

Carnatic Music

By Pranav Suresh

Indian music is considered to be one of the oldest musical traditions in the world. It is believed to have Vedic origin, in particular, Sama Veda. There are two types of Indian vocal music – Carnatic and Hindustani music. Hindustani music was influenced by Arabic and Iranian music while Carnatic music remained unaffected by them. Carnatic music is based on concepts in music written in the Bharata's *Natya Shastra*.

There are four basic elements in Carnatic Music - Raaga, Taala, Shruti, and Swara. Swaras are referred to as the notes. Each swara has an animal and god raaga associated with it. Shrutis are the musical scales. There are 22 shrutis in an octave. Raagas, also called the mode, are sets of rules that build melodies using the seven swaras. Raagas can be Shudda (Natural) or Tivra (Sharp). There are 72 melekarta raagas and examples are Shankarabaranam or Charukesi. Taala refers to the beat set for a particular composition. There are 7 main taalas that lead into 150 others. The seven main taalas are Dhruva, Matya, Rupaka, Jampa, Triputa, Ata, and Eka taala.

There are four major contributors to Carnatic music : Purandaradasa, Muthuswami Dikshidar, Thyagaraja, and Shyama Shastri. Dikshidar, Thyagaraja, and Shyama Shastri were 18th century musicians who are called the trinities of Carnatic music. Purandaradasa was born in 1484 and is considered to be the father of Carnatic music. He had over 475,000 compositions mainly in Kannada and Sanskrit. He systematized the teaching method by framing a series of graded lessons (Swaravalis, Jantas, Alankaras, Geetham, Krithis). Muthusawami Dikshidar was born in 1775 and had 450-500 compositions mainly in Sanskrit. Thyagaraja was born in 1767 and had hundreds of songs mainly in Telugu, praising Lord Rama. Five of his compositions called the five gems (Pancharatna Kirthis) are very popular. Shyama Shastri had over 300 compositions in Telugu, Tamil and Sanskrit. He is the architect of the Swajathi form of Carnatic music.

Carnatic Music still remains fundamental to the lives of many Indians as a source of religious inspiration, cultural expression and pure entertainment. Sudha Ragunathan, M. S. Subbalakshmi and Sembangudi Srinivasan are a few popular Carnatic Music singers of the modern age.



Carnatic and Western Classical Music: a Comparison

Neeraja Mahalingam-Year 5

In my presentation, I compared Western Classical and Carnatic music by their origin, rhythm, and special qualities. In the first part I started by introducing examples of some unique compositions of famous western classical composers such as Johann Sebastian Bach, Ludwig Beethoven and Wolfgang Amadeus Mozart. For Carnatic music I presented the compositions of Thyagaraja, MuthuSwami Dikshitar, Syama Shastri, and Purandaradasa as examples. When reading about these composers I observed that all of them faced many difficulties in life (such as poverty and deafness) but still composed very enjoyable music!

In the second part of the presentation, I compared the two forms of music. Although melody is important to both, western classical music has more emphasis on harmony. To demonstrate this point I used two videos: one showing a Fugue composed by Bach and another showing Leonard Bernstein conducting the Fifth of Symphony of Beethoven. In contrast, Carnatic music has more emphasis on rhythm. There is also classification for melody, which is based on Ragas, and for rhythm, which is based on Thalas. Another important difference is that Western Classical music is usually rehearsed and set, whereas in Carnatic music importance is also given to creating music extempore on stage, for example when rendering ragas (also called alapana). I used videos of M. S. Subbhulakshmi and T. Brinda as examples to illustrate this point.



In this presentation, I learnt that these two kinds of music are very different. Yet, they are both very enjoyable. I also found that people belonging to the western culture are able to enjoy and perform Carnatic music. I even showed a video in which a group of Caucasian Americans sang a composition of Muthuswami Dhikshithar in Sanskrit with perfect pronunciation. Finally, although I did not show this in my presentation, I also found that some forms of African music were based on ragas in Carnatic music. Music is indeed a universal language!

Common Sports of India

-----By Irwin Mahajan

Introduction

India is a very diverse country, and it has many different diverse sports. Some of these sports have been imported by the influence of foreigners, while some have been in India for a very long time. Some sports even have religious significance. I am going to briefly summarize only 3 of the 6 sports that I originally presented on. For the full presentation go to www.ygic.us



Cricket

Cricket is the most popular sport in all of India. Some people even think that it is too popular, and is taking away from field hockey (the national sport of India). Cricket was brought to India in the early 1700's. India won its first international tournament in 1983.

