Om Vighna Devaya Namaha…

Ancient Vedic Shloka over 5,000 years back

"Om purna mada purna midam
Purnaat purnam udachyate
Purnasya purnam adaaya
Purnam eva vasishyate
Om shanti shanti shantih"

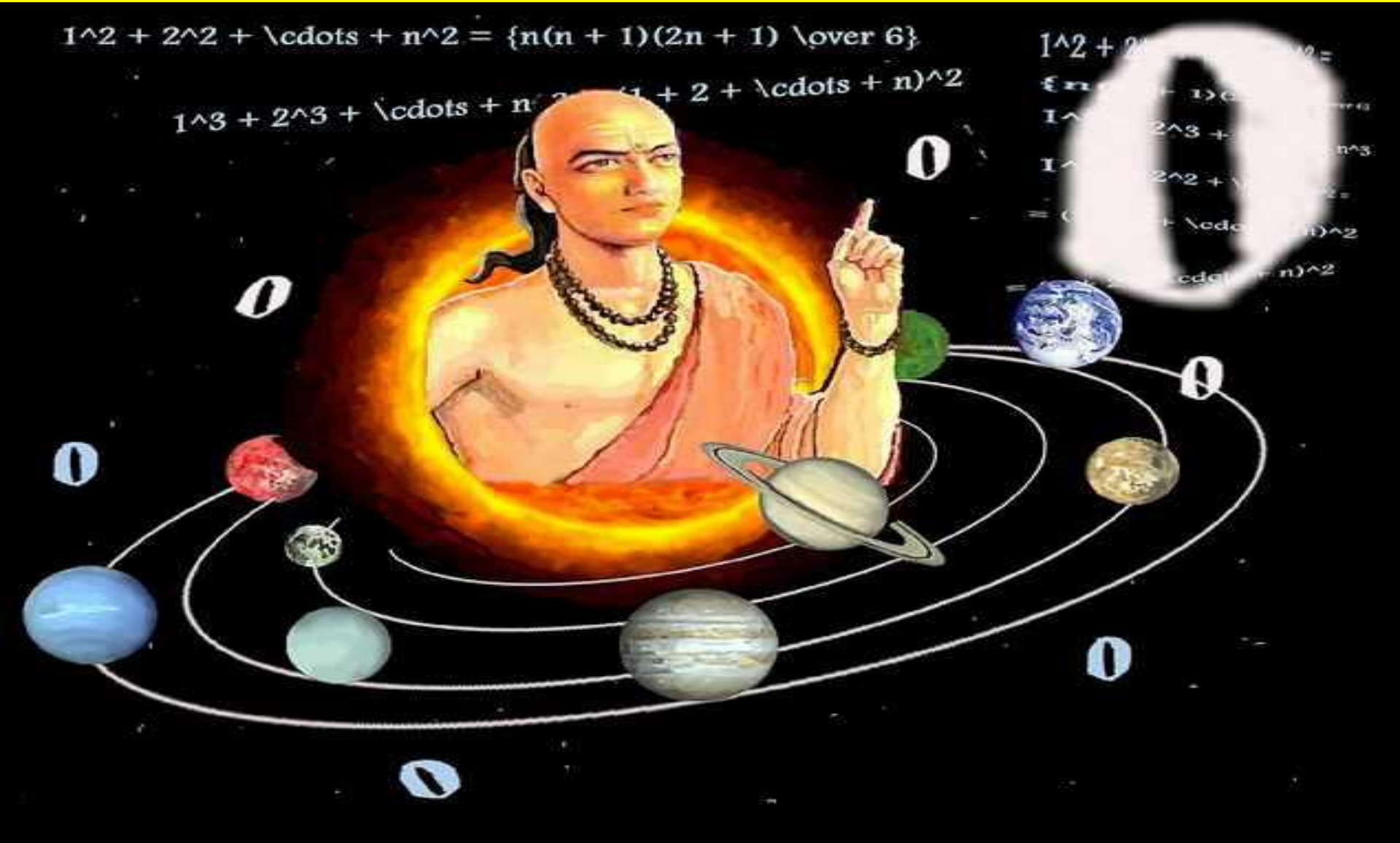
Guillaume de l'Hôpital .
1661- 1704 France, Paris .
INFINITY ÷÷ INFINITY = INFINITY

Which translates into:

"That is the whole, this is the Whole; from the Whole, the Whole arises; taking away the Whole from the Whole, the Whole remains“

(Replace Whole by Infinity)

ARYABHATTA (476 AD)



VALUE OF PI

चतुरधिकं शतमष्टगुणं
द्विषष्यटिस्तथा सहस्राणाम् ।
अयुतद्वयविष्कम्भस्य आसन्नो
वृत्तपरिणाहः । आर्यभटीयम्

ADD FOUR TO ONE HUNDRED
MULTIPLY BY EIGHT THEN ADD
SIXTY TO THOUSAND THEN DIVIDE
BY TWENTY THOUSAND RESULT IS
APPROXIMATELY CIRCUMFERENCE
OF A CIRCLE OF DIAMETER OF
TWENTY THOUSAND .

Aryabhata called it an approximate (asanna) value

VALUE OF

$$\text{Pi} = \frac{\text{circumference}}{\text{DIAMETER}} = \frac{62832}{20000} = 3.1416$$

MATHEMATICS

ZERO

SUNYA
Sanskrit

SI-FIR
Arabic

ZIFFIRE
Latin

ZERO
English

We owe a lot to Indians,who taught us how to count, without which no worth-while scientific discovery could have been made"

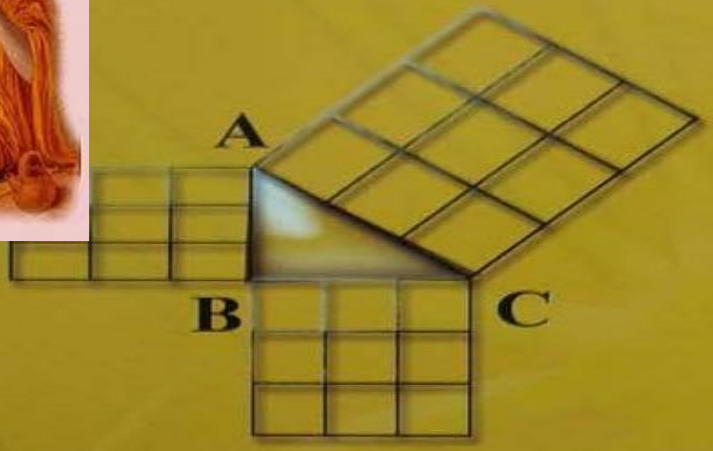
-Albert Einstien

ACHARYA BRAHMA GUPTA (598 AD)

GEOMETRY

BAUDHAYANA SUTRA
(THEOREM)

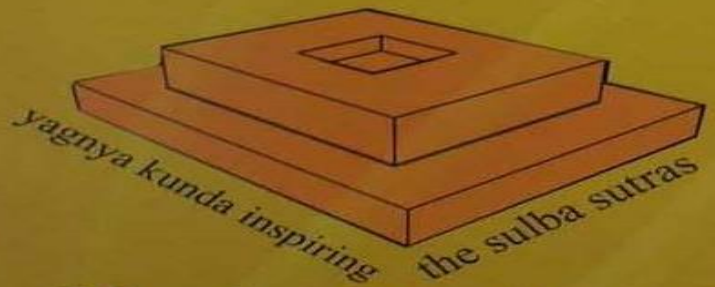
बौधायनसूत्रम्



$$AC^2 = AB^2 + BC^2$$

This theorem now known as **Pythagoras theorem** was known to Indians - 1000 years before Pythagoras.

