can be a potent anti-diabetic drug.

AYURVEDA IN THE PRESENT ERA

STRENGTH	WEAKNESS
Strong Cultural Heritage	Lack of awareness and out reach to common man
404 Colleges, over 50 P.G. Centres teach and propagate Ayurveda	Three fold increase in the number of institutions during last 5 years but quality diminished.
Official recognition by WHO and UNICEF	Invasive influence of modern medicine
Four Lakh registered Ayurveda practitioners	Alarming high trends to become integrated or modern medicine practitioners
National policy to integrate in National Health Care programmes	Meager share of 2 to 4 % of National Health budget
Poly herbal, herbomineral and single drug panaceas	Anti propaganda on mineral drugs in the country
Increasing global demand on herbal and animal resources used in Ayurveda	Mounting pressure on forests and other natural resources
Renewal of interest in the past decade towards natural products and holistic approach	Lack of cohesive motivated approach and strong political will

Break up of Ayurvedic industry turnover in India

Annual Turnover	No. of Manufacturing Units
Large (> 50 cr.)	10
Medium (5-50 cr.)	25
Small (1-5 cr.)	965
Very small (< 1 cr.)	6000

We are not exploring and exploiting our resources efficiently and effectively. Even till a hundred years ago, kitchen and home remedies took care of most ailments. Indian food itself is very scientific in composition. But, under the influence of the West, we have changed our lifestyle and sacrificed our ancient wisdom for a modern living, with its share of problems like psychosomatic disorders and infertility. Even those who have studied Ayurveda do not practice its tenets. This attitude must change if we are to reap the benefit of a rich and vast knowledge base.

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Wisdom of the Ages

“All forms of technology, including information technology and biotechnology, will become passé with the advent of nanoscience” said Nobel laureate Robert Curl Junior, at the 95th Indian Science Congress (ISC) here on January 6, 2008. “It is a precursor to the next wave of pervasive technology. Strange as it may seem, nano science and its manifested form, nanotechnology, the latest buzzword in the 21st century, is not something new. In the medieval period (around 1550), nanotechnology was used in making arms without knowing it in the sense we understand

“Interestingly, Tipu Sultan, the 18th century king of Mysore, had a sword made of Damascus steel, a hot-forged metal used in sword-making with its particles in microns - one-millionth of a metre. India, however, stopped making such swords since then. In 2006, a group of scientists headed by German physicist Peter Paufler found direct evidence of nanotubes and nanowires in Tipu Sultan's sword forged from Damascus steel. The complex process of forging and annealing is thought to have accounted for the nano-scale structures used in the process

— For related information see <http://www.tirunarayana.org/stt-2005-book.pdf> and read 'Cultural and Artistic Significance of India's Metals Heritage', also read the article 'Ancient Indian Technology' beginning on the next page.

ANCIENT INDIAN TECHNOLOGY

R Ganesh *

Science is not a useful subject! It is a curious, dispassionate, selfless, involved study of Nature. The motive in the pursuit of Science is: "I should enjoy revealing something, or understanding the mechanism of something." It is like listening to music, seeing a painting, or a work of art. The enjoyment contained in the act is the end in itself. It is *Svaparyata* (स्वपर्यात), *Svarthanishta* (स्वार्थनिष्ठ). But Technology is different. It has purpose, use and application.

In the ancient Indian tradition also we have two such divisions: *Tatva* (तत्त्व) that is Science or Theory or Scientific Backdrop and *Prayoga* (प्रयोग) that is Technology or Practice.

I developed an interest in Indian Science about 25 years ago and started collecting evidence of its development and advancement. However, the truth is that very few are interested in 'our' history of Science and Technology. What is the use of studying that ancient technology in the modern context is their argument. I would like to remind such people that a country which has no regard and respect for its History will not have any future. Historian Dr Vincent Smith said: "India suffers today in the estimation of the world more through the world's ignorance of the achievements of the heroes of Indian history than through the absence or insignificance of such achievement."

So, just consider the study of the history of Science of our country as a beautiful journey in the capsule of time, for ours is an ancient country with a hoary tradition of knowledge. True knowledge is independent of space and time. Anyone can cross the frontiers of space and time to enjoy the beauty of the evolution of knowledge. Enjoyment needs no justification.

The West killed the indigenous technologies of the nations they wanted to overpower by ridiculing them. Denigration does not need to have a basis. It is more of an iconoclastic tendency. So, if you want to know the truth about whether or not our country really had a tradition of Science, go back to the primary sources, the original texts on Science and Technology in ancient India.

There are also excellent works on the subject of Indian Science and Technology by people like the historian, scholar and Gandhian, Dharmapal. (See website <http://www.samanvaya.com/dharampal/>).

Just to cite two examples to show the advanced nature of our Science and Technology:

- Rust-free wrought iron is still difficult to make, but it is well known that ancient Indians had the skill to make such a metal (the Mehrauli Iron Pillar is world famous and it has many lesser known counterparts in other parts of the country, including in Kutajadri - also known as Kochadri - in Karnataka.) India was also known to make formidably tough and highly resilient steel. This steel-making technology was carried westwards by various means and, ultimately, was used against our own country by all invaders from Babur to Nadir Shah who carried swords of what came to be known as 'Damascus' steel!

*Based on Dr R Ganesh's talk at the sixth annual seminar *Into the Future with Knowledge from Our Past*, held in Bangalore on September 25 and 26, 2007.

- The recent tsunami destroyed many modern constructions, but little harm was done to the constructions in the coastal town of Mahabalipuram in Tamil Nadu. Similarly, in Orissa too, the temples on the coast have weathered many floods over the centuries. No cement was used in these temples. Neither was steel. A technique known as dovetail jointing was used which ensured internal locking of the stones. In the case of domestic building construction also, modern architecture has realised the significance of the well-houses (also called *thotti mane* in Kannada or *chaturshala mandira* - चतुर्शाल मंदिर in Sanskrit), which have small windows and an open courtyard in the centre for ventilation. Such houses are particularly suited to tropical places, building construction for which needs to be different from temperate places.

Though 'our' Science and Technology may have become obsolete due to advancements in the field over the centuries, the mind and idea behind 'our' Science and Technology is profound. The Philosophy of Science and Technology is becoming relevant because of the ongoing debate about ethics versus Science and Technology. It would be interesting to see how our ancient scientists managed this dichotomy, how they managed to balance life and living. Some of the principles they lived by are:

- Do not tamper with Nature too much.
- Never accept irreversible processes with respect to Nature. (Many of the ills that threaten our planet today like climate change, flooding due to destruction of mangrove forests are the results of taking Nature for granted.)
- Always go in for reversible processes and sustainable technologies (Even today, it is common in our households to shift an old cotton towel from the bathroom for use in the kitchen or other cleaning purposes and continue using it for still baser purposes till it becomes threadbare, when only it is discarded.)
- In every process, in the course of living, there is energy loss. Don't accelerate the energy loss. Decelerate it by exploiting as little energy as possible.
- We need time for entertainment and enjoyment. The best way to find time for this is to realise work itself as enjoyment (*Karma yoga* theory).