Field Hockey

Field Hockey is the national sport of India. Field Hockey came to India through the British. Field Hockey is played with a J-shaped stick. To score a point, you have to hit the ball with the stick through a goal, just like in American Soccer. Field Hockey has been an Olympic Sport since 1928.



American Soccer

American Soccer, also called football in everywhere but America, is played like Field Hockey. However, you are not allowed to use your hands, and you have to kick the ball through the goal, which the other team is trying to defend. Soccer is the most popular sport in

the world. Soccer is also the 2nd most popular sport in India, second only to Cricket.

BHAKTI – DEVOTION

By

Karthik Chakravarthy

Bhakti (Devotion) means unconditional love. There are many different types and forms of Bhakti. The common factor between any of the different forms of Bhakti is its unconditional nature. Our rich Hindu culture has many diverse examples of Bhakti. Each form teaches us mere humans the importance of Bhakti in our everyday life.

The devotion of Lakshmana to Rama is the perfect example of the devotion to a brother. Lakshmana was so devoted to his brother that he laid aside everything, his wife, kingdom, and worldly riches to be with his brother during the fourteen year exile. Another form of Bhakti is the devotion to a parent, of which Rama is a wonderful example. He did not argue or hesitate when his father exiled him to the forest for fourteen years. The famous epic Ramayana boasts of yet



another form of Bhakti- the devotion to a master. An exemplary case of this type of devotion is the devotion of Hanuman to Rama. Hanuman was always very dedicated to Rama. He carried Rama on his shoulders and only wanted a place at Rama's feet. Hanuman once said that the most valuable thing to him in the world was an image of Rama. Yet another type of devotion is the devotion to a teacher. Ekalavya's name stands out unparalleled here. Ekalavya wanted to learn archery from the great guru, Drona. But because of Ekalavya's low-birth, Drona rejected him. So Ekalavya made a statue of

Drona and learnt archery from it. When Drona heard of this, he went to Ekalavya and asked for his 'guru-dakshina', Ekalavya's right thumb. Ekalavya without any hesitation cut off his right thumb and gave it to Drona as his 'guru-dakshina', knowing very well that he would never be able to practice archery ever again. Another important form of devotion that is almost forgotten in today's world is the devotion to work and principles. Mahatma Gandhi practiced this very form of devotion all his life. He never compromised on his principles and was always focused on his work. It is because of him that India is a free country today. The final and ultimate type of devotion is the devotion to God. Who could be a better example than Prahlada himself? He worshipped Lord Vishnu, despite his father, the demon king Hiranyakashipu's efforts to kill him. Finally, Lord Vishnu came and saved Prahlada by killing the demon king in Narasimha Avatar.



As depicted in these various forms of Bhakti, the common underlying factor is the unconditional love. We need to understand the meaning of Bhakti and practice it in everyday life. And as we go from one level of devotion to the next, the ultimate goal of devotion we need to reach is our devotion to God.



Flags of India,
Left: British,
Right: Modern

Field Hockey

BY Nikhil Nambiar



1936 Indian Field Hockey

Introduction

The topic of my presentation was Field Hockey¹. When India became independent, it was going through the India “Golden Age of Field Hockey”. My presentation included the History of the Indian Golden Age (From Start to Finish), and the Medal Count

Medal Count

Indian Field Hockey has put quite a dent in Field Hockey. They hold the world record for the most Gold Medals, and Gold and Silver Medals (combined). Even though the Netherlands have the most medals, the Indians hold the #1 Rank overall, by a 28-26 lead (Gold=3, Silver=2, Bronze=1). India has 8 gold medals², 1 silver medal, and 2 bronze medals. In the World Cup (created after the Golden Age), India has 1 Gold medal, 1 Silver medal, and 1 Bronze medal. In the Champions Trophy, they have 1 Bronze medal and 5 4th places. At the Asian Games, they have 2 gold medals, 9 silver medals, and 1 Bronze Medal. At the Asia Cup, they have 2 Gold Medals, 4 Silver Medals, and 1 Bronze Medal. At the Champions Challenge, they have 1 Gold Medal and 1 Bronze Medal.

