SANDESH BHARATI

Vol VI No. 2 **Apr/May/Jun 2003** **HongKong**

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The Greenest Capital City in the World……

Some years ago, a worldwide survey of capitals and provincial capitals adjudged Islamabad as the greenest capital city in the world. Islamabad's record of 325 trees per hectare was a tall order to emulate. But today, GANDHINAGAR – the state capital of Gujarat – has 425 trees per hectare with 3.2 million trees for a population of 150,000 in 56 sq km, becoming the greenest (state) capital in the world. Gandhinagar has an enviable 22 trees per person. As one drives from Ahmedabad towards Gandhinagar, the scenery starts to change. A cramped, dusty landscape is slowly replaced by wide-open space and a blur of green from the canopy of lakhs of trees that envelope Gandhinagar.

OUR HOLY LAND - CHITRAKOOT

Chitrakoot, "the hills of many wonders" is indeed a gift of nature and the gods. Located in the Banda district of modern Uttar Pradesh(U.P), on the banks of river Paisuni (Mandakini), Chitrakoot is a tranquil retreat on the northern spur of the Vindhyas. It is one of the most ancient holy pilgrimage places of India. It is this place that was the abode of Lord Rama, his wife Sita and brother Lakshman for eleven of their fourteen years of exile. This is also the place where they came in contact with sage Atri and sati Anasuya.

This abode of the gods is credited to have seen the incarnations of Brahma,Vishnu and Mahesh. Chitrakoot ,sacred with the touch of Lord's feet, was where Goswami Tulsidas, the creator of the epic "Shri Ramcharitmanas" spent many years of his life. Dotted with innumerable temples and shrines, nature's splendor here is wrapped in peace and tranquility, permeated only by singing birds and gushing streams.

Most of Chitrakoot's religious and leisure activities revolves around the small, charming, and very central **Ramghat**, where boats with electric-blue mattresses and pillows create a pretty picture against a backdrop of ashrams and ghats to either side of the narrow, slow-moving river. Steps above the ghat lead to the **Math Gajendranath Shiva Temple**, and its picturesque river views. The "Aarti" performed in the evening is particularly beautiful.

Here, deep in a cave twittering with bats, water bubbles out of a spring, flows into another cave, pours down the hill and vanishes. A protrusion of black rock is identified as the voyeuristic demon Myunk. Along the pilgrim-bright ghat steps, touched by the river, are shrines dedicated to the royal assembly, the durbar, where the exiled King's brother Bharat tried to persuade him to return to the capital; one which,

reportedly, marks the spot where Lord Brahma lit the sacred fires of creation; and a platform associated with one of the revered authors of the Ramayana.

Saffron-robed mendicants and pilgrims flow like confetti-streams of drifting colours along the narrow lanes of Chitrakoot, sharing it with the occasional trained elephant and inquisitive troops of monkeys.

Up a wooded hill, in a white fortress-shrine, **Hanumandhara hill shrine**, a spring gushes out of the living rock cooling an idol of the monkey-king Hanuman, enraged after he burst the palace of the demon king Ravana. The views of the ravine lands from here are spectacular.

Shrines have also been built around the hermitage of Sage Atri and his demure wife and her sister. These shrines are near rock-cut carvings which bear a resemblance to those of Angkor Wat in Cambodia.

Then there is the curious hill, **Kamadgiri**. Pilgrims to Chitrakoot traditionally perform the Parikrama, or ritual circumambulation of this wooded hill. Devotees believe that it is hollow and that in its cavernous interior sit seers wrapped in silent meditation. Only faith apparently, can open the secret doors to this esoteric place of power.

On its course around the base of the hill, the five-kilometre path passes numerous temples and shrines, including the big **Kantanath Swami Temple**, which holds a modern image of Rama and Sita and a more venerated monolithic stone image, black and embellished with large eyes.

Several shrines linked with the Ramayana are tucked away in the region South of Chitrakoot. The major **Janki Kund Temple** (" Pool of Janki"; Janki is another name for Sita), is just 2 km south of Chitrakoot . Nearby there is a path through

a complex of Ashrams which leads to the large flat rock of **Sphatekshila ,** protruding onto the river, where Sita used to sit. It supposedly bears the impressions of the feet of Rama.

To attain Salvation, the pilgrimage to Chitrakoot is incomplete without a visit to **Bharat Koop**. It is said that to crown Lord Rama as the king of Ayodhya, his brother Bharat, collected the waters of all sacred rivers to anoint him with. On the advice of Sage Atri, the waters were later poured into a deep well popularly known as Bharat Koop. A temple dedicated to Lord Rama is also found here. Thus this place beckons the soul of the ones who want to take a pilgrimage on these holiest of lands.

The Spirit of Nachiketa

- BY FRANCOIS GAUTIER

Last week, the Prime Minister Atal Behari Vajpayee and his deputy L K Advani conferred on me the Nachiketa award of journalism, which rewards forthrightness, courage, and dedication to truth in this profession.

I would like to believe that my quest in India has been - even in a small degree - like Nachiketa's: what is the real India, behind the clichés? What does India stand for? What can I do to help this great country, which is India?