Ancient Learning Methods: The most difficult things were taught first. You were not expected to grasp its meaning, but simply hold it in your mind whether you understood it or not. Our ancient Indian technique of education expected students to memorize the *Bhagavad Gita*, Panini's *sutras* on grammar, the thesaurus *Amara Kosha*, etc. In our tender years, our mind is like a blotting paper and absorbs anything and everything. If we learn nursery rhymes like Jack and Jill, we can remember it and teach our grandchildren in our fortieth or sixtieth year. But for us, personally, it will not be having any profound meaning. Contrast this with the significant things of immense value that our tradition expected us to memorize in our childhood! You can realize the meaning with experience and at every stage of life, your acquaintance with the meaning can change, enhancing all the time.

Emphasis on Language: There are more than 5000 crore words in Sanskrit. For instance, Gold has at least ten names (Eg: i) *Jatharupa* (जातरूप), meaning that whose form is the birth form itself. As you all know, gold is available in free form and does not have to be extracted from ores; ii) *Suvarnam* (सुवर्णम्), as against *Durvarnam* (दुर्वर्णम्) for silver, as silver becomes easily tainted when exposed; iii) *Gangeyam* (गान्धेयं) as gold particles can be found in the river basins of rivers like the Ganga.

The point that is being made is that people who use a language in such an intricate manner must have a high level of knowledge. For example, today we drop words such as e-mail, cell phone and google search so easily, whereas we would not have done that a decade or so ago. Our knowledge horizon has expanded, and so has our vocabulary! As we advance, the language we use advances as well. That our ancient language of Sanskrit was so advanced all those centuries ago only goes to show the level of advancement of our society at that time.

Another reason why our ancient people highlighted the importance of language is that they needed words to express thought. Pre-Industrial Revolution technologies, especially technologies of the East, like ours and the Chinese, sought to realise the concrete from the abstract. Thus, we understood Geometry through Algebra. Whereas, in the West Geometry came first. Then, with the help of India, through Algebra, they understood trigonometric concepts and analytical geometry.

In the West, Materialism has always ruled. Such civilisations always look at the concrete first. In India, Spiritualism has always dominated and hence we looked at the abstract first. Abstraction does not involve experimentation and hence no material investment is involved. Mind is needed more than matter and languages become important. For, to express concepts, words are needed. Lack of words restricts thought; therefore sharper, more precise words had to be found and this in turn led to better, in-depth and incisive thinking.

Indian astronomy, medicine, metallurgy, architecture all these Sciences were well advanced. But one cannot talk confirmedly, with conviction, about things like *Pushpaka vimana*. In fact, epics like the *Ramayana* and *Mahabharata* should be read for the beauty of the language and values of life rather than to cull scientific facts from them. Bhoja Raja's (भोज राज) *Samarangana Sutradhara* (समरान्गण सूत्रधार), a work on architecture and technology, dating from the 11th century, does mention gliders. There are books on *Vaimanika shastra* (वैमानिक शास्त्र), or aviation science; *Yuktikalpataru* (युक्ति कल्पतरु) talks about ship-building; there are various books such as *Somadeva's* (सोमदेव) *Manasollasa* (मानसोल्लास) that give constructional details of musical instruments. The guidelines contained in the books are largely prescriptive rather than analytical, that is, you are told how to do, but rarely why it should be thus done. Also, reproducibility is an important requirement of Science, and not every claim regarding ancient Indian technology has been proven in this regard. There is much in ancient Indian Science that must be appreciated and that we can learn from, but these need not be sought in works of fantasy such as poems and plays.

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Wisdom of the Ages

Professor Arthur Holmes (1895-1965) geologist, professor at the University of Durham in his book, *The Age of Earth* (1913), says: "Long before it became a scientific aspiration to estimate the age of the earth, many elaborate systems of the world chronology had been devised by the sages of antiquity. The most remarkable of these occult time-scales is that of the ancient Hindus, whose astonishing concept of the Earth's duration has been traced back to *Manusmriti* (मनु स्मृति), a sacred book."

According to ancient Indian cosmology, a universe endures for about 4,320,000,000 years (one day of Brahma, the Creator) and is then destroyed by the elements. Brahma then rests for one night, just as long as his day. This process, called *pralaya* (प्रलय -cataclysm), is repeated for a 100 Brahma years (311 trillion human years), which is Brahma's lifespan.

SRIMAD BHAGAVAD GITA AND LESSONS FOR MODERN MANAGEMENT

B Mahadevan*

Srimad Bhagavad Gita (श्रीमद्भगवद् गीता) is a crest jewel of wisdom for understanding metaphysical ideas and for spiritual advancement. The *Gita* stresses on the importance of Work. So does modern Management. Can there be ideas in the *Bhagavad Gita* that can be used in the realm of Management?

Most of you know that what has come down to us as the *Bhagavad Gita* was actually advice given by Lord Sri Krishna (कृष्ण) to Arjuna (अर्जुन) on the battlefield of Kurukshetra (कुरुक्षेत्र). According to the Indian epic, Mahabharata (महाभारत), Arjuna, one of the five Pandava (पाण्डव) princes, was a supreme archer. He was leading the Pandava side in the battle against his cousins, the Kauravas (कौरव). When he saw arrayed on the battlefield, on both the sides, armies that had people who were dear to him, it became very difficult for Arjuna to decide to take up his bow and begin the battle. Let us see what arguments Arjuna advances to avoid the tough decision of fighting against his near and dear ones. That brings us to the first lesson in Management that we will learn from the *Gita* today.

Decision making is not easy always, and it is one of the challenges facing a leader.

Arjuna saw arrayed before him and behind him, on both sides, armies of fatherly figures, teachers, relatives and close friends. He began to shiver, his bow, Gandiva (गण्डीव), slipped out of his hand and his mind rebelled. "I cannot go through with this", he told Krishna. And, he began to advance arguments in support of his case: "How can I be happy after killing my own people?", "I do not desire wealth, kingdom or associated pleasures," "There will be confusion in society", "How can I fight those who are worthy of worship?" and so on.

Krishna motivates Arjuna to take up his bow and turn against his own kith and kin. It requires extreme levels of motivation to do this. Right decisions are often challenging.

An immediate parallel can be drawn between Arjuna's arguments and the problems faced by modern management.

Modern managers confront difficult situations. They know the solutions, but implementation is difficult. So, a lot of creative human energy is spent to argue for maintaining the status quo. This is called 'mindset inertia'. The challenge before management consultants is to make the managers understand that it is important to take up a challenge, face difficult situations, gather courage and see beyond the short-term problems.