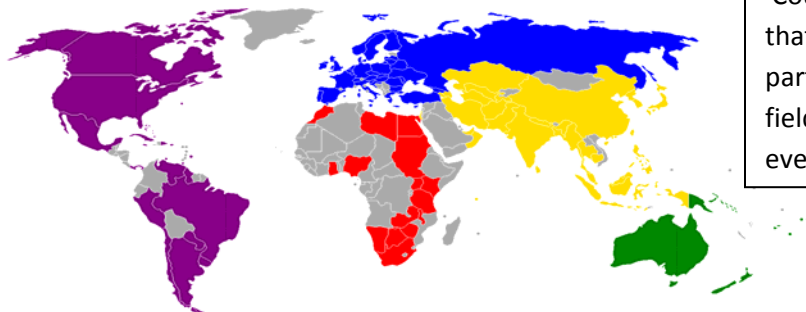
History of the Golden Age

It all started during the British occupation. The British people brought the game to India and it became a hit. When India



Dhyan Chand

came to its first Olympics, in 1928³, it went through the whole tournament without anyone scoring a single goal on them. They went on to beat the Netherlands 3-0 in the finals for the gold. This started the Golden Age⁴. The golden age lasted from 1928-1956. The Golden Age was regarded finished in most books and articles when Pakistan beat India in the finals of the 1960 Olympic Games in Rome. India later went on to get the Gold in 1964 and 1980. Reasons for the downfall may be the change of the playing surface from grass to turf (which changes the style of play) and the popularity of cricket (which took away some good talent).



Countries
that
participate in
field hockey
events

¹ The game of curved stick and ball have been found in drawings from Egypt that are 4000 years old

² 6 of the gold medals were earned in the golden age.

³ The 1928 Olympic Games in Amsterdam was the first time an Olympic torch was used.

⁴ No world cup medals because the Hockey World Cup didn't exist back then.

Why does Ganesha idol sink while Vishnu and Lakshmi resting on Adhishesha float?



By Vidur Prasad



My presentation was about how Ganesha idols (made out of clay) sink but Vishnu and Lakshmi resting on top Adhishesha float. On Ganesha chaturthi day, that is Ganesha's birthday, most people buy and worship Ganesha idol. At the end of the festival, they submerge the idol in water.

I always wondered whether these can happen so I investigated the science behind these. My hypothesis was that: ***"An object floats on water if the density of the object is less than the density of water. An object sinks in water if the density of the object is more than the density of water"***. Density of an object is the mass (weight) of the object for a fixed volume (size).

Through experiments I determined the Mass (gm), Volume (cc or ml) and Density (gm/cc) of a rock (substitute for Ganesha idol) and a wooden block (substitute for Vishnu and Lakshmi and Adhishesha). I found that (i) rock is denser than wood and sinks and (ii) wood is less dense than water and floats. Note that, for wood and stone of the same size, rock is heavier, while for wood and stone of same weight, wood is larger.

I also discussed Archimedes' principle, which states that for an object to float, it must displace an amount of water equal to its weight. If an object displaces less than its weight, it will submerge or sink. Eureka! Now we know the culprit which makes Ganesha sink, while ensuring that Vishnu and Lakshmi on top of Adhishesha float. It's their relative **DENSITY**!

The Life and Times *of Mohandas Karamchand Gandhi*

- Vans Varanasi

Early days

Mohandas K. Gandhi was born on October 2, 1869. He was very shy in school and was afraid of ghosts. He was known as Mohan and Mohan in his childhood. His parents were Karamchand and Putlibai.



Gandhi in his mid-twenties



The youngest known photograph of Mohandas Gandhi

Gandhi in South Africa

After his schooling, Gandhi studied law in England. He then moved to South Africa to become a barrister (lawyer). Indians were treated very badly & called "coolies" there in those days. Even though he only had a one-year contract in South Africa to be a lawyer, he stayed in South Africa for twenty-two years fighting Indian discrimination using non-violent methods. He arrived back in India in 1914.

Satyagraha

Gandhi is famous for fighting the British. But how? He made up a method called Satyagraha. Satyagraha means "truth force" in Sanskrit. Satyagraha is composed of various acts such as marching in protest and refusing to buy British goods. Two such protesting marches were the Quit India march and the Salt march. His methods were used by other leaders such as Nelson Mandela and Martin Luther King Jr.



Mahatma Gandhi



The Quit India movement

Prison

While fighting for freedom, Gandhi was put in jail many times. Since he believed in nonviolence, he did not resist. Many other leaders were incarcerated with him, including Jawaharlal Nehru and Vallabhbhai Patel. Also, many people he cared for died in jail, such as his secretary, Mahadev Desai, and his wife, Kasturiba.

