

ANCIENT SCIENTIFIC HERITAGE OF INDIA, CONTRIBUTION OF ANCIENT INDIA TO ASTRONOMY, MATHEMATICS, PHYSICS, CHEMISTRY, METTALURGY, MEDICINES, SURGERY, NAVAL ARTITECTURE, ARTITUCTURE, ARTS, MUSIC, DANCE, SPORTS.

Name - India, Hind, Hindustan, Jambudwip, Aryabarta, Ilabarta, Bharat- Why so many names?

Most Common - India, Hindustan, Bharat

India - Due to river Sindhu (Indus or Indu) - Indus Valley civilization the oldest in the world,
Due to cultivation and export of Indigo colour, India taught colour to the world

Hindustan/ Hind - Country of Indus/ Indigo called Indu/ Hindu, county called Hindusthan/Hind

Jambudwip – 50 million years ago Gandawana Land collided with Eurasia forming Himalaya.

Gandawana Land is Jambudwip and the people called Arya - so name Aryabarta.

Bharat – According to Bharat, but which Bharat? brother of Lord Rama/ son of Dusmant and Sakuntala/ son of king Rusabha/ father of Natya-beda Bharat-muni – none of them.

But the abode of Maa Bharati/ Saraswati/ Ila, so Bharat/ Bharatbrsha/ Ilabarta.

Justification – Pineal gland, the 3rd eye of Indian brain, larger than others, due to chanting of Beda/ Mantra over lakhs of years, Now 70% computer programmer, 38% doctors, 36% NASA, 34% Microsoft, 28% IBM, 17% Intel, 13% Xerox, 12% Scientists Indian.

How old is Indian civilization – 50 million years ago from Gandawana land, when people were bear faced - 1.36 million years ago in Asia – proof from stone weapons, 7 lakhs years ago in India - from archaeological evidence, 5 lakhs years ago in India – proof from fossil of Narmada valley, 2,5 lakhs years ago in India, everywhere human settlements.

Dr. Bhartak – In 'Bastab Ramayana' - Indian civilization before 72000 years ago, 17000 years ago - in **Vaman Abatar**, Bali went to (Patal Lanka pada tal desh) south America (Amarka).

Dr Aricio Neun & Dr Dos Santosh, Neclear physicist from Fedral Univ. of Minas & Gerais, Brazil – South Indians have settled in South America, 11000 years before arrival of European Columbus, in the language of Prague still there is tinge of Dravidian Language.

Historian Prescott – As per 'Ajteck Community' of Mexico, 'Quebtsal Katal' from South India have taught them civilization and agriculture in their golden era, who went home by divine order. Actually as per Balmiki Ramayan, Utarakhanda, Sumali of Sri Lanka was banished to Patal by Bisnu and after many years was excused to return to Sri Lanka.

Dr, Venugopalachari – 'World Wide Hindu Culture' – there was a Great Deluge in 13000 BCE, from 'Ice-Age' and 'Great Diluge' there were 12 Devasur battles between dev (nature worshiper) and Asur (Aserians non believers) to occupy and rule over various regions of the world- from Caspian sea up to East Ocean came under Devas and Aserians were thrown away to western side of Caspian sea. They include the Aserians (Asura), Duch (Datya), Daitey (Deuch - German), Denus (Danab), Palanko (Patala lankan - South America), Patal (Pada-tala) Amaraka (America). Due to the Great Deluge during 13000 BCE, most of Devasur died- only Manu (from whom Man or Manab or Manusya) with Saptarushi (Noa of Bible) survived the forefathers of present man.

After the Great Deluge, from 13000 BCE, Vedic culture was prevalent throughout the world- the mother of all civilization of world- regarded as Biswaguru – because description of history of last 2500 years is given by bible and Koran – non believers destroyed all human history prior to this assuming them to be unnecessary

L A Wadel – Indian Aryans have established Aryan culture throughout the globe from 13000 BCE onwards – 2500 BCE Indus valley civilization – devastated due to fall of Saraswati river, climate change, continuous draught