How does Krishna make Arjuna opt for the right, but extremely tough decision to go ahead with the battle? Let us find out.

*Based on Prof. B Mahadevan's presentation at the sixth annual seminar in the series *Into the Future with Knowledge from Our Past* held in Bangalore, India, on September 25 and 26, 2007. To view Prof Mahadevan's Presentation slides visit:
<http://www.tirunarayana.org/VTT%202007%20Gita%20Management.pdf>

Resolve the conflict between short term and long term

Modern management experts warn that a short term orientation to managing anything is a sheer recipe for disaster. Thousands of years ago, Krishna told Arjuna not to worry about life that is impermanent. Between *Slokas* (श्लोक) 17 and 30 of the *Bhagavad Gita*, Krishna provides multiple perspectives on the immortal character of the *Atman* (आत्मन्).

Learning lessons from there, managers can scale up from being good performers to high performers. For example, a high performer would have to exhibit extremely high levels of passion, attitude and courage to do good to the entire system. They would have to face the toughest challenges guided by role clarity. They would make a company that lives beyond targets alone.

Today, everything is oriented towards the short-term. Quarterly results and Yearly results are released with much fanfare. So, everything happens near the reporting time, when action in organizations is jacked up. Sixty per cent of the decisions are taken in the last quarter, near the year end. Is it any wonder that the average life of organizations is only forty years, with even Fortune 500 companies faring no better? Compare this with the life span of something like the ~1200 year-old *Dakshinamnaya Sringeri Sharada Peetham*, a religious organization, which is co-sponsoring this event! We are talking about the *Bhagavad Gita* today, which itself is thousands of years old.

Broad-basing the notion of time makes less stressful decisions possible, besides making for organizations that live beyond the average life of the men who make it.

Look at the concept of 'Work' with the proper perspective

Krishna tells Arjuna:

कर्मण्येवाधिकारस्ते मा फलेषु कदाचन ।
मा फल कर्महेतुर्भूः मा ते संगोस्त्वकर्मणि ॥

Meaning:

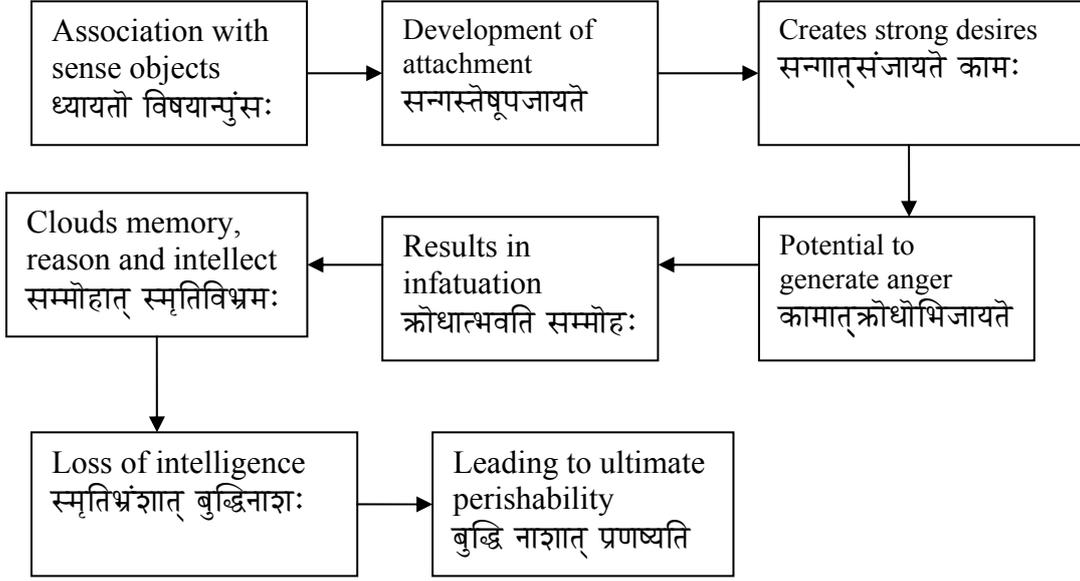
"You have but the right to perform action; you have no hold on the results thereof. May you not seek the rewards of action and may you never engage in wrong action".

Consider the underlying logic of this *sloka*: Wary of failures, we may refuse to undertake activities that are inherently risky, though they have the potential to make us great if we succeed. Instead of focusing on the means, which seems so fraught with uncertainty, if we focus on the end, we can concentrate on finding a way to succeed. Process orientation paves the way for result orientation. Instead of getting bogged down by the dynamics of the present, we can seek the future with all its promise.

Develop a sense of equanimity

The world is full of dualities. Good and bad, happiness and sadness follow each other. Instead of being excited when good happens and depressed when something bad happens, the *Bhagavad Gita* says that we should approach all outcomes with equanimity: *Samatvam yoga uchyate* (समत्वम् योग उच्यते).

A deep desire for the fruits of one's action, more often than not, leads to major blunders in decision making, both in personal and corporate life. The following flow-chart illustrates this:



Work your way to prosperity – material and spiritual.

Prosperity and efficiency are generally measured in quantitative, materialistic terms. But the *Gita* considers prosperity and efficiency on slightly different parameters. Going beyond sensory satisfaction, the *Gita* asks if your achievement has made you qualitatively richer – did it help broaden your outlook, did it make a difference to society, and so on. *Yogaha karmasu kaushalam* (योगः कर्मसु कौशलम्) (Work well done is Yoga).

Focus on the quintessential, changeless aspects. Do not let gross aspects subdue the subtle – that is the way to material and spiritual prosperity. Focusing on a wealthy life as opposed to a satisfied life can lead you to a dead end somewhere down the lane.

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SIRI BHOOTALAYA – A UNIQUE KANNADA WORK OF CRYPTOLOGY

M. Mahadeva Shastri*

Let me begin by acknowledging that very little is known about the book, *Siri Bhootalaya* (ಸಿರಿ ಭೂವಲಯ), or its author, *Sri Kumudendu Muni* (ಕುಮುಡೇಂದ್ರು ಮುನಿ). This, in fact, is one of the important reasons for discussing the subject here. We hope that at least a few of you will take it as a challenge to try and find out more about the book and its author, working in your leisure time, but in mission mode.

To begin with, this is no ordinary book, for it is written completely in numerical code. Numerals from 1 to 64, in Kannada script, are used. Each numeral represents a letter, not necessarily of the Kannada alphabet, for the book is supposed to be a compendium of works in various languages. Eighteen scripts and 718 languages are believed to be hidden in the work.

Kumudendu Muni has not only used a numerical code to represent alphabets. He has also placed the numerals in 27x27 magic squares, i.e., squares that have 27 cells horizontally and 27 cells vertically. So, each square, or *chakra* (ಚಕ್ರ), has 729 cells in all and each cell has a number.