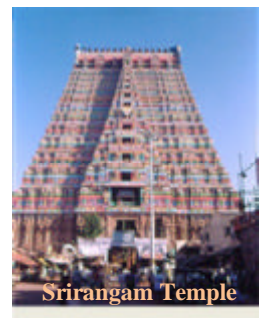
This ends a brief summary of my presentation, *the life and times of Mohandas Karamchand Gandhi*. For the full presentation, go to www.ygicus



Tanjore Temple

Temples I Visited in Tamilnadu

Shailaja Mahalingam



Srirangam Temple

Introduction

In this presentation I talked about the temples I visited in Tamilnadu (India). I saw many small and big temples but only presented two: the Srirangam Temple and the Tanjore Temple. I learnt a lot of things. I learnt that there are over a thousand temples in India and some of them are over a thousand years old. Tamil kings belonging to the ancient Chola and Pandya dynasties built these temples. Here is more of what I found out about these two temples.

Srirangam Temple

Srirangam temple was built over a thousand years ago. It is the largest temple in India and is located in Tiruchi-Tamilnadu. The God's name is Ranganathar and the Goddesses name is Ranganayaki. There are some Vighrahas in the temple: Moolavar and Ustavar. The Moolavar is the main god of the temple. He is lying on Adishesha (snake god) and he is *always* in the temple. He never goes on procession. The Utsavar goes on procession during festivals.



Moolavar

Srirangam Temple has unique features like the Vimanam (roof), Vighrahas, and sculptures. The Vimanam of Srirangam Temple has a god named Paravasudeva. The sculptures were the 1000 pillar Mandapam and the Horse Court. Something I noticed was in almost every temple there was an elephant. Later I will tell you why the elephant is so important.



Vimanam (Roof)

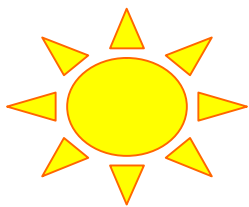
Tanjore Temple

The God's name is Shiva and is nearly a thousand years old (it was built in 1012 A.D.). A great Tamil king named Raja Raja Cholan built the temple. An unbelievable sculpture is the Nandhi that sits at the entrance and is



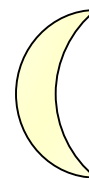
Nandhi at Tanjore Temple

huge weighing 25 tons. The roof of the temple was built with granite weighing over 40 tons. You might be wondering how the Tanjore Temple was built in 1012 A.D. where there were no automobiles. Historians were also wondering the same. Well here is the answer. They used elephants! In my presentation I showed a video how the elephants could have moved tons of granite using wooden logs. On seeing these temples I realized how thousands of years ago people were so smart and creative that they could build such beautiful temples when there were no electrical machines like we have these days.



The Universe

By Sadhvi Venkatramani



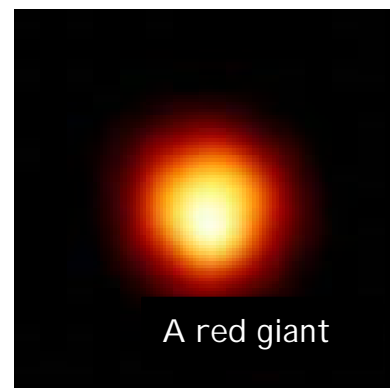
Where Are We?



Have you ever wondered where we are? Well, the universe is made up of 40 to 50 billion galaxies. We are in a spiral shaped Milky Way Galaxy. What is a galaxy? A galaxy is a huge family of (billions of) stars, dust and gas that is held together by gravity. Around each star, there could be a Solar System. In each Solar System, there are planets, such as Earth. On the earth we are in the continent of North America, country-U.S.A., state-Ohio, and city-Dayton.

Stars and Constellations

What are stars? Stars are hot, bright balls of dust, and Sun is a star! A star has a life cycle just like we humans. It starts out as a nebula, then grows, and becomes a red giant. A low mass star such as our Sun would follow those steps and then become a white dwarf and black dwarf. A high mass star would become a nebula, red giant, supernova and then a neutron star or a black hole. Some stars group together to form constellations of various shapes and signs. We can identify them by drawing an imaginary line between stars.