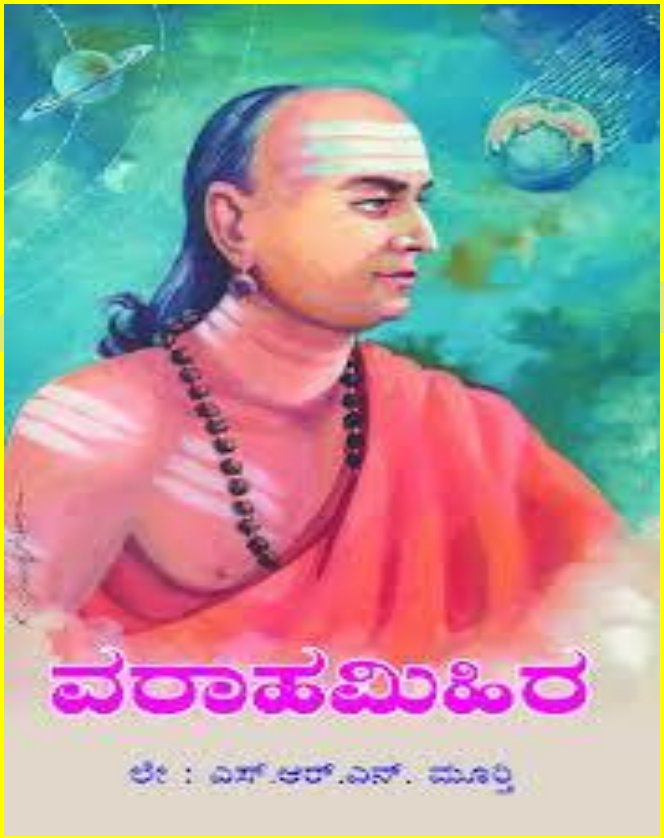
"The Pythagoras theorem had its origin in the **Sulba Sutras of Baudhayana and Apastamba**" - Leopold Van Schroeder, Indologist



दीर्घचतुरसस्याक्ष्णया रज्जुः
पार्श्वमानी तिर्यक्मानी च
यत्पृथग्भूते कुरुतस्तदुभयं करोति।।

Meaning : The Diagonal of a rectangle produces by itself both the areas produced separately by its two sides.

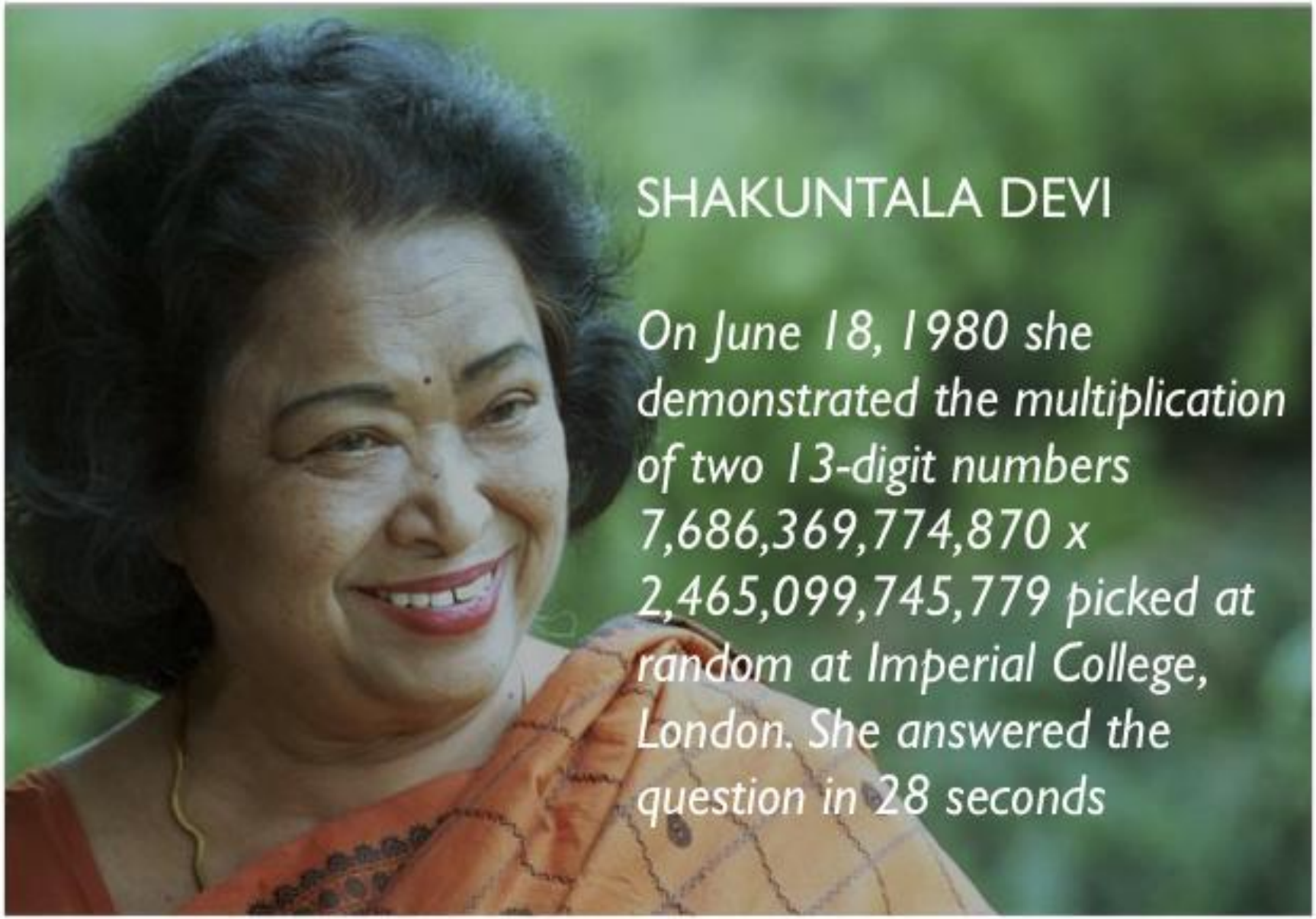
VARAHA MIHIRA(500 AD)



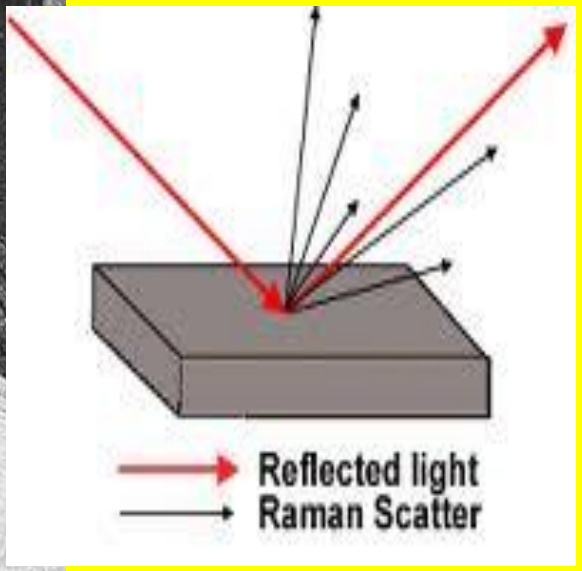
EARTH IS IN SPHERICAL SHAPE

EARTHS GRAVITY

ASTRONOMY


SHAKUNTALA DEVI
On June 18, 1980 she demonstrated the multiplication of two 13-digit numbers 7,686,369,774,870 x 2,465,099,745,779 picked at random at Imperial College, London. She answered the question in 28 seconds