To find out the contents of a *chakra*, one has to read it in a particular format or pattern. There are 1270 *chakras* in all, hiding, it is believed, more than six lakh verses. *Kumudendu Muni* has himself indicated the pattern hidden in many of the *chakras*. The patterns, or *bandhas* (ಬಂಧ), have various names, such as, *Chakrabandha* (ಚಕ್ರ ಬಂಧ), *Hamsabandha* (ಹಂಸ ಬಂಧ), *Sagarabandha* (ಸಾಗರ ಬಂಧ), *Mayurabandha* (ಮಯೂರ ಬಂಧ) and so on.

To enjoy the contents of a *chakra*, a reader has to decipher the pattern, write down the numerals as per the pattern, decode the numerals by substituting the letters for them and read the verse. To make things more complex, one *chakra* may even have verses hidden in several patterns. For example, if you read the last letter in every line, vertically, it may yield a verse in Telugu. On the other hand, if you read every third letter in a line, horizontally, you may end up reading a verse in Tamil or even *Prakrit* (ಪ್ರಾಕೃತ). It is said that from the 1270 *chakras* given, using different reading patterns, more than ten times as many *chakras* can be created!

The contents of *Siri Bhootalaya*, it is said, not only tease the brain by engaging it in coding and deciphering, like an exacting version of Sudoku or Crossword, they also entertain with Hindu and Jain classics, poems in Tamil, Telugu, Marathi and other languages besides Kannada, and educate about various *shastras*, or sciences, such as astronomy, ayurveda and even alchemy and weapon production!

*In the golden jubilee year of the formation of Karnataka, Sri Tirunarayana Trust wishes to pay a humble tribute by disseminating information about this unique Kannada composition. Sri Mahadeva Shastri gave an introduction to *SiriBhootalaya* at the sixth annual seminar *Into the Future with Knowledge from Our Past* held in Bangalore on September 25 and 26, 2007. Information about the book has been gathered from various sources, many of which are listed on Pustak Shakti's website which provides a link on Siri Bhootalaya <http://www.pustakshakti.com/prod02.htm>.

HISTORY OF SRI KUMUDENDU MUNI AND SIRI BHOOTALAYA

The poet, *Sri Kumudendu Muni*, is believed to have been a disciple of the Jain monks *Virasena* (वीर सेन) and *Jinasena*(जिन सेन). His period is a subject of debate among experts who place him anywhere between 800 and 1600 C.E. As most of the available material with us, says that *Kumudendu* was a contemporary of *Nrupatunga Amoghavarsha* (नृपतुङ्ग अमोघवर्ष), we take it that the saint belonged to the *Rashtrakuta* (राष्ट्रकूट) period (8th to 10th centuries CE).

The original source of *Siri Bhootalaya* is said to be a Jain text of the 3rd century BCE, presumably in Sanskrit or *Prakrit*, which was the language of the day. *Kumudendu* prepared the Kannada version of the original with the help of hundreds of his disciples. *Mallikabbe* (मल्लिकब्ब), the wife of one of *Nrupatunga's* army officers, recognised the importance of *Kumudendu's Siri Bhootalaya* and had eight copies of the text made. She distributed these copies among the Jain *acharyas* of her time.

One of these copies survived till the twentieth century and was found in the possession of a Jain scholar named *Dharanendra* (धरणेन्द्र). An Ayurvedic pandit, named Yellappa Shastri, chanced upon the manuscript and realised that it was a unique piece of literature though he could not make head or tail of it initially. Yellappa Shastri, who was married to a niece of Dharanendra, actually purchased it from Dharanendra's sons in the 1920s, after the former's demise.

Shastri spent thirty years trying to unravel the mysteries that he was sure *Siri Bhootalaya* contained. At last, his dedication and hard work paid off. One day in 1950, Yellappa Shastri suddenly found that he had cracked the code. This, naturally, led to his deciphering the verses as well. Three years later, together with co-editors Karlamangalam Srikantaiah (a freedom fighter with an abiding interest in history and inscriptions, who had been working on *Siri Bhootalaya* along with Shastri since 1935) and Ananta Subbarao (inventor of the Kannada typewriter), Yellappa Shastri released the first volume containing a compilation of their findings. A second volume was released two years later, in 1955. Despite the interest taken and time spent, only a small portion of the original text could be deciphered during Shastri's time. In 1956, the National Archives, New Delhi, microfilmed the tables of *Siri Bhootalaya* as the ancient parchment paper containing the text was deteriorating. A year later, Yellappa Shastri died.

Yellappa Shastri's son, M Y Dharmapal, who lives in Bangalore, has copies of the microfilmed pages of *Kumudendu's* original *Siri Bhootalaya*, which he has also taken the trouble to translate into English and Hindi from the original Kannada. Unfortunately, however, only five pages of the original manuscript, distributed by *Mallikabbe* 1200 years ago, have survived to this day.

Dharmapal, who has been zealously carrying forward the dream of his father, has published a Kannada booklet called '*Siri Bhootalaya – Ondu Parichaya*' to serve as an introduction to *Kumudendu Muni's* intriguing piece of literature. Pustaka Shakti, the Bangalore-based publishers of Dharmapal's booklet, have brought out two volumes of the deciphered sections of *Kumudendu's* original work. The first volume was released in 2003 and the second, in 2007. A Hindi translation of the first volume has also been brought out to take this pride of Kannada literature to a wider audience.

Siri Bhootalaya can justifiably claim to be one of the world's first encrypted and decompressed work of literature. Its discovery and the unraveling of its secrets are definitely reasons for us to feel proud of the knowledge of our past.

SELECTED INFORMATION FROM THE BOOK

Number Notation for the Kannada Alphabet

Numbers 1 to 64 are used to depict an extended Kannada Alphabet. The alphabet consists besides vowels and consonants, symbols that represent certain sounds that were probably prevalent in the earlier times.

It should however be noted that the letter 'La' (ಲ) is represented among vowels, replacing Lr (ಲೞ) the vowel which is rarely used. The reason for this representation needs to be explored. The number scheme and the corresponding letters of the Kannada alphabet are as follows:

Number Notation	Svaras - स्वर: (Vowels)	Pronunciation duration		
		short 1 <i>maatras</i>	long 2 <i>maatras</i>	very long 3 <i>maatras</i>
1-3	a (ಅ)	a	aa	aaa
4-6	i (ಇ)	Similar to the above		
7-9	u (ಉ)	Similar to the above		
10-12	ru (ಋ)	Similar to the above		
13-15	La (ಲ)	Similar to the above		
16-18	e (ಎ)	Similar to the above		
19-21	ai (ಐ)	Similar to the above		
22-24	o (ಒ)	Similar to the above		
25-27	au (ಔ)	Similar to the above		

Vargeeya and avargeeya Vyanjanas (वर्गीय व्यंजन- अवर्गीय व्यंजन)