A red giant



The Zodiac

You can imagine the sky as a large globe with stars (Celestial Globe) surrounding the solar system. If you extend the plane of the solar system to the celestial globe it cuts twelve constellations which we call the constellations of the zodiac.

Rasi Chart

On the day we are born, certain planets were at certain zodiac constellations, which can be shown on a Rasi chart. The positions of planets in the zodiac influence our personalities and qualities. Find *your* Rasi chart and explore what your qualities are!

MEENA	MESHA	VRISHA BA	MIDUNA
KUMBHA	RASI CHART		KATAKA
MAKARA			SIMHA
DHANUS Budha on 12/23/08	VRISCHI KA	TULA	KANYA

VAHANAS

By

Rohit Chakravarthy

Vahanas are the animal or bird mounts of the Hindu Gods and Goddesses. Most Vahanas signify their deity and have a story of how the Vahana and the deity meet together. Sometimes the deity is shown riding or mounted on the Vahana, while occasionally the Vahana is shown by the deity's side. Our Hindu culture has many different types of Vahanas.

Garuda the eagle is Lord Vishnu's vahana. Lord Vishnu mounted Garuda when he came to the rescue of Gajendra, and also when he killed Narakasura. As the story goes, Garuda's mother had lost a bet to the mother of serpents and had become enslaved to her. To redeem his mother's



freedom, Garuda had to promise the serpents the elixir of immortality which was guarded by the gods. But after tricking the serpents and returning the nectar to the gods, Garuda became an ally of the gods, the mount of Vishnu, and a foe of the snakes. Nandi the bull is Lord Shiva's vahana. Nandi was originally Nandikeshwara-the Lord of music and dance. When this aspect was given to Nataraja, Nandikeshwara simply became a bull watching over Shiva's temples. Mooshika the rat is Lord Ganesha's vahana. Seated on the rat, Ganesha symbolizes crushing all the useless thoughts and desires that multiply and

wander like rats if left uncontrolled. Mayil the peacock is Lord Muruga's vahana. When Muruga destroyed Surapadman, the asura spilt into two parts, one of them became his mount and the other his rooster emblem. Manasthala the lion is Goddess Durga's mount. After a severe penance to vanquish Mahishasura - the half-human, half-man asura, Durga mounted Manasthala, and proceeded to kill him. This day of victory is marked by Vijayadashami. Hamsa the swan is Lord Brahma and Goddess Saraswati's mount. The swan is said to have the unique power of separating milk from water, thus depicting the power of discrimination between good and evil.



All of these Vahanas have an important significance and meaning associated with them. In Hindu mythology the Vahana represents the positive aspect of the deity. For example, Nandi represents strength and Mayil represents splendor. Sometimes the Vahana may also symbolize the evil forces over which the deity dominates. For example Mooshika symbolizes the negative thoughts in a human's mind while Manasthala symbolizes the aggression and ferocity in us. When we pray to God, we need to focus on improving the positive aspects while at the same time control the evil and negative thoughts that try to overcome us.

Swami Vivekananda

— By N ed Dev

Swami Vivekananda born January 12, 1863 was one of the most influential Indian speakers who ever lived. He was born in Calcutta, India. As a child he was home schooled, but was later admitted to the Institution of Ishw ar Chandra Vidyasagar. During this time period he was helped a lot by his mother, which he is indebted to forever. In his college years he first studied art at the Presidency College, Calcutta. In his next year he switched to the Scottish Church College, Calcutta. Over there he studied western logic, western philosophy, and history of European nations. All of his teachers described as a genius and very intelligent. One of his literature teachers mentioned



Ramkrishna and he was interested and went to see him. He first met Ramkrishna on November 1881. Ramkrishna had supposedly seen god and Vivekananda thought this was absurd. He used to argue with him daily, but after a few weeks he got interested and started believing in him. Ramkrishna taught him many religious rituals and today is considered Vivekananda's life teacher. Vivekananda after Ramkrishna had died started to wander around all of India unaware of what he would meet. Soon he became famous and was eagerly awaited at king's palaces. One day a Harvard professor named John Henry Wright, asked Swami Vivekananda to represent Hinduism in the 1893 World Fair in Chicago, IL, Swami agreed. At the World Fair Swami Vivekananda blew people away with his introduction speech. After that his speeches were also amazingly well put, he related all the religions in a way everyone could understand, which takes a lot of skill. Swami Vivekananda died on July 4, 1909. He fulfilled his prediction of dying before the age of 40. Even though he died very early his wonderful speeches still influence people today.