SIR CV RAMAN
Nobel prize Winner(1930)



PHYSICS

SPEED OF LIGHT

तरणिर्विश्वदर्शतो ज्योतिष्कृदसि सूर्य।
विश्वमा भासि रोचनम्।

ऋक्संहिता 1.50.4

THE SUN QUICKLY PERVADES THE WHOLE WORLD.
SAYANACHARYA COMMENTS THE ABOVE SAMHITA THUS:

तथा च स्मर्यते योजनानां सहस्रं द्वे द्वे शते द्वे च योजने।
एकेन निमिषार्धेन क्रममाण नमोऽस्तु ते।। इति।।

"IT IS REMEMBERED THAT THE SUNLIGHT TRAVELS 2,202 YOJANAS IN HALF A NIMISHA

MICHEALSON AND MORLEY OF 20TH CENTURY A.D., DISCOVERED THE VELOCITY OF LIGHT. ACCORDING TO THEM SPEED OF LIGHT - 1,86,300 MILES / SEC.

1/2 NIMISHA = 8/75 SECS.
1 YOJANA = 9 MILES, 110 YARDS = 9.0625 MILES
ACCORDING TO RIGVEDA SAMHITA SAYANABHASHYAM
VELOCITY OF LIGHT IS 2,202 YOJANAS / 8/75 SEC.

Think how they accurately calculated without a gadget!!

Surgery

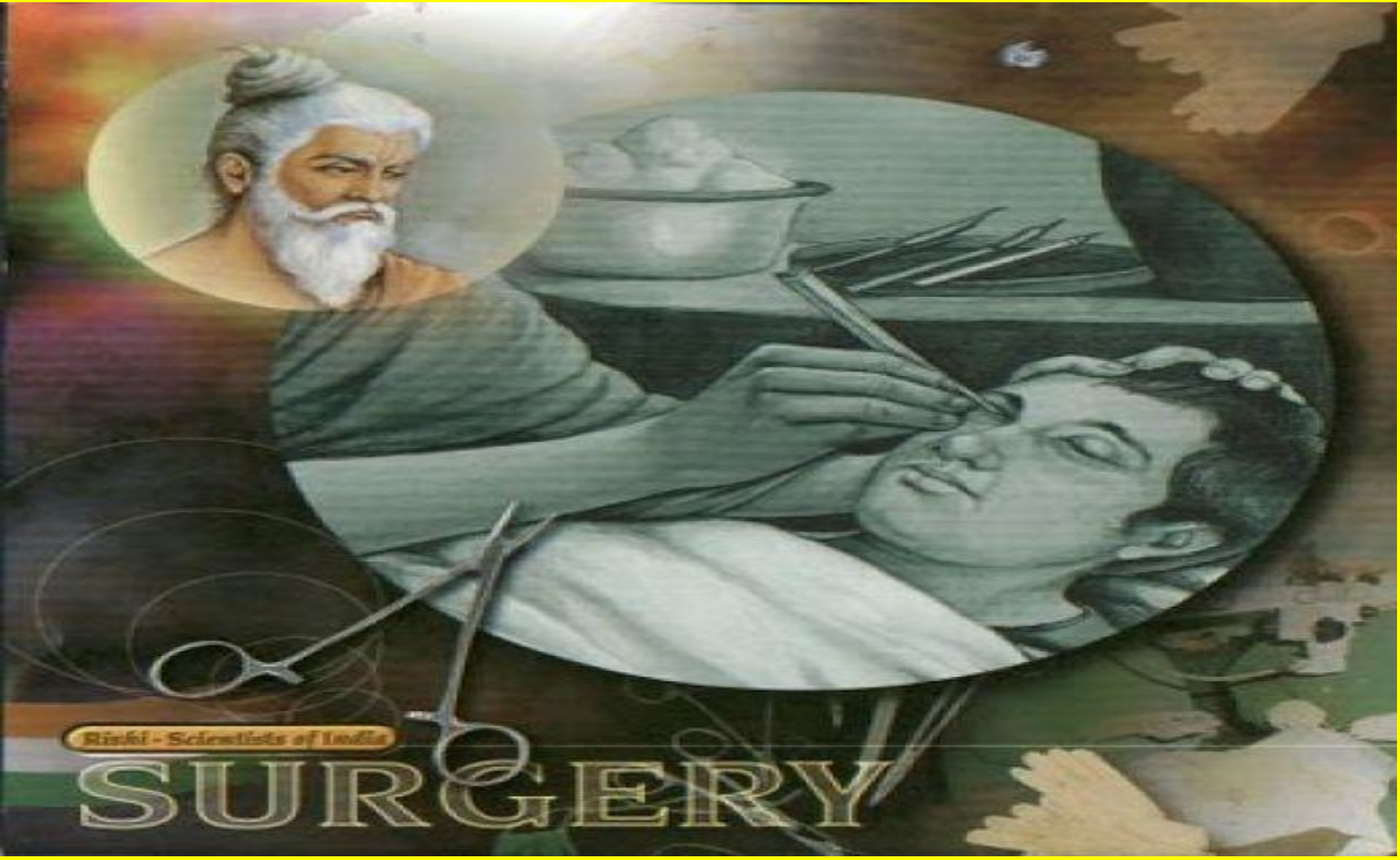
"The Hindus (Indians) were so advanced in surgery that their instruments could cut a hair longitudinally."

Mrs Plunket

"The surgery of the ancient Indian physicians was bold and skillful.

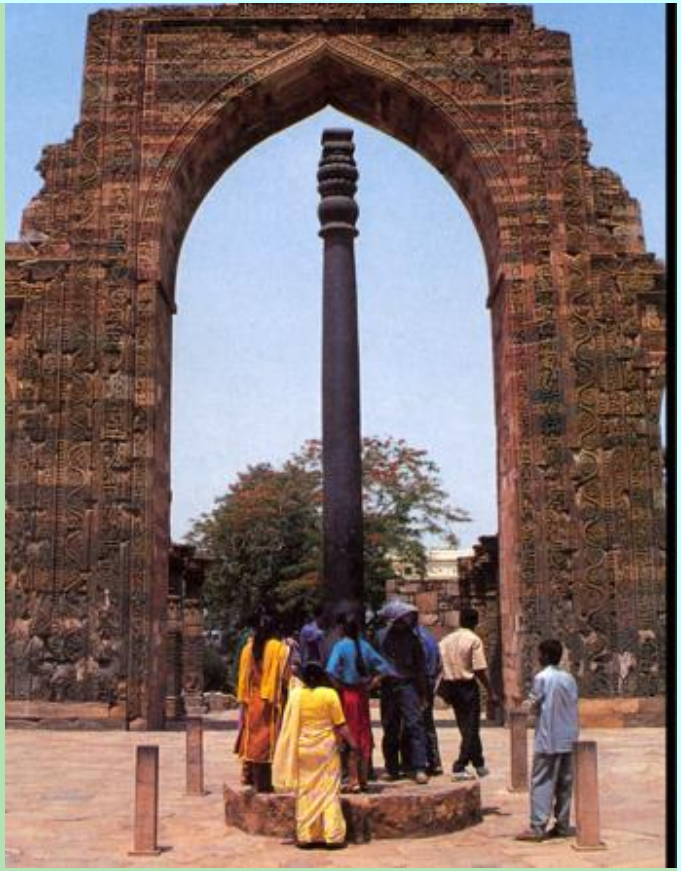
A special branch of surgery was devoted to rhinoplasty or operations for improving deformed ears, noses and forming new ones, which European surgeons have now borrowed."