I was lucky: I came to India when I had just turned 19, an age where the mind has not yet settled in hard and frozen patterns. I was also extremely privileged to spend the first eight formative years of my time in India in the Sri Aurobindo Ashram in Pondicherry, where I came in contact with Indians from all over the country and was able to meet the Mother, an extraordinary person, as well as read Sri Aurobindo, whose writings have had a deep influence on my life.

Today, I am also indebted to Sri Sri Ravi Shankar, founder of the Art of Living, because he embodies the ancient rishi's dedication to his country: His work is not only spirituality, but also to bring god into all realms of life, including politics, because in ancient India the rishis were also advisers to the kings.

Nevertheless, when I began freelancing in the early 1980s, I started with the same prejudices, set ideas, that most of my fellow correspondents have: secularism is the best system for India, given the explosive mosaic of its ethnic races and religions; the Congress is the flag-bearer of 'secularism'; there are also Hindu 'fundamentalists'; or Christian missionaries are doing 'wonderful' work in India.

Once again, I was fortunate. Instead of plunging straight into political India, I did photographic features in the deep South: the extraordinary kalaripayat, in the villages of Kerala, which is the ancestor of all great Asian martial arts; the absolutely amazing Ayyappa festival on the border of Tamil Nadu and Kerala; Ayurveda, the most ancient medical system in the world still in practice; the exquisite Ayanars of Tanjore district... There, I discovered that the genius of India is in its villages and that the tradition of gentleness, tolerance, hospitality, is rooted in rural India- and not in the cities of India, where people have often lost touch with that inner reality.

When I entered the world of south Asian politics (in 1984, for Le Journal de Genève), I was ready to have my eyes opened. Thus slowly, as I came in contact first-hand with the political reality of India and South Asia, I realised that the Congress had divided India on caste and religious lines to survive in power; that India's minorities had taken advantage of secular governments by getting more privileges than the majority community; that Hindus are probably the most tolerant people in the world; that Hindus have ironically been the target of one of the most

horrible genocides ever perpetrated upon mankind in the name of religion.

I also saw that even today they are the prey of jihadis: witness the ethnic cleansing of the Kashmiri Pandits, far more horrible than the one of the Bosnians; that they are still the target of Christian missionaries, who use unethical economic means to convert the Harijans and the untouchables. I saw too that Hindus have given shelter to all the persecuted minorities in the world: Syrian Christians, Armenians, Parsis, Jews, Tibetans today.

So at some point, I thought that a marvellous majority like the Hindus, which has such a long tradition of tolerance, gentleness, spirituality and hospitality, needs a government reflecting these qualities-and not the successive governments which have come in since Independence and instituted casteism, corruption, statism and bureaucracy.

And when Murli Manohar Joshi went to Srinagar on August 15 one year to raise the Indian flag, I found this pretty courageous and said so in my articles, though he was ridiculed by the entire Indian press, particularly by Newstrack, the only television news channel of those times. When Advani started his rath-yatra, I thought it too was a good idea, because it would rally the Hindus who tend to be politically amorphous, and I said so. At that time nobody-including me-believed the BJP would ever come to power. They have now. Nevertheless, it's lonely at the top.

Of course nobody from the French Embassy was present at the award ceremony. Fact is that France is only the 11th largest investor in India, after all the overtures that have been made towards France by the BJP government in the last five years.

But I am considered an outcast by the French embassy and my advice is never sought, though I have lived 34 years here and am probably the French journalist who knows India best. Forget about French Indologists, who are all pals of the JNU crowd and Romila Thapar (<http://www.rediff.com/news/2003/may/13praful.htm>) : they hate my guts; many of my fellow Western correspondents also think I am either a crackpot or a traitor to my culture!

This raises an important question: why is it that amongst the 300-odd Western correspondents sitting in Delhi, there is nobody (that I know of) who comes to the same logical conclusion that Hinduism is what makes this country great and that an Indian Christian or an Indian Muslim are different because of the softening influence of Hinduism?

After all, many of those correspondents arrive here well-meaning, with an aspiration to understand this complex country. Why is it that not only most of them go after five years not knowing India better, but very often ending up hating it? There is a Mark Tully, of course, who genuinely likes India, but even he, maybe because he is British and a BBC man, is very muted and discreet when it comes to defending India.

The only answer I can find is that it is only when the Indian press will become a little less negative, a little more proud of its roots, that in turn the Western correspondents will be positively influenced, because the first input they get when they open an Indian English paper or switch on a TV channel is negativity: everything is hopeless about this country, when India has actually done quite well since Independence and is a much better bet for the Western world than totalitarian China, or Islamic Pakistan.

Koreans Search for Roots in Ayodhya

Source: Vinay Krishna Rastogi, Lucknow

A high-power delegation from South Korea visited Ayodhya to revive two millennia-old ties with the temple town. The South Koreans discovered that a Princess of Ayodhya was married to Korean King Suro in the first century CE.

Suro was the King of Kimhay kingdom or the present Korea. The Princess was married to the Korean King at the age of 16. The Koreans believe that the Princess was the mother of the descendants who unified various Korean kingdoms in AYODHYA the 7th century CE. Since the first century CE, her descendants prospered and became the largest clan in Korea, known as the Karak, whose members had been highly distinguished people.