Number Notation	Classified Consonant		Number Notation	Non-classified Consonant	
28-32	k -ñ	ಕ್ - ಞ್	53	y	ಯ್
33-37	ch-ny	ಚ್ - ಣ್	54	r	ರ್
38-42	t -N	ಟ್ - ಣ್	55	l	ಲ್
43-47	th-n	ತ್ - ನ್	56	v	ವ್
48-52	p-m	ಪ್ - ಮ್	57	sh	ಶ್
			58	Sh	ಷ್
			59	s	ಸ್

60	h	ಹ
----	---	---

Anusvaara, Visarga & others (अनुस्वार: विसर्गः)

Number Notation	Alphabet		Symbol
61	am	ಅಂ	०
62	aha	ಅಃ	० ०
63	ak	ಅಕ್	० ० ०
64	pk	ಪಕ್	०० ००

The Number-Alphabet Square (Ankaakshara chakra - अंकाक्षर चक्र)

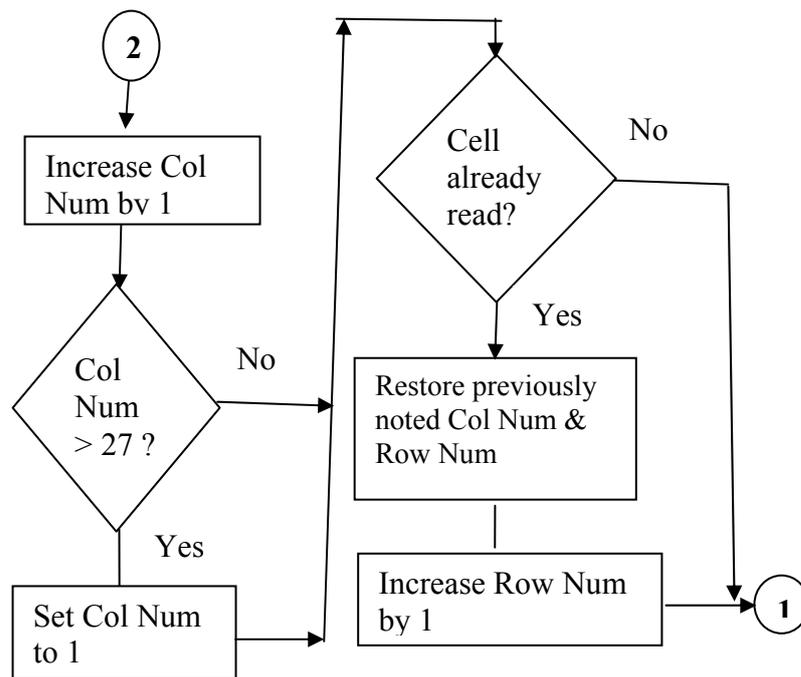
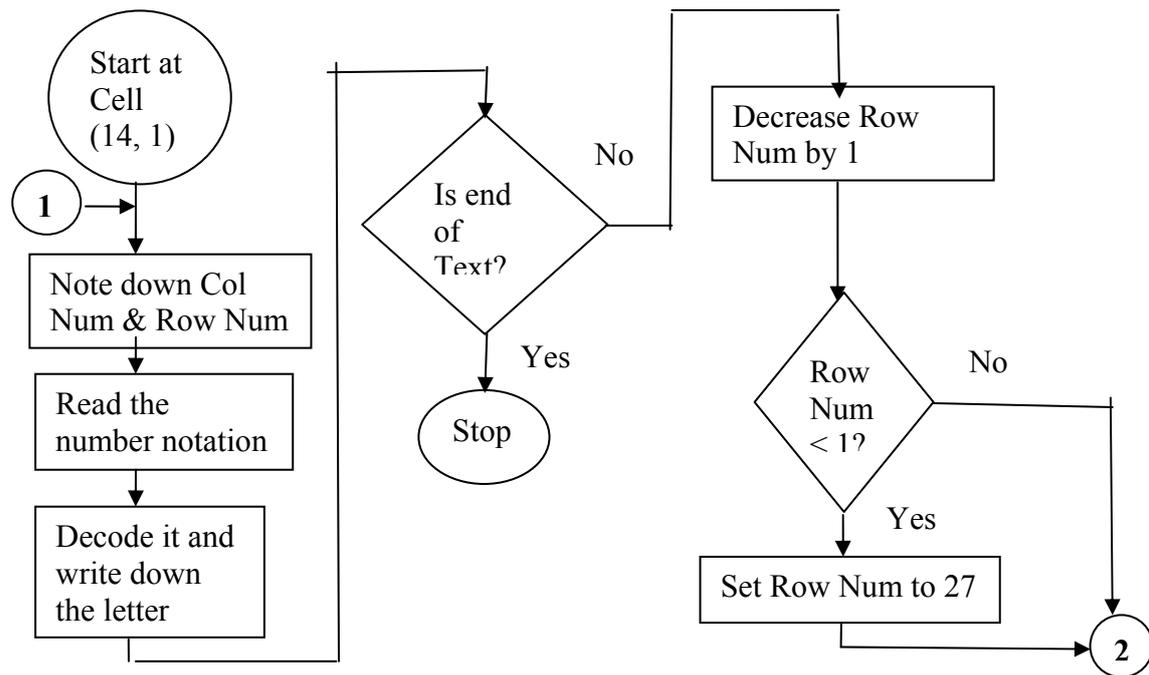
As we have seen earlier, the name *Chakra* has been used to describe a page which is actually divided into 27 x 27 matrix, corresponding to 27 rows and 27 columns. Thus a typical page has 27*27 cells or boxes, totaling to 729 cells. Each cell can contain a number which represents a corresponding letter. We have already seen above the number notation for the Kannada alphabet. Thus, it is possible to transform written text into its coded numeric representation and depict them on this page containing 729 cells. It follows from this that in any page you can write a maximum of 729 number-notations. Of course, one can continue writing in the next page.

How do we write on this page, what is the page order? Do we write left to right and from top to bottom as we usually write Kannada? The ingenuity of *Siri Bhoovalaya* lies in the fact that it has many different formats called *Bandha*, so that only those who know the format and the language that has been used to write that particular text can correctly and completely decode the text.

An example of Chakra Bandha

A *Chakra bandha* has 729 cells in each page, as provided by 27 rows and 27 columns. Before we understand the rule to write in this *bandha* or read from it, let us follow a simple, standard notation to identify a cell uniquely. Cell (m, n) means the cell corresponding to the intersection of Column 'm' and Row 'n'. Thus, Cell (1, 1) means the intersection of the first column and first row; Cell (27, 27) means the intersection of the last column and last row.

The Process of reading *Chakra Bandha* is as follows:



An interesting feature to note in this *Bandha* is that the reading / writing starts from the middle of first row, that is, Cell (14,1) and if the text is long enough to cover the entire page then it ends at the middle of last row, that is Cell (14,27)!