SIR W. HUNTER (British Surgeon)


Rishi - Scientists of India
SURGERY

The Iron Pillar At Delhi

6.7 meters above the ground and 0.5 meters below, tapering from 420 mm diameter to 300 mm at the top, weighing about 6 tons



Universally acclaimed as amongst the most impressive Technological achievements of Ancient India. Considered as **RUSTLESS WONDER**, the most outstanding human achievement of that period in Iron Technology.

IRON AND STEEL

Iron Pillar at Delhi probable date,400 A.D

Mechanical data

Height	7.39mts(24'3")
Diameter	At the top 30.60cms(12.05')
	At the bottom 41.65 cms(16.4")
Weight	6 tons

Chemical composition

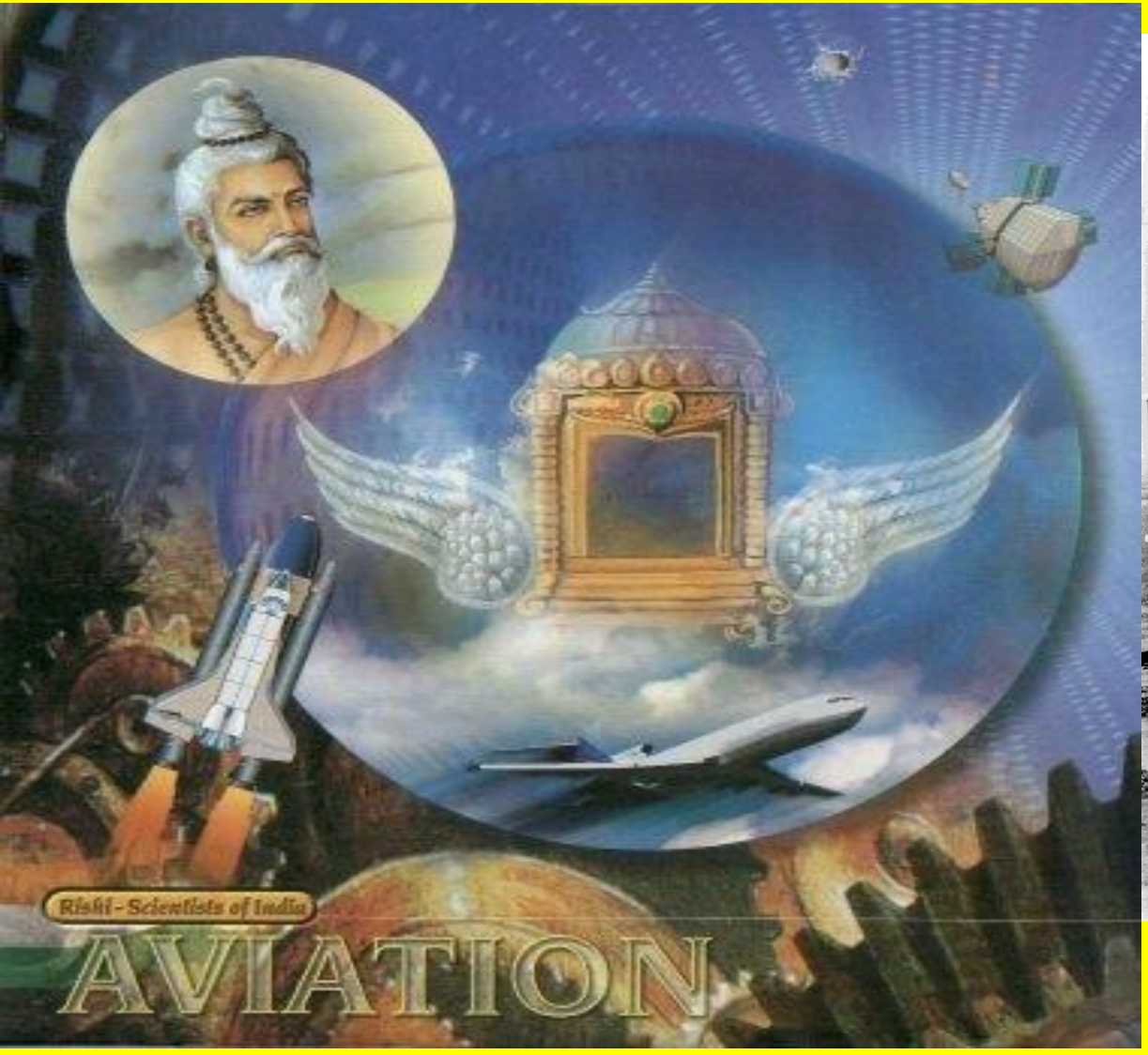
Fe - 99.72%
C - 0.08%
Si - 0.,046%
S - 0.006%
P - 0.114%
Mn - Nil

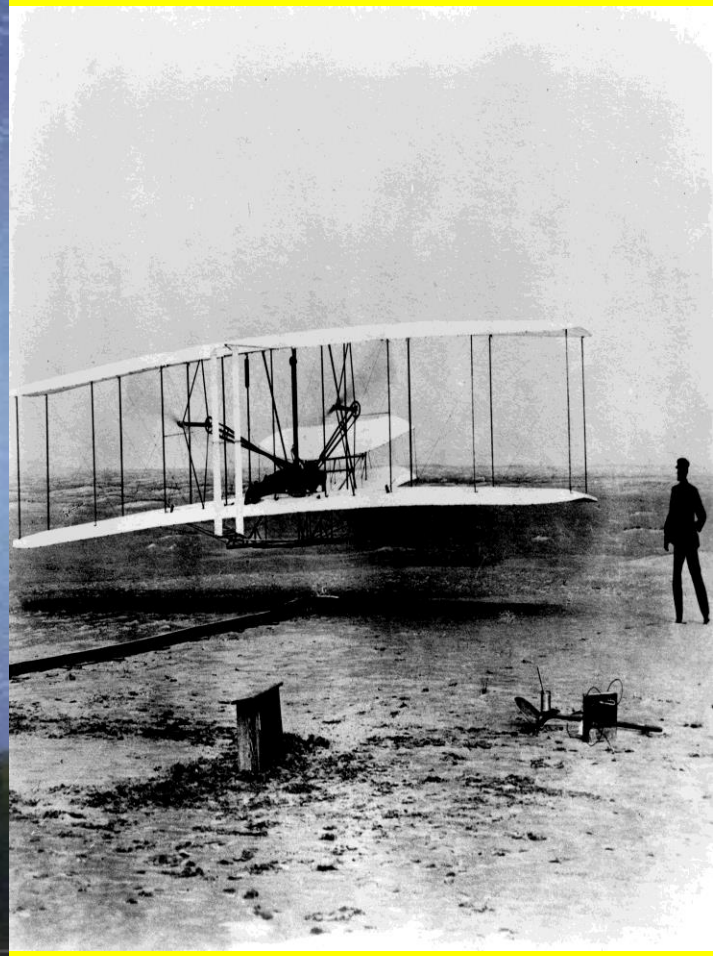
The pillar is existing for the last 1600 years without rust or decay

IRON FURNACE USED BY INDIANS

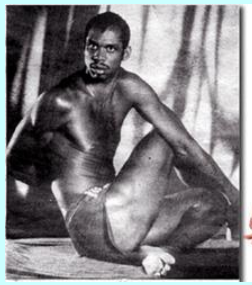
The British in 18th century A.D. preferred Indian iron for manufacturing steel of good quality.