The present President of South Korea Kim Dae-Jung believes that he is also a descendant of the Great Princess of Ayodhya. She is regarded as the most blessed queen of Korea in the last 2,000 years, and Koreans believe that this could be due to the religious significance of the great temple city of Ayodhya where Lord Rama was born. The Counsel General of Korea said "I hope historians will be able to learn more about this great ancient Hindu city." He urged the ex-Raja of Ayodhya BPN Misra to strengthen the cultural ties between Ayodhya and South Korea.

KNOW YOUR HINDI

This is our seventh article about Hindi language. In our previous issues, we had mentioned that the so-called Hindi language is not spoken and written at its entire purity by the masses but is a mixture of mainly Farsi(Persian), Arabic and Turkish words. In Hindi movies, over 80% dialogues spoken use Farsi and Arabic words. In this issue, we continue the series of listing 10 such foreign words very commonly used in Hindi and have mentioned the apt Hindi word for it. It is about time that we should make an attempt to speak and write our national language as purely as possible

WORD	ORIGIN	CORRECT HINDI WORD	MEANING IN ENGLISH
WAZAN	ARABIC	BHAAR	WEIGHT
UMAR	ARABIC	AAYU	AGE
MATLAB	ARABIC	ARTH	MEANING
DAMAN	FARSI	AANCHAL	STOLE/SCARF
DAAM	FARSI	MULYA	PRICE
KEEMAT	ARABIC	MULYA	VALUE
SARDAR	FARSI	PRADHAN / NAYAK	LEADER
HIMMAT	ARABIC	SAAHAS	COURAGE
HOSHIYAAR	FARSI	SAAVDHAAN	ALERT
MUSHKIL	ARABIC	KATHIN	DIFFICULT

Russians seek solace in Bharatiya gurukula

by Probir Sengupta

While the majority of Indians are moving away from their traditional Bharatiya cultural ethos and take pride in their children being students of West-modelled convent schools, the westerners themselves seek solace in the ancient Bharatiya gurukulas. One such example is Moscow Bhaktivedanta Gurukula being run by International Society for Krishna

Consciousness (ISKON). Pervaded with the complete ancient Bharatiya gurukula ambience, the school teaches not religious beliefs, but behaviour and philosophy. Seeing students sitting cross-legged on the floor— with girl students having long braids and boys shaved heads and shikhas, one cannot imagine that he is in a regular Moscow school. The students rise to greet a newcomer with their hands clasped in the prayer form of pranam. In the classrooms, small groups of students study beneath brightly colored posters of Hindu deities, woven tapestries and home made art. It is worth mentioning that there is no tuition fee in the school.

An accredited Russian school, the gurukula is named after the founder of ISKON Bhaktivedanta Swami Prabhupada. At a time when Russia is passing through a phase of gloomy fiscal scenario, schools are not left without being influenced from the social degrading environs. While the schools in Russia are afflicted with such social ills as drugs, alcohol, violence, etc., the gurukula extends a curing hand by teaching the children about spirituality and behaviour right from the beginning. According to a report in Moscow Times (15-4-2003), the school's major benefactor and chairman of its board of directors, Sanjeet Kumar Jha claims, "We try to help Russians who are from broken houses, from orphanages, not only materially, but to help them be happy for a life time."

The gurukula is from preschool to grade 11 and classes there are held in Russian. Although emphasis on English instruction is also laid on as it is started from preschool level. No wonder the gurukula excels other schools. The gurukula has been educating students for 12 years using a curriculum that includes classes on ancient Indian culture, literature and philosophy, Sanskrit and traditional South Asian instruments. The school, meeting the Russian state standards, is a unique mix of ancient and modern education, as the school lays emphasis on Information

Technology seriously, which is included in the curricula right from the fifth grade. The highlight of the school is high academic standards with equal emphasis on spirituality.

The gurukula has students from several different faiths: Hindu, Muslim, Russian Orthodox, etc. Except for two Indians all the students are Russians. "Seeing how well the students were performing, the denizens of the school's nearby area migrated their children to the gurukula," points out school director Irina Yakimechko, who became a Hare Krishna after marrying a devotee. For this, credit goes to strict discipline adhered to in the gurukula, which seeks purity of mind by following four rules: no gambling, no intoxicating, no meat and no illicit sex.

Although the gurukula is prospering today, it had to overcome a lot of obstacles initially. According to Moscow Times report, "Jha pointed out that getting accredition from the Education Ministry was extremely difficult at first because the government was suspicious of the school's uncommon agenda. But the Ministry has since leased it a small green-and-white building and provides a little money." The bulk of school's support comes from charity, largely from Moscow's Indian community and Russian Hare Krishna. It is to be noted that today there are more than 100,000 devotees of Hare Krishna in 20 Russian cities.

The success story of this gurukula should be a lesson to the Indian 'secular' 'liberals' who find fault with everything associated with glorious Indian past but would hanker after it, once recognized and acclaimed in the West.