Lord Rama was born on 5114 BCE January 14th - so Valmiki Ramayan world's 1st written text, **Lord Krishna** left this world on 3102 BCE February 18th – Bedvyas wrote 4 Vedas, 4 Upavedas, 18 Purans and 18 Upa-purans 5000 years ago – but Veda was Srutee for thousands years earlier. 599 BCE Mahabir Jain, Buddha Dev 563 BCE, 00 CE Jesus Christ, 571 CE Mohamed, 1469 CE Nanak, established Jain, Buddha, Christ, Islam, Sikh religion much after the Sanatana Dharma, **Sanatan Dharma** is not a religion but a way of life, based on

1. centered on almighty god rather than any prophet
2. based on experience rather than belief
3. very old originated in prehistoric era
4. continuous action developed through generations
5. an all inclusive all integrated life style
6. based on eternal principle for the worldly life
7. a global principle accepted by all
8. it is holistic but fragmented also
9. it is all inclusive excluding none

Swami Vivekananda – Before Greek civilization was born, roman civilization was unknown, Europeans were savage, Indian culture was at its peak and was Biswa-guru and Sone-ki-Chidia, **Chinese and European travellers** to India during Pre-Christian era, have written that India was a country of plentiful wealth and productivity – Sone ki Chidia

Alexander of Macedonia in 326 BCE, Md Bin Quasim of Saudi in 712 CE, Mamud of Gajani from 1002 CE 17 times, Chengiz Khan of Mongolia in 1221 CE, Taimur-Lung of Timur in 1398, Nadir Sah of Iran in 1738, have looted India, along with foreign rulers like Mahmed Ghoris- 1192, Khiljis, Tugloks, Moguls -1526 and Britishers-1757, for 755 years from 1192 up to 1947

The Vedas – Rig, Yajur, Sama and Atharva- 4 Vedas were compiled by Bed-Byasa during 3000 BCE - 4 Upa-Vedas, Dhanur-veda, Sthapatya-veda, Gandharva-veda and Aur-veda - Vedas are the vast store of invaluable knowledge and science, termed as Vedic-Science

Further Readings:

1. Dr. Bhartak – Bastab Ramayana
2. Dr. Venugopalachari – ‘World Wide Hindu Culture’
3. Stephen Knapp - The Secret Teachings of the Vedas, The Heart of Hinduism: The Eastern Path to Freedom, Empowerment and Illumination,
4. Free E-Books by Stephen Knapp :// <http://www.stephen-knapp.com>.
Srinandan@aol.com.

Astronomy and Geography

- a. India was the birth place of Astronomy and Astrology found in Rug-Bed written in 3rd century BCE, to calculate exact date and time for Solar/ Lunar Eclipse, diameter and circumferences of the earth, gravitation force, distance of sun/ planets,
- b. Vedic sages were aware that Earth moves around Sun and the Moon around the Earth,
- c. Much earlier to modern geographer, Sapta-Dweep (7-Continents) and Pancha-Sagar (5-Oceans) are described in details in our Purans written 5000 years ago,
- d. The knowledge of Cosmos and Galaxy was also familiar to our ancient sages, which is described in 'Srimad-Bhagabatam' telling nos of cosmos in the body of the Almighty,
- e. Only 5 planets, Mercury, Venus, Mars, Jupiter, Saturn were known to west before 1781, before discovery of Uranus, Neptune and Pluto by Herschel, but Indians were aware of all the 9 planets from 5000 years,
- f. Maharishi 'Veda-Byas' has described in 'Mahabharata' all the 3 distant planets and their positions, and given the name of these 3 distant planets as Sweta, Shyama and Tibra,
- g. 'Bhaskaracharya' in of 12th century has computed the exact duration of rotation of planet earth around the sun, and around its own axis,
- h. According to 'Hari-Bansham', complete geographical survey of the entire world was done during the era of Baibswat-Manu, demarcating all towns, villages, agri-lands and forests,
- i. 'Brahmand-puran' describes correct and excellent 2-dimensional maps of the entire world,
- j. 'Surya-Sidhant' tells that spherical wooden models of earth, prepared with indication of equators and meridians, were safely kept in wooden boxes,
- k. Vedic sages were aware of other planets with life, as revealed from Vishnu-Puran, which tells Earth is one of the many planets having life on them in the Cosmos.