RISHI BHARADWAJA (2500 BC)





Yoga Around The World



Abdul Kareem Jabbar

World Basket Ball champion runs Yoga college

Quincy Jones

Oscar Award winning Music Director cured Malignant Tumor with Yoga & Meditation

Madonna

Practices Yoga and sings Sanskrit Hymns

Australian Crcket Team

defeated India in 35 Years By Practicing Yoga

Ayurveda & Bharata Natyam

Ayuvedic Burqa,

Popular in Saudi Arabia

Ramli Ibrahim & Chandra Banu

Malaysia

India's Nuclear Tests ?.

1974	May 18,	1 Test
1998	May 11 and 13	5 Tests

Our Missiles

PRITHVI – II

Test fired in Nov 2006.

Surface to surface. Range 250 KM

AGNI – III

Surface to Surface, 2 Stage Intermediate Range Ballistic Missile (IRBM). Over 3,500 km Range.

War head 1,500 Kg.

The Circular Error Probable (CEP) was less than 20 meters, which is best of class in the world

AKASH.

Long Range Surface to Air RAMJET.

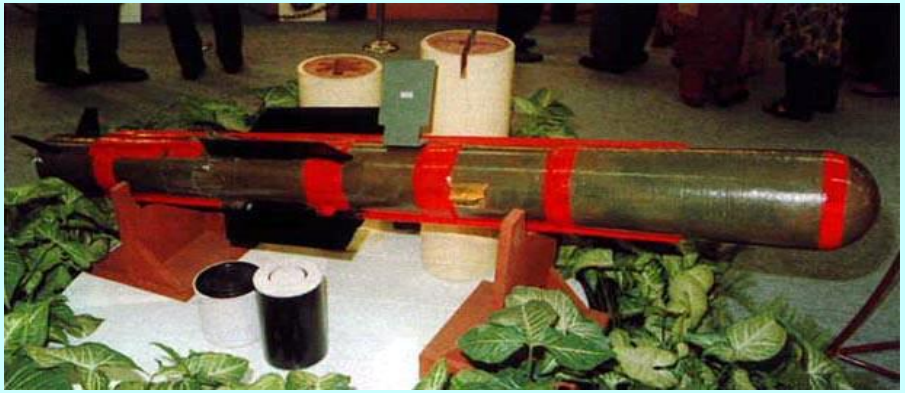
Can Target 5 enemy Air Crafts simultaneously at a **RANGE of 25 KM**

Nishant Unmanned Aerial Vehicle – Day Night Capability, Artillery Fire Correction etc

Our Missiles

TRISHUL. Surface to surface or Surface to Air. Short Range 50 KM

NAG. Fire & Forget Anti Tank Guided Missile (ATGM) RANGE: 4 KMs



BRAHMOS.

Super Sonic Cruise Missile.

Our Missiles

SHOURYA. (Valor)
(12 Nov 2008)
Surface to Surface Medium Range Missile. 600 KMs Range Test fired successfully

AGNI - 3
3,500 KMs Range

CHANDRAYAAN -1.
(22 Oct 2008). (Moon Craft)
India's Lunar Satellite – launched from Sriharikota Space Center, 09 Nov 2008 – entered Lunar Orbit 18 days later.

Our Satellite Lauch Vehicles

ASLV

Augmented Satellite Launch Vehicle.
Range: 4,000 KMs. 150 Kg Pay Load. In Lower Orbit.

Indian Satellites

Aryabhatt,
Rohini,
Bhaskara

PSLV

Polar Satellite Launch Vehicle.
Range: 8,000 KMs.
Pay Load: 1,200 Kg

GSLV

Geo-Synchronous Satellite Launch Vehicle.

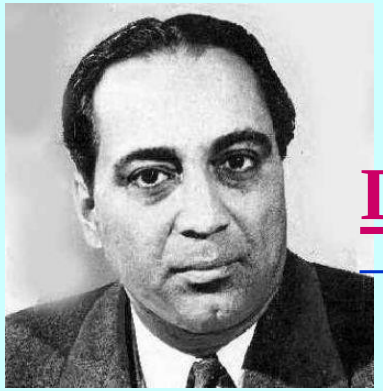
World Record in Satellite Technology

Bharatiya Space Scientists successfully put 10 Satellites at a time in a single Launch Vehicle into orbit on 28 April 2008.

10 Satellites

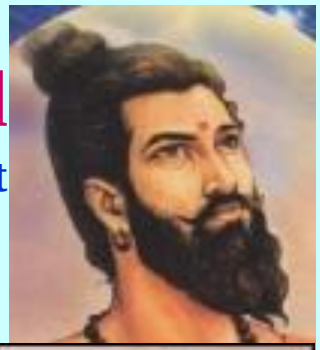
- 8 foreign nano satellites
  for Canada, Germany, Japan etc
- Cartosat-2A Remote Sensing Satellite 690 Kg
- Bharatiya Mini satellite MS-1 (89 Kg)
- weighed 824 Kgs

Indian Nuclear Scientists



Dr Homi Jehangir Bhabha

– Father of India's Nuclear Tech



Rishi Kanad

Vedic Nuclear Scientist

Dr Raja Ramanna

Dr. PK.Iyengar

Dr Anil Kakodkar

Dr Chidambaram

Lord Nataraja at CERN Geneva

Lord Shiva veritably presided over the world's largest experiment as scientists today sent the first beam of protons zooming at nearly the speed of light around the world's most powerful particle accelerator at the CERN laboratory near Geneva in search of the 'God particle'.

Next to the 2m statue of the dancing Shiva or Nataraj at the European Center for Research in Particle Physics in Geneva is a plaque that explains the connection: "It is the clearest image of the activity of God which any art or religion can boast of" ...

"Hundreds of years ago, Indian artists created visual images of dancing Shivas in a beautiful series of bronzes. In our time, physicists have used the most advanced technology to portray the patterns of the cosmic dance.

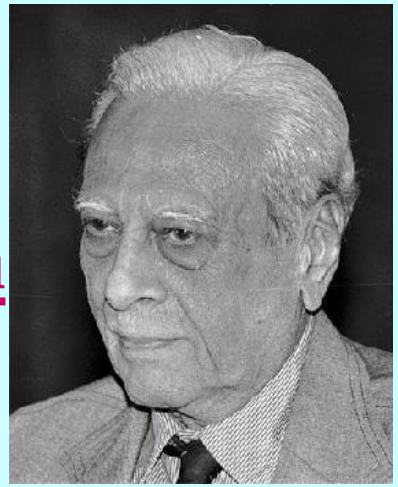
The metaphor of the cosmic dance thus unifies ancient mythology, religious art and modern physics."

Indian Space & Missile Scientists

Missiles used during Ramayan and Mahabharat times

Vikram Sarabhai

– Father of Indian Space Tech



Dr Satish Dhawan

Our Missiles

Agni, Akash, Prithvi, Trishul, Nag,

Our Satellites:

Aryabhatt, Rohini, Bhaskara,

Dr Abdul Kalam,

Missile Man of India

Dr Madhawan Nair,

Present Chief of ISRO

Dr Kasturi Rangan- 11th expert in the world and 1st Asian in Photogrammetry & Remote Sensing in 48 years to be honored by ISPRS with Brock Medal.