Samudragupta

The period of the rule of the Gupta Empire has been regarded as one of the most glorious periods of Bharatiya history. Except for the extreme south, the Gupta empire extended to all parts of Bharat. In fact, Samudragupta's son, Chandragupta Vikramaditya even led his army to a successful victory in Bactria (present day North Afghanistan). During the Gupta rule, there was economic prosperity and intellectual progress in the fields of sciences, arts, literature and every other field of life. Aryabhat, the great astronomer and mathematician, who was the first person in the world to discover that the earth revolves round the sun and rotates on its axis, is also supposed to have belonged to this period.

The iron pillar at Delhi, which weighs about 6 tonnes and is 7.32 meters in height, is a living tribute to the Gupta metallurgists. Despite more than 1,700 years of exposure to wind and rain, it does not even have a trace of rust, which continues to baffle present-day metallurgists of the marvellous technology used in ancient Bharat, something which the present-day generation has not been able to meet!!!

The great Nalanda university, a great center of learning not just in India but for students from all over the world, was also founded during the Gupta period.

Fa Hien, a Chinese pilgrim who visited Bharat during the rule of Chandragupta Vikramaditya wrote that the Gupta rulers were liberal, the people enjoyed prosperity, the taxes were not heavy, mostly corporal punishments were avoided and offenses were few and minor. The primary source of the income of the state was land-revenue. Temples, monasteries

and other religious places of worship were free from government taxes. The public highways were secure and free from fear of thieves and dacoits. The king and the rich people built rest houses and hospitals for the poor. Public morality was high. Most of the people were vegetarian and did not use alcohols and other intoxicants. The main religion was Hinduism and the rulers were pious Vaishnava Hindus but they patronized and respected all other faiths, including Buddhism.

Fa Hien was very impressed by the architectural standards. He was amazed by the palace of Emperor Ashoka in Pataliputra , built over a thousand years before his visit and which still existed. In fact, Fa Hien commented that he thought that that palace must have been built by heavenly beings, not human beings.

The founder of this great Gupta empire was Chandra Gupta. Historians are disputed about the exact date but most claim it was around 320 AD. The capital of the Gupta rulers was Pataliputra (modern day Patna), the same place about which Megasthenes, the Greek Ambassador during the Mauryan rule over a thousand years back, had described as the largest and most prosperous city in the world, twice as large as Rome in Europe.

Chandra Gupta placed his son, Samudragupta on the throne around 340 AD during later years of his life and became a hermit. Actually, Kacha was Chandra Gupta's eldest son but he was ruthless and short-tempered. Samudragupta, while being an excellent warrior, strategist and administrator, was also very well versed in music and poetry. It was because of this that Chandra Gupta broke tradition by selecting him as the king.

Samudragupta proved himself to be a military genius, a great conqueror and a most successful commander. The British historian, Dr V.A.Smith called him the "Indian Napolean". Actually this was an unfair comparison because for one, Napolean was ruthless and cruel whereas Samudragupta was kind-hearted and benevolent. And secondly, unlike Napolean, Samudragupta was never defeated in any battle. During his lifetime, he led his army to victory in numerous battles, throughout the length and breadth of the country.

It was Samudragupta's passion to build a strong united administration in Bharat. During the Mauryan rule, our country was politically and administratively united. But since then, numerous states and kingdoms sprang up who ruled independently and often fought each other. It was left to Samudragupta to defeat those petty kingdoms and to re-unite our country politically under a direct administration. And even though many states in South Bharat and elsewhere were not directly annexed to the Gupta empire, still all those chieftains and local rulers accepted his sovereignty.

Samudragupta performed one or more *Ashwameda Yagya* sacrifices. In these sacrifices, kings from as far as Persia (Iran), Sri Lanka and parts of South East Asia sent their envoys with gifts. He possessed not only a powerful army but also a very strong navy.

His wife was Dattadevi, who became the mother of another great and powerful king, Chandragupta Vikramaditya. His closest friend and confidant was Harishena who described Samudragupta as a kind and charitable ruler.

He restored the pride of Hinduism but was tolerant to all other faiths. Though personally a great follower of Lord Vishnu, during his reign, Meghavarna the king of Sri Lanka sought permission to build monasteries for the Sri Lankan Buddhists in Samudra Gupta's empire which was readily granted.

He left an extensive coinage system; in one of his coins he is shown playing the Veena (proving that he was so well-versed in music). Thus, all round progress took place during the reign of Samudragupta, one of the greatest kings of ancient Bharat.

INSAT-3A successfully launched into space
Thursday, April 10 2003 10:38 Hrs (IST), India Times

Bangalore: In another significant milestone in India's space programme, multi- purpose satellite INSAT-3A was successfully launched on board the European Ariane-5 rocket from the French Guyanese spaceport of Kourou in South America in the early hours April 10.

The launch, delayed by a day after a minor anomaly was noticed in the satellite on April 9, went on with clockwork precision as the European consortium rocket lifted off according to launch window schedule, carrying INSAT-3A and an American satellite and injecting them into space, Indian Space Research Organisation (ISRO) sources said.

As Ariane-5 carried out its mission, ISRO chairman Dr K Kasturirangan and other top space scientists, including project director R K Rajangam, who were present at Kourou, expressed their joy over the successful launch.