Mathematics

- a. British historian Will Durant has written, India is the mother of many mathematical clues,
- b. Australian historian A L Basom has written that world is indebted to ancient India for many mathematical knowledge,
- c. Addition, subtraction, division, multiplication, decimal numbers, logarithm, square-root, cubic-root, algebra, geometry, trigonometry were invented 1st in India,
- d. Idea of Zero (0), was 1st conceived by Indian Mathematician Brahma Gupta in 618 CE,
- e. Indian Mathematician 'Bodhan' has 1st deduced the value of pai (π) as 3.14159,
- f. Much before billion and trillion calculation of west, by invention of zero, eka, dasa, sata, sahasra, ayuta, lakhya, niyut, koti, brunda, abrunda, sagar, antya, mdhya, parardha, i.e. 10^{13} calculation was only known to Indians in Vedic era, even up to mahogham 10^{62} .
- g. 'Aryabhateeya' of 'Aryabhat' in 5th century and 'Sidhanta Siromanee' of Bhaskaracharya of 12th century was the theories of algebra and trigonometry,
- h. Bhaskaracharya in of 12th century devised 'Role's Theorum', 'Differential Caculus', 'Leelawati-Sutra', which was reinvented by Europeans in 17th century to get credit,

- i. Mathematician Madhaba of 14th century, invented 'Non-linear Equation', 'Convergence', 'Differentiation', 'Iterative Methods', 'Infinite Series' to solve 'Non-Linear Equation',
- j. Mathematician Jyesthadev Yuktidas of 14th century gave world's 1st book on Calculus,
- k. 'Yangya Mandap' written by Mathematician Baidhayan 1st gave 'Pythagoras Theorem', which was latter on gave credit to Pythagoras,
- l. If a 8-digit number is multiplied by another 8-digit number in computer, one cannot get the result in one stroke but it was very easy in Vedic mathematics,
- m. 'Panch-Sidhantika' of 5th century gives various geometrical theories in details,
- n. Modern computer has given the value of pai (π) up to decimal 16 places, whereas Rig-Ved 10th Chapter gives the value up to decimal 28 digits,
- o. Mathematician 'P Mallana' of 12th century, has written "sar sasi satak chandra sara sayak", which means, if you put 2, 4, 8, 16 in successive squares of a chess board, the last square will have, 2^{63} or 18446744073709551614 - what a magical knowledge.

Physics

1. In Vedic Science 'Theory of Relativity', 'Atomic and Molecular Theory' was written in 'Visesika-Sutra' of Maharishi 'Kananda' of 6th century BCE.
2. 'Agni-Puran' has stated that atoms are the smallest particle, measured as one millionth of a meter in dimension,
3. 'Anu-Sidhantam' of Maharishi "Gautam" describes 3 models of microscope to see atoms and molecules,
4. 'Sayan Madhab' has calculated the speed of light in Rug-Veda – 'jojanam sahasre dwe satabdwe dwecha jojane ekena nimisardhena kramamana namastute' i.e. 325940 km,
5. 'Aryabhat' in 5th century told about day and night due to rotation of earth, 1000 year earlier to 'Coper Nicus' of 15th century, who got the credit for it,
6. 'Bhaskaracharya' of 12th century told about gravitational force, long before Isaac Newton,
7. Indian Scientist 'Satyendranath Bose', contemporary of Isaac Newton, has invented Boson,
8. Indian Scientist 'Sir Jagadish Ch. Bose' is the father of wireless communication in World,
9. Tele-communication, Tele-vision, Remote-sensing, Radar and Laser Imaging Technology was 1st devised in India, as revealed from 'Samarangan-Sutradhara' written in Sanskrit,
10. Panch-Bhut theory represent, soil as solid state, water as liquid, air as gaseous, fire as plasma and sky as nuclear state of physical materials.