Ancient & Modern Space Scientists

Acharya Bharadwaj

Vedic Aviation Scientist

Pavana Putra Hanuman

Ancient Astronaut

Acharya Kapil

Vedic Cosmology Scientist

Kalpana Chawla

USA- Modern Astronaut

Sunita Pandya (Williams)

USA - Longest Space walk 22 Hrs 27 Mints, took Bhagwad Gita, Statue of Lord Ganesha and a letter in Hindi to outer space

India's Super Computer Param 10,000

Dr. VIJAY BHATKAR

We want to preserve our timeless heritage in the form of a multimedia digital library on param-10000'.

Dr. NARENDRA KARMARKAR

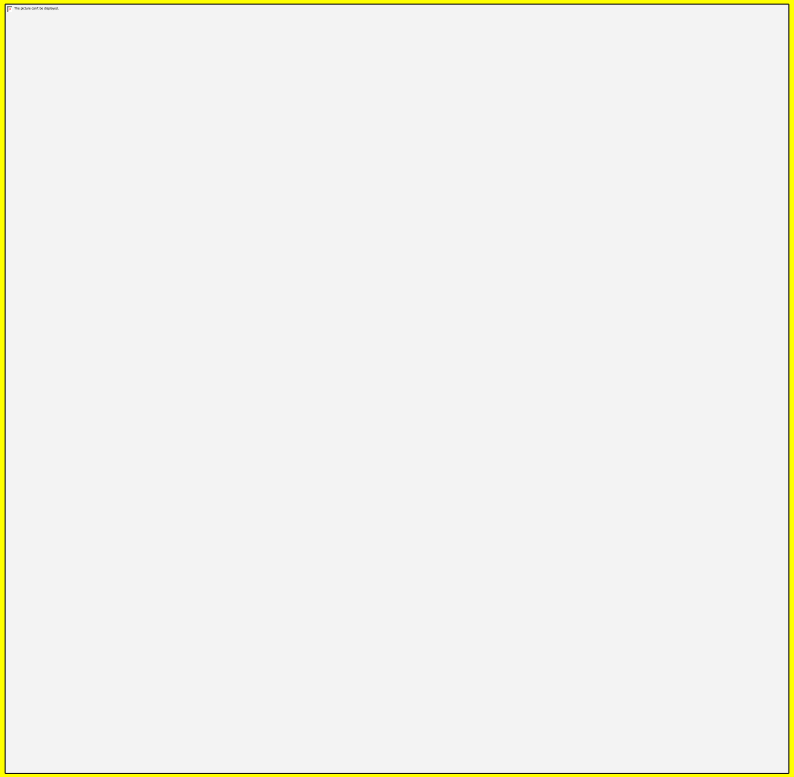
the scientists who prepared an algorithm which could make computer to perform calculations 50-100 times faster.

India in the race to build the fastest supercomputer capable of computing speeds of a PetaFlop (1000 tera flops) The Tatas provide funds to Dr. Narendra Karmakar to develop new architecture.

India's Super Computers

PARAM 10000

Fastest in Asia

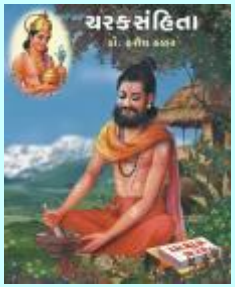


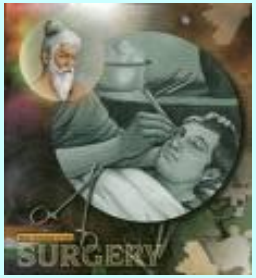
Param Aanant

Low Cost Super Computer for Educational, Research & Business Institutes.

1ST Golden Age of Indian Science & Technology

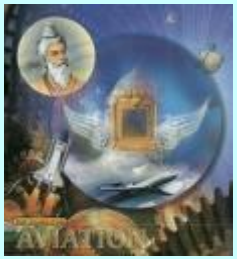
Scientists 3,000 Years before

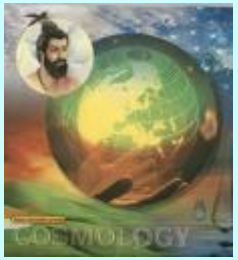



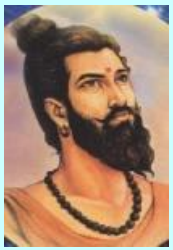


Dhanwantari, Charaka, Sushruta

Medical Science including Plastic Surgery, Nano Technology, Veterinary Science, Botany, Pharmacy,

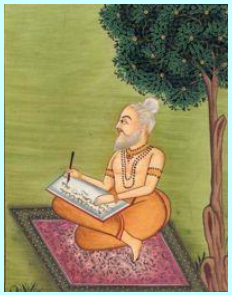
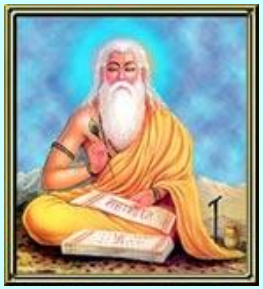






Rishi Bharadwaj, Kapil, Kanad

Vimana Shastra or Space Vehicles, Cosmology or Creation of Universe, Nuclear Physics & Chemistry

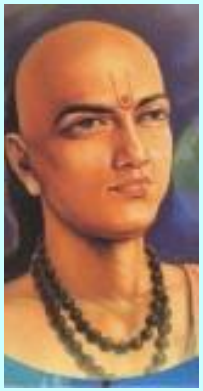
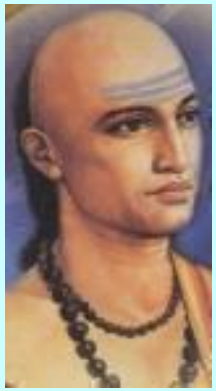




Sage Valmiki, Ved Vyas, Patanjali

War Techniques, Missiles, War Techniques, Architecture, Artha Shastra Yoga, Meditation, Grammar, Ayurveda

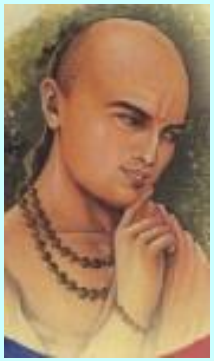
2nd Golden Age of Indian Science & Technology
400 AD – 1500 AD

Prominent Astronomers & Mathematicians


Aryabhatt, Varahamihir, Nagarjun

Mathematics & Astronomy,
Science Encyclopedia & Astrology
Organic and Inorganic Chemistry



2	4	6	8	1	3	5	7	9
3	5	7	9	2	4	6	8	1
4	6	8	1	3	5	7	9	2
5	7	9	2	4	6	8	1	3
6	8	1	3	5	7	9	2	4
7	9	2	4	6	8	1	3	5
8	1	3	5	7	9	2	4	6
9	2	4	6	8	1	3	5	7
1	3	5	7	9	2	4	6	8

Fig 6 : Bhaskaracharya's Magic Square

Bhaskaracharya

Mathematics & Astronomy, Magic Square, Goladhyay

Indian inventions

European Equivalents

Indian inventions

1. Bodhayan(BC 1000)
Diagonal square theorem

Foreigners` claims

Pythagoras theorem
(BC 540)

Professor H. G. Rawlinson writes:

" It is more likely that Pythagoras was influenced by India than by Egypt. Almost all the theories, religions, philosophical and mathematical taught by the Pythagoreans, were known in India in the sixth century B.C., and the Pythagoreans, like the Jains and the Buddhists, refrained from the destruction of life and eating meat and regarded certain vegetables such as beans as taboo" "It seems that the so-called Pythagorean theorem of the quadrature of the hypotenuse was already known to the Indians in the older Vedic times, and thus before Pythagoras (ibid). (**Legacy of India 1937, p. 5).**

Indian inventions

European Equivalents

Indian inventions

Foreigners` claims

2. Varahamihir (488-587AD)
Tri-Lostaka

B.Pascal (1623-1662 AD)
Pascal triangle.