Describing the Ariane-5 launch as "a wonderful achievement" in his post-launch comment, a beaming Kasturirangan said it was a "very eventful flight, spectacular and more importantly, technologically precise".

The launch of INSAT-3A was called off for the day on April 9 after it was observed that the signal strength from one of the two telemetry transmitters was "less than nominal" during the final checks midway through the 11 and a half hours countdown.

Indigenously built ISRO's biggest satellite, INSAT-3A, the third satellite in the INSAT-3 series, would provide telecommunication, television broadcasting, meteorology and satellite-aided search and rescue services.

Kasturirangan said INSAT-3A represented an "important step" in creating and augmenting infrastructure in the country for space-based broadcasting, communication and meteorology.

Expressing confidence in Arianespace, he announced that ISRO had signed a contract with it for the launch of INSAT-4A and INSAT-4B. He also announced that INSAT-3E would be launched during June-July this year.



SCIENCE & TECHNOLOGY IN ANCIENT INDIA

From this issue onwards, we are beginning a new series – Science and Technology in ancient India. We will be covering various subjects, beginning with mathematics in this issue. Hope that you will find it informative and enjoy reading it…

HISTORY OF MATHEMATICS (*GANIT*)

Today mathematics is considered as the queen of all sciences. Hindus have acknowledged this fact since the very ancient times. The book Vedang Jyotish (written in 1000 BC) has mentioned the importance of mathematics as follows;

Just as the crest of Peacock and jewel-stone of a snake are placed at the highest part of the body (forehead), similarly position of mathematics is highest in all the branches of Vedas and Shastras.

JAB ZERO DIYA MERE BHARAT NE
BHARAT NE, MERE BHARAT NE
DUNIYA KO TAB GINTI AAYEE
TAARO KI BHASHA SIKHLAAYE
DETA NA DASHMALAV BHARAT TO
YOON CHAND PE JAANA MUSHKIL THA
DHARTI AUR CHAND KE DOORI KA
ANDAZA LAGANA MUSHKIL THA…..

Most of us are well aware of the above famous song from the movie "Poorab Aur Paschim", in which Bharat is praised for giving the ZERO and the Decimal system, without which it would have been impossible to do complex mathematical calculations required for space travel.

Ancient India's greatest gifts to the world of mathematics are the Zero and the elegant decimal system. The earliest evidence of decimal place value system is found in the Paulisa Siddhanta.

ZERO (*Shunya*): Recent studies trace the concept of Zero to the great Sanskrit grammarian Panini (500 B.C) and Pingala (200 B.C), who propounded the science of Prosody. The earliest evidence of a symbol for Zero is found in the Bakshali manuscript (300-400 A.D). In the Hindu system of numeration, the most vital role is played by the number Zero and its symbol.

Decimal Place Value System: (*Dashamlav*): Expressing all numbers by ten digits including zero and assigning to each an absolute value and a place value is the most profound contribution of India to the world mathematics, even to world civilization. One of the greatest mathematician, Pierre Laplace of France wrote" It is India that gave us the ingenious method of expressing all umbers by ten symbols, each symbol receiving a value of position, as well as an absolute value. We shall appreciate the grandeur of this achievement when we remember that all this pre-dated the genius of Archimedes and Appolonius".

We will now start here the proper analysis and growth of Ganit (Mathematics) from the ancient Vedic times to present times.

ANCIENT TIME

Ancient time is very important. In this time different branches of Mathematics, such as Numerical Mathematics, Algebra, and Geometrical Mathematics were properly and strongly understood and explained. There are 2 main divisions in Ancient Time. Vedic Times and later Vedic times

1a. VEDIC TIME (At least 1000 B.C – earlier than 6000 B.C)

Numerals and decimals are clearly mentioned in the Vedas (compiled at least 6000 B.C). There is a Richa in Veda, which says the following

In the above Richa, Dwadash (12), Treeni (2) and Trishat (300) numerals have been used. This indicates the use of writing numerals based on 10

It is in this age that the discovery of Zero and Dashamlav was made. If Zero and 10 Based numbers were not discovered, it would not have been possible today to write big numbers.

In the second section of an earlier portion of Narad Vishnu Puran (written by Ved Vyas) mathematics is described in the context of Trishkandh Jyotish. In that, numbers have been described which are ten times of each other, in a sequence (10 to the power n). Also in this book different methods of calculations like Addition, Subtraction, Multiplication, Fraction, Square, Square root, Cube Root etc, have been elaborately discussed.

This proves at that time various mathematical methods were not in concept stage; rather those were getting used in a methodical and expanded manner.

"10^{th} place valued method" dispersed from India to Arab. From there, it further spread to European countries. This is the reason why the people of Arab countries call digits from 1-9 "hindsa". In western countries 0,1,2, 3---9 are called Hindu Arabic numerals. (To distinguish it from Roman numerals which are I, II, III - IX & X etc)

1 b. LATER VEDIC TIMES (1,000 BC- 500 BC)

SHULV & VEDANG JYOTISH TIME

Vedi was very important while performing rituals like Yagna, etc. On the top of "Vedi", different types of "geomit" were made. To measure that geometry properly, " geometrical mathematics" was developed. That knowledge was available in form of Shulv Sutras. (Shulv Formula) Shulv means rope. This rope was used in measuring geometry while making Vedis.