Chemistry and Chemical Engineering

1. Vedic Chemist 'Nagarjun' was the father of evaporation and condensation reactions,
2. 'Chhandogya Upanisad' has described in detail about 5 metals, namely: Gold, Silver, Tin, Lead and Iron, which were 1st invented in India,
3. Manufacture and use of Glass, perfumes, colours, sugar was 1st invented in Vedic India,
4. Greek Historians have written that in 4th century BCE, Indians were capable to extract metals by melting of various metallic ores harvested from mining,

5. By this technique from 8th century BCE to 17th century CE metal-coins were in use,
6. Pillars of 5th century Gupta Dynasty, made out of rust-proof iron alloys, standing for last 1500 years is the proof of the advanced knowledge on metal-powder technology,
7. Greek historian Herodotus of 5th century BCE, has written use of arrows, knives, swords and armours made out iron by the Indian soldiers,
8. Before 1726 when diamond was discovered in Brazil, India was the only diamond producing country of the world.
9. Indian ladies, even now, harbour the largest quantity of Gold (11%) of the total gold reserve of the world, in spite of continuous looting by foreigners over many centuries.
10. The 'Brahmastra' described in 'Mahabharat' is believed to be atomic weapon from the description of its after effects given in the text.

Metallurgy and Production Technology

- i. In Vedic India, perfumes, colours, sugar, spices manufacturing technology was popular for domestic and export markets, as indicated by foreign travellers like, Meghasthinis, Ptolemy, Faxian, Juang Jang, Marco Polo, Al-barony, Iban-batula etc.
- ii. Spinning and weaving and colouring was 1st invented and were very much developed in Vedic India, as described by various Purans,
- iii. 'Biography of Plinee' indicate that India was exporting cotton, silk and woollen cloths, wools, coloured carpets, from thin cloths to very thick canvass to Rome,
- iv. Fire arms like guns, rockets, missiles, was invented in Vedic India, Marco Polo of Venice was sent by his King to India, to collect secrets of fire arms but failed in his mission,
- v. Sukra-Nitee-Shastra written by Sukrachrya, describes details of manufacture of gun-powder,
- vi. 'Satagnee' described in Beda fires 100 bullets at a time to its destination,
- vii. 'A M Eliot', 'Henerick Brunofer' and Gustav Opat have written that, ancient Indians were very efficient in manufacture and use of gun-powder.

Sip-Building and Navigation

1. The proof of ancient India's navigation, is revealed from the sail-boat portrait of Mahenjo-Daro and sea-going ship portrait inscribed in the Ajanta caves,
2. Ship-building and navigation, was very much developed in Vedic India, as revealed from many ancient texts written in Sanskrit and Palee scripts,
3. Vedic India was having trade relation with Cambodia, Java, Sumatra, Borneo, China, Arab, Egypt, Persia etc.
4. By 500 CE, Indian navigators were using compass and sextant, British naval engineer 'J L Raid' has written that Vedic scholars were conversant to fix direction by using magnets and were laying foundation in north-east corner, while constructing buildings,
5. In Vedic compass, was a magnetic fish, was kept floating in a oil pot indicating the north, called as the 'Matsya-Yantra',

6. Vedic Indians were the 1st to build sea-faring ships, by the available hard-woods, which were not available in European countries,
7. The family priest of British King, Ovington visited Surat in 17th century, has written in his book 'A Voyage to Surat', that Indian ship-making was very much developed and Indian woods were strong enough to withstand bullet shorts,
8. Rig-Veda has description of boats with 100 oars, which can navigate across all the oceans,
9. Much earlier to Jesus Christ, Greek and Roman travellers to India have written that Indians were aware that the world is spherical, one can safely return home crossing all the oceans,
10. In 'Boudha Jatak-Galpa', it is written that India was having ships to carry 700 travellers,
11. Artha-sastra of Chanakya, has description of Navigation Authority and Port Authority,