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
```

Chandas Shastra, an Ancient Indian book on Sanskrit prosody written by **Pingala** between the **5th and 2nd century BCE**.

While Pingala's work only survives in fragments, the commentator **Halayudha, around 975**, used the triangle to explain obscure references to *Meru-prastaara*, the "Staircase of Mount Meru".

Indian inventions

European Equivalents

Indian inventions

European Equivalents

4.Virahank`s (600AD) series
0,1,1,2,3,5,8,13,21.....

Fibonacci series (1170-1250)

The Fibonacci sequence was well known in ancient India, where it was applied to the metrical sciences (prosody), long before it was known in Europe.

Developments have been attributed to Vedic Scholar Pingala (400 BC), Virahanka (6th century AD), Gopāla (c.1135 AD), and Hemachandra (c.1150 AD).

The motivation came from Sanskrit prosody, where long syllables have length 2 and short syllables have length 1. Any pattern of length *n* can be formed by adding a short syllable to a pattern of length *n* − 1, or a long syllable to a pattern of length *n* − 2; thus the prosodists showed that the number of patterns of length *n* is the sum of the two previous numbers in the sequence. Donald Knuth reviews this work in *The Art of Computer Programming*.

Indian inventions | Foreigners` claims

5. Mahavira formula(850 AD) | **Herigone`s formula(1634 AD)**
for combinations n Cr = (n)! / (r!) (n-r)! (! stands for factorial)

6. Bhaskaracharya (1114-1193) | **Rolle`s theorem(1652-1719)**
Formula for relative difference (retrograde motion)

7. Madhav`s theorem (1340-1425) | **Gregory Series(1638-1675)**
x = tan x / 1 – tan 3 x / 3 + tan 5 x / 5 - .....

8. Madhav`s series (1340-1425)
II (pie) = 1-1/3 + 1/5 - 1/7 +..... | **Leibnitz `s expansion (1646-1716)**

9. Narayan Pandit (1356 AD) | **Fermat`s result (1601-65)**
factorization method for divisiors of a number

10. Bhaskaracharya (1114-1193) | **Euler's division algorithm**
method of finding greatest common divisor

11. Permeshwara`s (1360 AD)** | **Huiler`s formula (1782AD)
Formula for finding circum-radius of a cyclic quadrilateral

Indian inventions	Foreigners` claims
12. Nilkanth Somyaji (1444-1545) Summations $\sum n$, $\sum n^2$ and $\sum n^3$	Euler`s results (1707-1783)
13 Nilkanth Somyaji (1444-1545) r sine rule a / sin A =b / sin B = c / sin C	Euler`s results
14. Brahmagupta (628 AD volumes of frustum of cone and of pyramid	Kepler
15 Jyeshtha Deo (1500 AD) formulae for sin(x+y) and cos(x+y) in the text `*Yuktibhasha*`	Euler
16 Jyeshtha Deo (1500 AD), Linear equations,	Liebnitz (1646-1716)
17 Jyeshtha Deo (1500 AD) volume and surface area of a sphere	Liebnitz, by method of integration
18. Shankar Variar (1500-60) Values of II/4, II/16 in series	Gauss(1777-1855)

3rd Golden Age of Indian Science & Technology is Today

Modern Indian Scientists

01.	Shri Jagadish Chandra Bose (1858-1937)	Life in Plants, Radio Transmission
02.	Prafulla Chandra Ray (1861-1944).	Discovery of Mercurous Nitrate
03.	Srinivasa Ramanujan (1887 – 1920).	Genius in Mathematics.
04.	Sir C.V. Raman (1888-1970).	First Nobel Scientist of India.
05.	Meghnad Saha (1893-1956).	'Ionization Formula'
06.	Satyendranath Bose (1894 – 1974).	Bose – Einstein Statistics
07.	Shantiswaroop Bhatnagar (1894–1955)	chemistry of magnetism & emulsions
08.	Krishnan K.S. (1898-1961)	worked on Crystals.
09.	Sheshadri T.R. (1900 – 1975).	Research on hundreds of Plants
10.	C.N.R. Rao (B.1934).	Solid State Chemistry,

Incredible India - Do You Know…

1. India is No.1 in **Remote Sensing Camera**
2. India is one of the FOUR counties that produces **SUPER COMPUTERS.**
3. India has the Fastest **Super Computer** in Asia
4. India is one of the FOUR countries that has the **Fast-Breeder Reactors.**
5. India is one of the FOUR countries that have landed on the Moon.
6. India is one of the SIX countries that have **Satellite Technology**, **Rocket Launching** capabilities, ICBMs & **Cryogenic Engines**.
7. Bharat is one of the Nine Countries that have conducted **Nuclear Tests.**

Do you Know that India is No1 in …

1. India is No.1 in **Software Development**
2. India is No. 1 in **Call Centers**
3. India is No. 1 in **BPOs**
4. India is No. 1 in **KPO**
   (Knowledge Process Outsourcing).
5. Bangalore has maximum **Software Engineers**
6. India is No. 1 in **Youth Power**
   and will remain so for another 30 years.
7. India is No.1 in **Diamond Cutting.**
8. India is No.1 in **Tea & Milk Production.**
9. **Hero Honda produces maximum Motorbikes**
10. **Bharat Forge is the largest Forging Co in the world.**

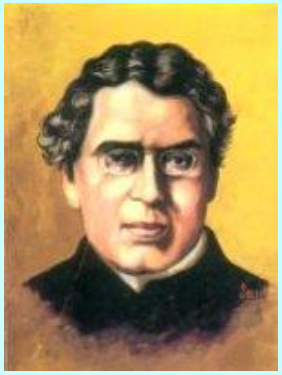
Do you Know that …….

1. India is No.2 in Truck Manufacturing,
2. India is No.2 in Rice and Wheat Production.
3. India is No.2 in Vegetables and Fruits Production.
4. India is No.4 in Pharmaceuticals Production.
5. India is No.5 in Commercial Car Production.
6. India is advancing fast in
   Mobile Phones, Automobiles,
   Pharmaceuticals, Ayurveda,
   Machineries, Research and Developments,
   Satellites, Super Computers,