Navamaanka Bandha नवमान्क बन्ध

1. In this Bandha the page is divided into Nine 9*9 smaller squares, each containing the desired text.
2. Reading the individual squares is similar to *Chakra Bandha*.

Decipher the following Navamaanka Bandha which contains a Kannada Sentence

				57	7	43	1	
			17	45	4	55	7	
		45	61	33	1	56		
	7	4	1	56	1			
52	56	54	8	44				
4	54	51	61					7
4	4	1					28	47
1	54					5	7	59
30					54	52	1	53

If you need a hint to solve this problem, go to Page 31. If you are still unable to solve, the step by step solution is also given there.

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Wisdom of the Ages

"India is the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great grand mother of tradition. Our most valuable and most instructive materials in the history of man are treasured up in India only."

"So far as I am able to judge, nothing has been left undone, either by man or nature, to make India the most extraordinary country that the sun visits on his rounds. Nothing seems to have been forgotten, nothing overlooked.

"India has two million gods, and worships them all. In religion all other countries are paupers; India is the only millionaire."

— AMERICAN AUTHOR, MARK TWAIN, ON INDIA

INDIA'S CONTRIBUTION TO LINGUISTICS

B Narsing Rao¹

Imagine for a moment a world without language! We would not be able to communicate with people around us at all. Everything that we think, speak or write, all the knowledge we get, is because of language. *Mahakavi* Dandi (महाकवि दण्डि), a Sanskrit scholar of the 7th century, who lived in *Kanchipuram* in Tamil Nadu, said in praise of language thus:

इदमन्धं तमः कृत्स्नं जायेत भुवनत्रयं ।
यदि शब्दाह्वयं ज्योतिरासंसारं न दीप्यते ॥

*idamandham thamah kruthsnam jAyEtha bhuvanathrayam
yadi shabdAhvayam jyotirAsamsAram na dIpyathE*

(The three worlds would be completely enveloped in blinding darkness if not illumined to its complete extent by the light called 'word'.)

A scientific study of a language or languages is called 'Linguistics'. A researcher in linguistics would probably try to find out answers to questions such as:

- What is language?
- What are the common elements between various languages?
- How does language work, or how are words, sentences, expressions represented in the mind?
- How do human beings have the ability to pick up languages? How does a young child make complex constructions even before the child is old enough to understand the nuances of the language and its use?

In India, there is a lot of literature pertaining to linguistic thought, dating from the first millennium BCE or even earlier. There are several references to the importance of correct speech and emphasis on the study of language even in the Rg Veda Prātishakhya (ऋक् वेद प्रातिशाख्य) – the oldest book on phonetics. Yaska's (यास्क) *Nirukta* (निरुक्त) (~ 800 BCE), Panini's (पाणिनि) *Ashtadhyayi* (अष्टाध्यायी) (~ 600 BCE), Patanjali's (पतञ्जलि) *Mahabhashya* (महा भाष्य ~ 150 BCE), Bhartruhari's (भर्तृहरि) *vākyapadīya* (वाक्यपदीय ~ 500 CE) are other ancient Indian texts which give us an idea of the importance given to linguistics in our country.

The West caught up with this Science much later. Sir William Jones, an Englishman of the 18th century, was probably one of the first to study comparative linguistics and he noted striking similarities between Sanskrit, Greek, Latin and Celtic. Other well known names in the field of linguistics are the French Ferdinand de Saussure (1857 – 1913) who studied Structure of Language Noam Chomsky who now lives in the USA and whose interest is Generative Grammars. Linguistics in the West, however, is just a few hundred years old, whereas in India it is thousands of years old.

India has a wealth of languages, a heritage of its complex culture, built over hundreds of years. She also has a long tradition in Linguistics, as we have just seen. Sanskrit, a product of our rich heritage, is one of the world's most ancient languages and it is a beautiful language

¹ Based on Dr Narsing Rao's presentation at the sixth annual seminar in the series *Into the Future with Knowledge from Our Past* held in Bangalore, India, on September 25 and 26, 2007. To view Dr. Narsing Rao's Presentation slides visit: http://www.tirunarayana.org/Indian_Linguistics-1.pdf

incorporating many sophisticated linguistic concepts. Its depth can be truly appreciated only when we learn it. Studying Sanskrit can also greatly benefit understanding of other languages, particularly Indian languages. World over, developers and researchers have begun to recognize that Computational Linguistics – an emerging area of computer science - can use concepts from Sanskrit because it is so structured that it resembles a framework.

Here, we will briefly examine some of the linguistic aspects which make our ancient language so sophisticated that it is considered eminently suited for modern applications in computers.

Language can be defined as a set of symbols, associated with meaning, with rules to manipulate them. It can also be considered to be a set of rules for generating and understanding speech. It could otherwise be defined as expression of human communication through which knowledge, belief, and behavior can be experienced, explained, and shared. The mode of usage of a language is given by grammar, which is basically a set of precise rules that define existing and future usage of language.

In Sanskrit, the basic unit of sound is 'Varna' (वर्ण). *Varnas* combine to form a word or *Pada*' (पद). Two consecutive *padas* can be combined (*Sandhi* - संधि) by certain rules. A group of *Padas* forms a sentence or 'Vakya' (वाक्य). According to Bhartrhari, the *Vakya* is the basic unit of communication. Complete meaningful sentences that help the speaker convey the intended meaning to the listener is called 'Vakya sphota' (वाक्य स्फोट).

Sanskrit's suitability for computational linguistics:

There are certain important and unique concepts in Sanskrit grammar that make it suitable for application in computational linguistics. Some of them are:

- 1) *Karaka* (कारक)
- 2) *Samasa* (समास)
- 3) *Taddhita* (तद्धित)
- 4) *Krudanta* (कृदन्त)

Karaka: Karaka is an abstract model of semantic relationship. It is the fundamental idea expressed by action (*Kriya* - क्रिया). It indicates the relationship of various participants in a sentence to the verb. For example in the sentence 'Rama goes to school by bus', Karta is Rama, goes is the verb, to school is the object and by bus is the Karana. Relationship of the participants to the *Kriya* is expressed through case endings or *Vibhakthis* (विभक्ति). There are six *Karakas*. Their meaning and the *Vibhakthi* they are associated with are as follows:

Karaka	Meaning	Vibhakthi associated
Karta (कर्ता)	agent	Prathama
Karma (कर्म)	direct object	Dvithiya
Karana (करण)	instrument	Thrithiya
Sampradana (संप्रदान)	indirect object	Chathurthi
Apadana (अपादान)	that from which departure takes place	Panchami
Adhikarana (अधिकरण)	location, substratum	Sapthami

All other relationships not specifically indicated above are denoted by the *Shashti vibhakthi*. Thus, the Karaka principle gives us an effective way of defining rules by which one can identify the various participants in a sentence to the verb and their role in a sentence.