Medicine and Surgery

- a. The 1st exhaustive medical science Aurveda and Acupuncture, based exclusively on herbal medicines was 1st devised in India, with maharishi Charak and Patanjali as word's 1st doctors and Susruta the 1st surgeon.
- b. Maharishi Atreya and Agnibesh were famous physicians in 800 BCE, following them Charak Sanhita was authored by Maharishi Charaka, which is used as text book for medicine for last 2000 years, which describes, human anatomy, cause, symptom, diagnosis and remedy of diseases, digestive system, immunity, metabolism, embryology, genetics etc.
- c. 'Susruta Sanhita' authored by the famous surgeon Maharishi Sustruta of 800 BCE, gives detail description of surgery namely: the excision, scarification, puncturing, exploration, extraction, evacuation and suturing etc. Charak was capable to perform eye, brain, dental and cosmetic surgery in his time from 800 BCE onwards,
- d. The 'Yoga Sutra' authored by maharishi 'Patanjalee' of 200 BCE, describes how to remain healthy with peace of mind, by practising yoga and Pranayama,
- e. Thousands of years earlier to Darwin of 19th century, theory of evolution was known to Indian sages, which they have symbolically represented in form of Das-Avatar of God,
- f. Theory of evolution and Das-Abatar are based on similar facts, Darwin's theory tells about evolution of animals, where as Das-Avatar tells about evolution of animals and human,
- g. Life started as aquatic (Matsy) - Amphibians (Kurma) - Terrestrial (Barah) - Fierce (Nrusingha) - Human (Baman) - Fighter (Parasuram) - Ruler (Rama) - Farmer (Balaram) – Animal-lover (Krishna) – Peace lover (Budha) human,
- h. The Gotra tradition prevalent in Vedic culture, is based on the secret clues of genetics, X and Y chromosomes, inheritance of parental character etc.
- i. Our ancient sages were aware of the fact that male is the custodian of Y chromosome, leading to male child, so Gotra of the female changes after marriage as per her husband,
- j. Marriage in same Gotra was prohibited, which otherwise create Genetic Depression to create low longevity and physical deformity in the child,

Engineering and Architecture

- a. Temples, palaces, pillars of ancient India are the marvels of engineering and architecture,
- b. Kusaan, Maurya, and Gupta dynasty has spread Indian ancient architecture to Central-Asia like Afghanistan and Baluchistan,
- c. By spread of Buddhism Indian architecture has reached South-East Asia, like Sri Lanka, Indonesia, Malasia, Cambodia, Laos, Thailand, Myanmar, China, Korea,
- d. Ajanta, Elora, Khajuraho, Konark, Mahabodhi, Sannchi, Mahabalipuram are the symbols of Indian ancient architecture,
- e. Ancient Indian sages in Vedic scripture 'Ilabrata' and 'Jala-Marut' has described details of irrigation engineering technology in minute details, along with ground water harvest,
- f. 5000 years ago, knowledge of planned town construction technology was developed by our Vedic sages, as observed from 'Harappa' and 'Mohenjo-Daro',
- g. Buildings with planned water-supply and sewage disposal was invented in Vedic India,
- h. Rope-way and hanging bridges by steel blocks and ropes, were prevalent in Vedic India, as written by the Chinese travellers,

Aeronautics and Space Engineering

- a. Aeroplane was 1st invented in India, as revealed from the 'Yantra-Sarbaswa' of Maharshi Bharadwaj, 'Viman-Chandrika' of Narayana, 'Byomajan-Tantra' of Saunak, 'Byomajanark' of Dandinath etc, are valuable books on aeronautics of ancient India,
- b. In these texts, 'Margadhikaran' is about speed and control of air-crafts in war-time, 'Lahadhikaran' about use of alloys for aircraft spare-parts, 'Saktyadhikaran' about the production and use of different aviation-fuels, 'Parasabda-grahakta' about flights and communication with the pilots,
- c. Maharshi Gautam in his text 'Baimanik-Sastra' has described about 32 models of air-crafts like 'Puspak-Viman' used during Tretaya-Yug i.e. 7000 years ago, 'Tripura-Biman' using solar power was capable of motion in land, water and air, 'Sakun-Biman' was an aircraft propelled by rocket technology like our present day space-crafts,
- d. Prof. Siv Sankar Talpade of Bombay in 1895, using the technology given in the Baimanik-Sastra of Gautam, constructed the 1st air-craft of world, which flew up to 1500 ft height, he has written a book 'Prachin Biman-Bidya' in Marathi, after accidental death of Prof. Talpade, Britishers purchased the prototype from his son and with some modifications Wright Brothers got all the credit in 1902,
- e. 'Bruhad-Sanhita' of Baraha Mihir describes the use of satellite and space technology,

Sports, Games and Miscellaneous

1. Martial arts, Yoga, Kabadi, Chess, Ludu, Snake and ladder, playing cards etc. were originated in India and are the gifts to the entire world,
2. Ink for fountain pen, flushing of toilets, buttons from sea-shells, Shampoo for hair are the gifts of India to the whole world,