In those times there were 3 great formulators—Baudhayan, Aapstamb and Pratyayan. Besides these 3, Manav, Matrayan, Varah & Bandhul were also famous mathematicians of those times.

The following excerpt from Baudhayan Shulv Sutra (1000 BC) is today known as Pythagoras Theorem:

In the above formula, it is said that in a Deerghchatursh (Rectangle) the Chetra (Square) of Rajju (hypotenuse) is equal to sum of squares of Parshvamani (base) and Triyangmani (perpendicular).

The above may seem quite difficult for a common man to understand. This can be simplified as follows;

$(A)2 + (B)\,2 = (C)2$

In a right-angled Triangle the sum of the square of the base and perpendicular is equal to the square of the hypotenuse.

This above equation is of great importance in calculating the height of a building, or calculating the degree of elevation etc. It has high reaching consequences in further higher degree of calculations in solving complex equations. The whole concept of Trigonometry starts from this equation.

Coming back to Baudhayan, in the same book he has discussed the method of making a square equal to difference of 2 squares. He has also described method of making a square shape equal to addition of 2 squares. He has also mentioned the formula to find the value (up to five decimal places) of a root (square root, cube root…) a number.

While Geometric Mathematics was developed for making Vedi in Yagna, there was a parallel need to find appropriate timing for Yagna too. This need led to development of Jyotish Shastra (Astrology). In this they calculated the time, position and motion of stars. In the book Vedang Jyotish (1000 BC), we find that astrologers knew about addition, multiplication, and other such mathematical terminology and how to use the exact timings.

Multiply the date by 11, then add to it the " Bhansh" of " parv" and then divide it by " Nakshatra number. In this way the " Nakshatra" of date should be told.

SURYA PRAGYAPTI ERA

There is a detailed description of mathematics in Jain literature too. In fact the clarity and elaboration by which Mathematics is described in Jain literature, indicates the tendency of the Jain philosophy to convey the knowledge to the language and level of common people.

Surya Pragyapati & Chandra Pragyapti (At least 500 BC) are two famous scriptures of Jain branch of Ancient India. They describe the use of Mathematics.

Deergha Vritt (ellipse) is clearly described in the book titled Surya Pragyapti. Deergha Vritt means the outer circle (Vritta) on a rectangle (Deergha) that was also known as Parimandal. This is clear that Indians had discovered this at least 150 years before

Minmax (150BC). As the West did not know this history so they considered Minmax as the first time founder of ellipse

In the book Bhagvati Sutra (before 300 BC) the word Parimandal has been used for Deergha Vritta (ellipse). It has been described to have 2 types. 1) Pratarparimandal and 2) Ghanpratarparimandal.

The importance of ellipse can be explained to a common man in that all the planets in our solar system have an elliptical orbit (not circular orbit). To understand the movement of planets and stars, and the way it effects our life and cause weather changes in our planet, it is very important to first understand about ellipse.

Jain Aacharyas contributed a lot in the development of Mathematics. They have described fractions, algebraic equations, series, set theory, and logarithms. Under the set theory they have described with examples-finite, infinite, single sets. For logarithm they have used terms like Ardh Aached, Trik Aached, Chatur Aached, these terms mean log base 2, log base 3 and log base 4 respectively. Well before Joan Napier (1550-1617 AD), logarithm had been invented and used in India, which is a universal truth.

Even the Buddhist literature has also given due importance to Mathematics. They have divided Mathematics under 2 categories. 1) Garna (Simple Mathematics) and 2) Sankhyan (Higher Mathematics). They have described numbers under three categories –1) Sankheya (countable), 2) Asankheya (uncountable) and 3) Anant (infinite).

This again clearly indicates that Indian intellectuals knew " infinite number" very well.

(to be concluded in next issue)

Dutch Bhagvad Gita a sellout

Ranvir Nayar in Paris, *Rediff. Com*

The Bhagvad Gita, the treatise that encompasses the essential philosophy of Hinduism, has now reached out to the Dutch-speaking people of the Netherlands and Belgium. Dutch scholars Gerda Staes and Winand Callewaert have translated the holy book into Modern Dutch, or Flemish as the language is called in Belgium.

Their work was released at a function in the Indian embassy in Belgium where nearly 40 Belgian academicians and leading personalities of Brussels were in attendance. In the first edition, 2,500 copies of the book -- which runs into 158 pages and is priced at 17.20 euros ($15) -- have been printed.

The publisher, Davidsfonds/Leuven, says going by the fantastic response that the book has evoked in the Belgian and Dutch media and among readers, a second edition may soon follow. Davidsfonds/Leuven has been in the publishing business for 125 years and focuses largely on cultural and scientific works. It is one of the most important publishing companies in the Flanders region of Belgium.

Translator Staes lived in India and Thailand for 14 years and learned Sanskrit -- the language of ancient Indian texts -- at various institutions in the two countries. She even worked for five months at Bombay University, where she organised a seminar on Sanskrit in May this year.