They should have got at least one Nobel Prize each

Srinivasa Ramanujam,(1887 – 1920):

Great Indian Mathematician, whose interest from academics at Trinity, College, Cambridge, led him to collaborate there and postulate and prove well over 3,542 theorems.



Sir Jagdish Chandra Bose, (1858 – 1937)

USA based IEEE has proved what has been a century old suspicion amongst academics that the pioneer of **wireless-radio communication** was **Professor Jagdish Chandra Bose** and not Guglielmo Marconi.

Dr. Satyendranath Bose, (1894-1974)

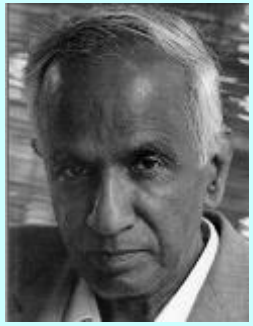
Indian Physicist, who solved one of the mysteries of quantum mechanics, showing that in the quantum world some particles are indistinguishable. His collaborations with **Albert Einstein** led to a new branch on statistical mechanics know commonly known as the **"Bose-Einstein" statistics**.

Indian Nobel Laureates

Sir C.V. Raman, (1888 – 1970)

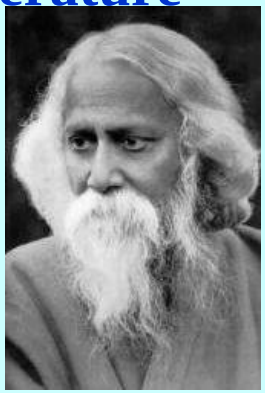
1930 - Nobel Laureate in Physics for work on scattering of light and Raman effect.

V.S.Naipaul 2001 for literature

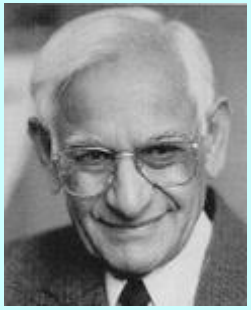


Subramanyan Chandrasekhar, (1910-1995):

1983 Nobel Laureate in Physics. His many contributions to physics, on the structure and evolution of stars including rotational figures of equilibrium, stellar interiors, black holes, radiative transfer, hydromagnetic stability, stellar dynamics.



Rabindranath Tagore, 1913 - for Literature



Har Gobind Khorana, (b-1922):

1968 - Nobel Laureate in Medicine for work on interpretation of the genetic code . Currently residing as professor at MIT.

Amartya Sen, (b-1933):

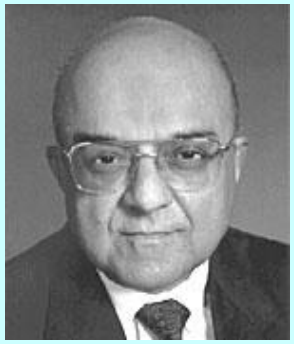
1998 - The Nobel Prize for Economics for his redefining work on ethical welfare economics. Currently residing as Lamont University Professor Emeritus at Harvard, after stepping down from the prestigious post of Master of Trinity College, Cambridge.

Unrecognised Indian Scientists in USA

Yallapragada Subbarao **(12 Jan 1895 - 9 Aug 1948)**

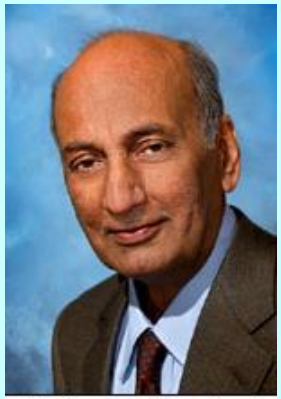
Aureomycin, presented to the medical world in 1948, ***should have won him the Nobel Prize***.

As a ***great doctor***, As a ***life saver***, ***Medicinist***, ***Researcher***, he reached the heights and the peaks of the mighty ***Himalayas***



Dr Rangaswamy Srinivasan,

Lasik eye surgery, only Indian to feature in the **US National Inventors Hall of Fame** in the company of greats such as Edison, Ford, Disney, Nobel and the Wright Brothers



Dr. Praveen Chaudhari

Dr Praveen Chaudhari

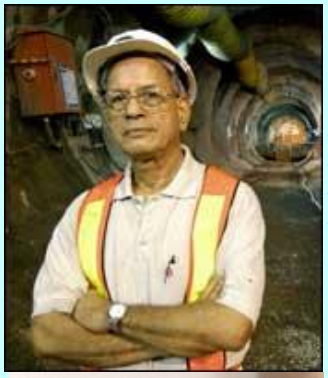
Rewritable compact disc (CD-RW),

Dr Shiv Subramanya

Coordinator or Joint Coordinator of all US Space Projects for 20 years in 70s and 80s. USA honored him with their highest National award

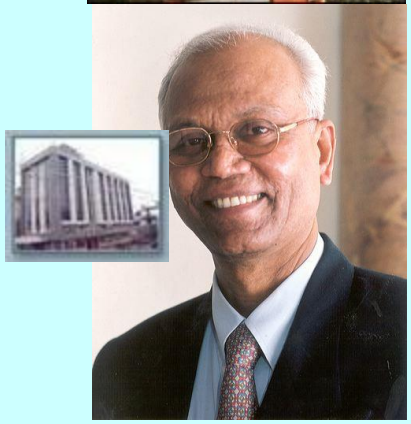
Great Indian Modern Scientists

M. Visveshvaraiyya
Engineer of Bharat
Dams, Roads, ….



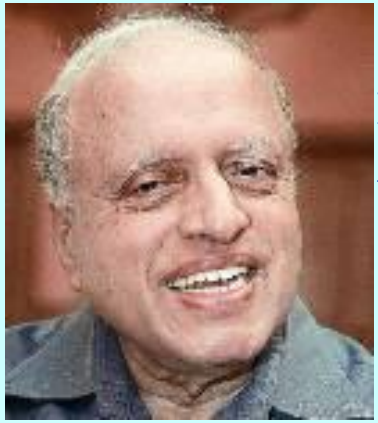
Metroman Sreedharan
Konkan Rlys, Delhi Metro

Dr. Varghese Kurien
Milk Revolution



Dr R.A. Mahshelkar
Scientific Advisor

Dr. Jayant Narlikar



Dr. M.S.Swaminathan
Agriculture Revolution

Shyam Pitroda
Telephone Revolution

Great Indian Modern Scientists

Dr. Varghese Kurien

Milk Revolution

A Anand

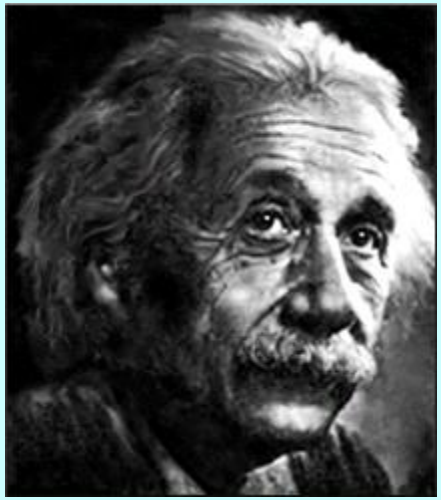
M Milk

U Union

L Ltd

Albert Einstein

(1879 -1955):



"When I read the Bhagavad-Gita and reflect about how God created this universe everything else seems so superfluous."

"We owe a lot to the Indians, who taught us how to count, without which no worthwhile scientific discovery could have been made."

"I have made the Gita as the main source of my inspiration and guide for the purpose of scientific investigations and formation of my theories."

AJAY SHARMA

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- **0091 177 2804546**
- **Email**
- **AjayOnLine.us@gmail.com**
- www.ajayonline.us/

RAVIKANE, Punjab.anti-Anthrax

RAMESH RASKAR

- Initially inspired by the special effects of Jurassic Park, **Ramesh Raskar**has invented revolutionary electronic devices

VINOD DHAM

SABEER BHATIA (1996)

1996 1997 1998

2009

2012 (Aug)

Sabeer Bhatia,
co-founder Hotmail

Speech by Thomas Friedman of the New York Times....

"When we were young kids growing up in America, we were told to eat our Vegetables at dinner and not to leave them, Mothers said, 'think of the Starving children in India and finish the dinner.'

And now I tell my children: 'Finish your math's homework. Think of the children in India who would make you starve, if you don't'…

Thomas Lauren Friedman, OBE (born July 20, 1953), is an American journalist. He is an op-ed contributor to The New York Times, whose column appears twice weekly and mainly addresses topics on foreign affairs. Friedman is known for supporting a compromise resolution to the Israeli-Palestinian conflict, modernization of the Arab world, environmentalism and globalization. His books discuss various aspects of international politics from a neoliberal perspective on the American political spectrum.