Samasa: These are compound words. There are four types of samasa:

1. Avyayibhava (अव्ययीभाव)
2. Tatpurusha (तत्पुरुष)
3. Dvandva (द्वन्द्व)
4. Bahuvrihi (बहुव्रीहि)

These compound words have elaborate rules on their formation, such as, the order of words and distinguishing by the use of accent. Modern examples of Samasa concepts are the compound words Database, Internet, White-Collar, Blue-Collar, Blog etc. But can you say these compound words are derived are based on meaningful rules?

Taddhita: Taddhitas are derivatives from nouns, by adding a prefix or suffix *pratyaya* (प्रत्यय). These are used to indicate that a person is a descendent of some other person. For example दशरथी descendent of Dasharatha, that is, Sri Rama; a person having a specific quality; to refer to someone's teaching for example पाणिनीयं taught by Panini etc.,

Krudanta: Krudantas are word verb derivatives. An example in English would be the word 'acceptance' from the verb 'accept'. In Sanskrit 'Unadi Sutrani' (उणादि सूत्राणि) govern the rules for verb derivatives.

Modern applications of Indian Linguistics

One can sneak an extra vowel or sneak in a consonant and you will be in the world of Web 2.0 lexicon. For example Web+Log = Blog. Consider similar examples below:

- वर्ण आगम (addition of a letter) — भीम — भीष्म
- वर्ण विपर्यय (interchange of a letter) — हिंस — सिंह
- वर्ण विकार (changing of a letter) — तरुण — तलुन
- वर्ण नाश (removal of a letter) — क्लिश् + अ = क्लेश

For Web 2.0, one might consider the feasibility of building, based on Sanskrit's linguistics concepts, a self-validating web language that is rich in semantics, merging contents from various sources etc

Scientists working in the area of Natural language processing whose goal is to make the computer speak and listen, can greatly benefit by using concepts enunciated in Sanskrit. By studying Sanskrit, one can get a greater understanding of 'Language'.

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YOGA AND LEADERSHIP

H S Vadiraj¹

What are the qualities of a great leader?

- Exemplary character
- Commitment to excellence
- Confidence; Ability to function in an orderly and purposeful manner
- Ability to remain calm, composed and steadfast and
- Capacity to keep the main goal in focus at all times.

So, to be a leader means to be strong person mentally, physically and emotionally and have impeccable social skills as well.

WHAT CAN YOGA DO?

Life is full of conflicts and events beyond our control. The internal drive to cope with or face these challenges is what we call stress. Some stress is good, even necessary. If you did not have a deadline to submit your assignment, you would probably take till eternity to complete it. Indeed, if there were no stressors, we would all like to simply eat, sleep and be merry, wouldn't we? But what actually happens is that we are constantly in a state of disharmony caused by physical, physiological, psychological and environmental stressors. While this is true for all of us, it is especially acute for those of us who aspire to be leaders. For, to provide effective leadership, we need to manage both ourselves and others around us. When we do not have a proper mechanism to cope with stress, we succumb to lifestyle diseases which are also called psychosomatic diseases. Stress causes disorders like increased blood pressure (hypertension), increased blood sugar (diabetes), stiffness in joints (arthritis) and increased body secretions (gastritis, ulcer). Allergies, infertility, back pain, irritable bowel syndrome, etc. are also caused by stress.

Yoga can help us achieve balance at the mental, physical, emotional and spiritual levels, which is what is needed to succeed in today's environment of constant flux. As the *Bhagavad Gita* says, yoga helps us achieve *samatvam*, or equanimity. A calm, clear mind would enhance our creativity and inspire confidence in those around us. This, in turn, would give us the strength to overcome challenges and win, fair and square, in a competitive environment.

WHAT IS YOGA?

For most of us, mention of the word yoga immediately brings to mind people contorting their bodies like acrobats or sitting meditatively, with closed eyes, probably under a tree, like a saint. However, yoga is more than flexibility of the body and meditation. It is a way of life. Yoga is one of the six systems of Indian philosophy. The others are *Nyaya* (न्याय), *Vaisheshika* (वैशेषिक), *Sankhya* (सान्ख्य), *Purva Mimamsa* (पूर्व मीमांसा) and *Uttara Mimamsa* (उत्तर मीमांसा). The word "yoga" has its origin in the Sanskrit root 'yuj' (युज्) which means 'union'. On the physical plane, yoga is the union of the body, mind, emotions and intellect. On the spiritual plane, it means union of the Individual Self with the Universal Self. Sage Patanjali (पतञ्जलि) wrote 196 terse verses covering all aspects of the Yoga philosophy. These verses are known as the *Yoga Sutran* (योग सूत्राणि) of Patanjali. According to him, the eight aspects (*ashtAnga* - अष्टाङ्ग) of yoga are:

¹ Based on Dr Vadiraj's presentation at the Sixth annual seminar in the series *Into the Future with Knowledge from Our Past* held in Bangalore, India, on September 25 and 26, 2007.

- *Yama* (यम) : Ethical rules governing social conduct *Ahimsa* (अहिंसा) - Non-harming in thought, word and deed, *Satya* (सत्य) - Truthfulness, *Astheya* (आस्तेय) - Non-covetousness, *Brahmacharya* (ब्रह्मचर्य) - Chastity, *Aparigraha* (अपरिग्रह) - Non-attachment.
- *Niyama* (नियम): Rules governing personal activities *Shauca* (शौच) - Cleanliness, *Santosha* (संतोष) -Contentment, *Tapas* (तपस)- Austerity, *Svadhya* (स्वाध्याय) - Self-inquiry.
- *Asana* (आसन): maintenance of body postures
- *Pranayama* (प्राणायाम) : regulation of breath
- *Pratyahara* (प्रत्याहार): directing of sense organs towards internal inquiry
- *Dharana* (धारण): focusing of mind or concentration
- *Dhyana* (ध्यान): de-focusing of mind or meditation
- *Samadhi* (समाधि) : long periods of meditation or self-realization

While the first four steps of the *ashtanga* are together called *bahiranga* (बहिरंग), or external, yoga practice, the last four are called internal, or *antaranga yoga* (अन्तरंग योग). It is important to learn yoga step by step, and practice all the aspects in a sustained, disciplined manner.

“Yoga is a process of gradual evolution, a systematic advancement of the self, and not a sudden jump. How beautifully does a tree grow from the seed! So too is yoga - a gradual developmental process of the ‘wholeness’ of our personality.” (*An Introduction to the Philosophy of Yoga* by Swami Krishnananda, published by Divine Life Society).

HOW CAN YOGA HELP?