Callewaert, a professor at the Catholic University in Leuven, Belgium, earned his bachelor's degree in Hindi, Sanskrit and history from Ranchi University (Jharkhand) in 1968. He also studied at the Sanskrit University in Varanasi, Uttar Pradesh, and Pune University in Maharashtra. He holds the chair of Sanskrit and Hinduism at the Catholic University.

Callewaert, who has visited India at least 50 times, has already published 32 books in Hindi, English and Dutch. He was among

those Prime Minister Atal Bihari Vajpayee honoured during the Sixth World Hindi Conference held in London in September 1999.

Patel vs Rasul: The great UK divide

RASHMEE Z AHMED, TIMES NEWS NETWORK FEBRUARY 20, 2002

LONDON: The great sub-continental divide is alive and well, 7,000 miles away from India and Pakistan as Britain digests the news that people like 12-year-old ethnic Indian Abhay Patel and his Pakistani classmate Ahmed Rasul will grow up to be painfully different.

According to a new government study, boys like Patel are more likely to be white-collar workers and pillars of British society. For Rasul, the future may be bleak and in the dole queue.

The Patel-Rasul question is likely to become Britain's biggest policy headache in the next decade, even as Britain shivers with shame at the fact that three British Pakistanis are interned by the US as fanatical al-Qaeda prisoners in Camp X-Ray and there is rising evidence of economic and social deprivation among British Bangladeshis and Pakistanis.

The study, commissioned by Prime Minister Tony Blair, is stark about the impact of ethnicity, religion and class on life, livelihoods and living standards.

It says that Britain's Pakistani Muslims are three times more likely to be jobless than Hindus.

Indian Muslims do better than those from Pakistan or Bangladesh. But Indian Muslims, it says, are twice as likely to be unemployed as Indian Hindus.

Bangladeshi men are more likely to find jobs as cooks. And one in 20 Indian men is a doctor, a ratio 10 times higher than for white men.

So how confusing is this in the case of Patel and Rasul, two friends, who look like brothers from south-east London and speak a bit of so-called *chutney Hindustani* for fun, though their language of choice is English?

Sociologists say there is no contest at all. Patel is from an environment that pushes him to succeed. If Rasul does well, they say, it would be inspite of his circumstances.

Patel's mother teaches at a school and his father works in a bank. His older sister is a lawyer and he goes home to India just once a year.

Rasul's father owns a small business. His mother stays at home, looking after the five children. The family often have visitors to stay from Pakistan and they spend extended holidays there, forcing the children to miss weeks of school.

The gap between the two families is one of aspiration, say sociologists, and this is why the report finds the average Indian Hindu three times more likely to prosper than his Muslim counterpart from Pakistan.

The study appears to be uncompromising about the role of religion, warning that "the odds of being unemployed do vary with religion", but it also finds racism to be a huge drawback.

The colour bar is the one point at which Patel and Rasul remain equally disadvantaged, which may be small consolation for Britain's South Asian community of mainly one-million Indians and 700,000 Pakistanis.

US adapts Indian tech to build fast ships

PTI [WEDNESDAY, MAY 28, 2003 08:14:04 AM]

WASHINGTON: The United States adapted ancient Indian catamaran-making technology to construct fast ships which were used with dramatic effect in the Iraq war, a media report said.

Among the new equipment the Americans used to win the Iraq war were 100-ft catamaran ships to ferry army tanks and ammunition from Qatar to Kuwait.

The ships, built with technology adapted from ancient Tamil methods to make catamarans, can travel over 2,500 kms in less than 48 hours, twice the speed of the Pentagon's regular cargo ships, and carry enough equipment to support about 5,000 soldiers, it was reported on Tuesday.

Because they have a shallow draft, the boats can unload in rudimentary ports, allowing troops to land closer to the fight. The Pentagon now has only three of these ships but a dozen more are expected to be ordered, starting in the 2005-06 budget, the report added.

The US is seeking to build lighter, faster forces that can reach trouble spots - breeding ground for al-Qaeda and other terrorists - within hours, it said.

Some current and possible future US troop locations - some permanent bases, some base facilities and some where joint exercises will be held periodically with local forces - are Germany, South Korea and Australia, Hungary, Romania, Bulgaria, Turkey, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, Afghanistan, Qatar, Saudi Arabia, Oman, Djibouti, Kenya, Mali, Singapore and Philippines, the report said.

READERS COLUMN

LETTER RECEIVED FROM DR. HARI HARILELA

HARI N HARILELA GBS OBE LL D JP
夏利萊 GBS OBE太平紳士

2 April 2003

Mr. G. T. Gul,
President
Hindu Swayamsevak Sangh
B-4, 6/F,
Mirador Mansion
54-64 Nathan Road,
TST,
Kowloon

Dear Mr. Gul,

I would like to thank you and your editorial team for your kind greetings on my receiving the "Pravasi Bharatiya Award" in your January-March, 2003 issue of "Sandesh Bharati".

I appreciate your generous compliments and it is with the support of well wishers like you I have been able to contribute whatever I can for the Indian Community in Hong Kong. I look forward to receiving your continued support in the years ahead.

I would like to take this opportunity to congratulate you and your team for the wonderful work you are doing by featuring excellent articles in the "Sandesh Bharati" which are interesting as well as informative and I really enjoy reading them.