We are worried about the past, restless about the present, and anxious about the future. We are so busy juggling so many responsibilities that we do not have any time to think, let alone the capacity to think logically and correctly. The mind, like a lake, is cloudy when it is turbulent. But when it is calm, it is clear. “Maturity and serenity are desirable qualities associated with wisdom and peace of mind. We regard them as ideals to be attained, yet no one teaches us how to attain them. Yoga is a technique for attaining wisdom, peace, patience and freedom from anger in the midst of life's struggles, and it has been perfected over thousands of years.” (Marvine Levine, *The Positive Psychology of Buddhism and Yoga - Paths to a Mature Happiness*, published by Lawrence Erlbaum Associates, 2000). The body, the mind, the senses and the intellect are trained properly through *Asana*, *prAnAyAma*, *pratyAhAra*, *dhArana* and *dhyAna*. The various steps of yoga, essentially, help to harmonise the different aspects of one's personality.

Various studies have been undertaken which scientifically establish that:

- Yoga brings a balance between the left and right lobes of the brain, which is between the analytical and creative thinking capacities.
- Yoga can reduce the degenerative mental processes that start in middle age.
- Yoga helps visual perception by reducing optical illusion and increasing depth perception.
- Yoga enhances auditory perception and dexterity.

In conclusion, let us consider the words of Timothy Warneka who writes, in his book, *Leading People the Black Belt Way*: “People are living, organic beings, and medical research is increasingly recognizing the truth that mind and body are, in fact, one. While we often speak about mind and body as separate entities, great leaders understand that mind and body are, in reality, two sides of the same coin.”

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Wisdom of the Ages

ON ROBERT OPPENHEIMER – THE INVENTOR OF THE ATOMIC BOMB

Oppenheimer acquired a deeper knowledge of the *Bhagavad-Gita* in 1933 when, as a young professor of physics with interests ranging far beyond his academic specialty, he studied Sanskrit with Professor Arthur W. Ryder at Berkeley. The *Gita*, Oppenheimer excitedly wrote to his brother, was “very easy and quite marvelous.” This is the earliest direct evidence of the impression the book made on Oppenheimer, and a lasting impression it was. Later he called the *Gita* “the most beautiful philosophical song existing in any known tongue.” (From *The Gita of J. Robert Oppenheimer* by James a. Hijiya, Professor of History, University of Massachusetts Dartmouth)

Indian Luxury goods!

During the *Kushan* rule in north India (first century CE) a vigorous trade and exchange of people, goods, and ideas ensued between Rome and India. Pliny the Elder, a Roman scholar, philosopher and naturalist, complained of the great drain on Roman gold and silver because of Romans’ voracious appetites for Indian luxuries. There are large finds of Roman coins in south India where they were once exchanged for jewels and spices. Pliny went on to point out that Indian wares cost a hundred times more in Roman markets than in India! (From Background Essay no. 105, *India in World History*, Asia Society)

SIRI BHOVALAYA - SOLUTION TO THE NAVAMANKA BANDHA PROBLEM GIVEN ON PAGE 24.

(Hint: Start from the middle column of first row and look at the table 'number notation for the alphabet' – Want to go back and try, before you look at the solution?)

Column Number (CN)	Row Number (RN)	Cell Value	Alphabet	Sentence	Remarks
5	1	57	ಶ್		RN < 1
5	0	-			
6	9	54	ರ		
7	8	5	ಃ	ಶ್ರೀ	
8	7	28	ಕ		
9	6	7	ಉ	ಕು	
10	5				CN > 9
1	5	52	ವ್		
2	4	7	ಉ	ಮು	
3	3	45	ದ್		
4	2	17	ಏ		
5	1				
4	2				Cells already read; RN & CN restored
4	3	61	ಂ	ದೇಂ	
5	2	45	ದ್		
6	1	7	ಉ	ದು	
6	0				RN < 1
7	9	52	ವ್		
8	8	7	ಉ	ಮು	
9	7	47	ಃ		
10	6				CN > 9
1	6	4	ಇ	ನಿ	
2	5	56	ಲ್		
3	4	4	ಇ	ವಿ	
4	3				
3	4				Cells already read; RN & CN restored
3	5	54	ರ		
4	4	1	಼	ರ	
5	3	33	ಚ್		
6	2	4	ಇ	ಚಿ	

Column Number (CN)	Row Number (RN)	Cell Value	Alphabet	Sentence	Remarks
7	1	43	ಠ		
7	0				RN < 1
8	9	1	ಠ	ಠ	
9	8	59	ಠ		
10	7	-			CN > 9
1	7	4	ಠ	ಠ	
2	6	54	ಠ		
3	5				
2	6				Cells already read; RN & CN restored
2	7	4	ಠ	ಠ	
3	6	51	ಠ		
4	5	8	ಠ	ಠ	
5	4	56	ಠ		
6	3	1	ಠ	ಠ	
7	2	55	ಠ		
8	1	1	ಠ	ಠ	
8	0				RN < 1
9	9	53	ಠ		
10	8				CN > 9
1	8	1	ಠ	ಠ	
2	7				
1	8				Cells already read; RN & CN restored
1	9	30	ಠ		
2	8	54	ಠ		
3	7	1	ಠ		
4	6	61	ಠ	ಠ	
5	5	44	ಠ		
6	4	1	ಠ	ಠ	
7	3	56	ಠ		
8	2	7	ಠ	ಠ	
9	1				End of Text

ಶ್ರೀ ಕುಮುದೇಂದು ಮುನಿ ವಿರಚಿತ ಸಿರಿ ಭಾವಲಯ ಗ್ರಂಥವು

shrI kumudEndu muni virachita siri bhUvalaya graMthavu

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Sri Tirunarayana Trust is a public charitable trust conceived to honour the memory of *Tiruvaimozhi Acharya Purusha* Prof. V T Tirunarayana Iyengar (1903-1995). VTT, as Tirunarayana Iyengar was popularly known, was a Professor of Sanskrit at the University of Mysore, a renowned scholar of the *Srivaishnava* school of thought, and an acclaimed expert in Indian Philosophy. Much of his life was spent in sharing his vast knowledge in these fields with the many eager students of all ages who sought him out.

To foster a love and understanding of the subjects that were close to VTT's heart and to ensure that the knowledge of the ages are nurtured for posterity, Sri Trunarayana Trust has been regularly organizing, since January 2000, lecture, cultural programmes by renowned scholars and reputed artistes.

These programmes come under specific series such as *Enjoying Sanskrit Kavya*, *Getting to know our ancient texts*, *Into the Future with Knowledge from Our Past*, *VTT Scholar Quiz competition*, and *Music of the Azhwars and Acharyas*. Two classical music festivals, *Kartikotsava* and *Udaya Taare* are also held every year. Carnatic music CDs of verses from the *Nalayira Divya Prabandham* are also brought out by the Trust and are available for purchase at the Trust address.

As VTT had become synonymous with knowledge and learning, Sri Tirunarayana Trust felt that it was only right that it contribute in some small measure, to the furtherance of the cause of education n India. A corpus fund has been created for this purpose.

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