With kind regards

Yours sincerely

Hari

Hari N. Harilela

Ref. HNH/C7/2592



The states of BHARAT

BIHAR

Area:- 96,541 sq.km, Population:- About 57 million
State capital:- Patna Main language:- Hindi
Famous pilgrimage centers:- Gaya, Bodhgaya, Pawapuri, Parasnath
Famous touristic places:- Nalanda, Sonepur, Vaishali, Rajgir

BIHAR IS A REGION OF TRANSITION FROM THE WET LOWLANDS OF BENGAL TO THE MUCH DRIER AND NOW MORE PROSPEROUS ALLUVIAL PLAINS OF WESTERN UTTAR PRADESH, HARYANA AND PUNJAB. IT IS A LANDLOCKED STATE, SURROUNDED BY WEST BENGAL, ORISSA, CHHATISGARH, UTTAR PRADESH AND JHARKHAND. IN FACT, A SEPARATE STATE OF JHARKHAND, WAS CREATED FROM SOUTHERN AREAS OF BIHAR IN AUGUST, 2000. THE RIVER GANGA RUNS FROM WEST TO EAST THROUGH THE HEART OF THE PLAINS. IT IS JOINED BY THE NORTHERN TRIBUTARIES FROM THE NEPAL HIMALAYA. EVEN THOUGH AT PRESENT, BIHAR IS ONE OF THE MOST BACKWARD AND UNDEVELOPED STATES, IT IS VERY RICH IN HISTORY. THE PRESENT DAY CITY OF PATNA WAS IN THE ANCIENT TIMES, PATALIPUTRA. THE FAMOUS AND MIGHTY MAURYAN, SUNGA AND GUPTA DYNASTIES ALL HAD THEIR CAPITALS IN PATALIPUTRA. IT WAS THE LARGEST AND RICHEST CITY OF THE ANCIENT WORLD. 90 KM NORTH OF PATNA IS LOCATED NALANDA, WHICH HAS THE RUINS OF ONE OF THE WORLD'S OLDEST UNIVERSITIES, FOUNDED IN THE 5TH CENTURY AD ON AN ANCIENT SITE OF PILGRIMAGE. STUDENTS FROM ALL OVER

THE WORLD, ASPIRED TO STUDY IN THIS GREAT UNIVERSITY, ESPECIALLY THOSE FROM INDONESIA, KOREA, JAPAN AND CHINA. GREAT HONOUR WAS ATTACHED TO A NALANDA STUDENT AND ADMISSION WAS RESTRICTED WITH UPTO 7 OUT OF 10 APPLICANTS FAILING TO GAIN A PLACE. THE GREAT CHINESE PILGRIM, HIUEN-TSANG SPENT 12 YEARS, BOTH AS A STUDENT AND THEN AS A TEACHER IN THIS GREAT UNIVERSITY, WHICH HAD OVER 3,000 TEACHERS AND PHILOSOPHERS. THOUGH IT WAS A GREAT CENTER OF LEARNING IN ALL FIELDS, IT WAS PREDOMINANTLY A BUDDHIST INSTITUTION BUILT DURING THE HINDU GUPTA EMPIRE. INCLUDED WITHIN NALANDA WERE MONASTERIES WHICH WERE BACKED BY MONKS. THERE WAS A LIBRARY CONTAINING 9 MILLION MANUSCRIPTS. THE UNIVERSITY FLOURISHED UNTIL THE 12TH CENTURY WHEN THE NOTORIOUSLY FANATIC RELIGIOUS BIGOT FROM AFGHANISTAN, BHAKTIAR KHALJI SACKED IT IN 1199, BURNING AND PILLAGING THE GREAT CENTRE.

Children corner

JOKES

Schoolgirl: Do you think anyone can predict the future with cards?
Friend: My mother can. I only have to show her my report card and she knows exactly what will happen when my dad gets home!

Little Sonia was shouting her prayers:. "Please God send me a new doll for my birthday."
Her mother, overhearing this, said, "Don't shout dear, God isn't deaf."
"No, but Grandad is, and he's in the next room," Sonia replied.

In one scene of a film, an actor had to act out a death scene, but the director wasn't happy with the way he was doing it. "Come on," cried the impatient director. "It's supposed to be dramatic - put more life into your dying!"

Charlie: Mom, remember how you always worried that I'd break your best teacups if I played with them?
Mom: Yes, I remember.
Charlie: Well, your worries are over.

What did the math book say to the story book?
I have lots of problems!

Teacher: If you had Rs. 50 and you asked your father for another Rs. 50, how
much would you have?
Naseem: Rs. 50.
Teacher: You don't know arithmetic.
Naseem: You don't know my father.

Father: I see from your school report that you are not doing well in history.
Son: It's not my fault. The teacher always asks me about things that happened before I was born.

Pupil: "Do you think it's right to punish people for things they haven't done?"
Teacher: "Why, of course not!"
Pupil: "Well, I haven't done my home work."

With Compliments from:-

SANDESH BHARATI

Published quarterly by Hindu Swayamsevak Sangh, Hong Kong
For private circulation only

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Sandesh Bharati is distributed free of charge, however, contributions in support of future publications are welcome.