

PARAM SCIENCE MAGAZINE



BHARATIYA VIGYAN YATRA

UNVEILING A
SCIENTIFIC
LEGACY

Preface

Welcome to “**Bharatiya Vigyan Yatra**”, a captivating journey intertwining the **ancient wisdom of Bharat with the marvels of modern science and technology**. As you turn each page of this exquisitely crafted chronicle, you'll be spellbound by the genius of these visionaries, whose theorems, shlokas, and laws continue to evoke a sense of awe and inspiration.

Our journey commences with a homage to Bharat's deep-rooted scientific legacy, where ancient scholars ventured from mathematics to astronomy, setting the groundwork for our contemporary pursuits. As you traverse these pages filled with revelations, you'll uncover the intricate interplay between science and Vedanta, where the oscillations of the mind resonate in the behaviours of subatomic particles. Finally, as you reach the culmination of this expedition, you'll be captivated by the harmonious cadence of ancient Sanskrit palindromes, where language becomes a gateway to appreciating the profound scientific acumen of these luminaries.

Join us on this remarkable odyssey, where the brilliance of ancient Bharatiya science radiates, illuminating our path towards discovery and understanding.

Note

The magazine's content is sourced from well-regarded research papers, articles in esteemed journals, and published books. It's crucial to acknowledge that ongoing research in these domains may uncover fresh viewpoints in the future.

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October Birthdays

Meghnad Saha	: Oct 6 1893 (Astrophysics)
Niels Bohr	: Oct 7 1885 (Physics)
Henry Cavendish	: Oct 10 1731 (Chemistry & Physics)
A. P. J. Abdul Kalam	: Oct 15 1931 (Aerospace Science & Engg)
Subramaniam Chandrashekar	: Oct 19 1910 (GR & Astrophysics)
James Chadwick	: Oct 20 1891 (Physics)
Alfred Nobel	: Oct 21 1833 (Chemistry)
Gladys Mae Brown	: Oct 27 1930 (GPS)
Homi J. Bhabha	: Oct 30 1909 (Nuclear Physics)
Narinder Singh Kapany	: Oct 31 1926 (Physics)

October Science Days

Voluntary Blood Donation Day	: 1 Oct
Wildlife Week	: 1 - 7 Oct
World Habitat Day	: 1 Oct
International Day for Natural Disaster Reduction	: 2 Oct
World Food Day	: 16 Oct

Ayurveda

The science of life

Origin

- Charaka Samhita - First millennium B.C.
- Sushruta Samhita - Second millennium B.C.

Charaka Samhita + Ayurvedic surgery

- Asthanga Hridayam - 7th century A.D.

Charaka Samhita + Sushruta Samhita

Between the 5th century B.C. and 5th century A.D. the ayurvedic principles spread to all known corners of the world China, Tibet, Persia, Arabia, Egypt, Greece and Rome where they blended with local traditions and cultural habits.

Ayurveda is especially boundless in itself. It splits into **eight sections** for simplification of people's understanding. These eight branches of Ayurveda are called "**Ashtanga Ayurveda**".

DAMSHTRA
Toxicology

BALA CHIKITSA
Paediatrics

SHALYA
Surgery



"Without proper diet, medicine is of no use. With proper diet, medicine is of no need."

The study “**Mechanistic Insights from Ayurvedic Herbal Medicines for COVID-19**” reveals that Ayurvedic compositions may provide immune benefits and inhibit SARS-CoV-2 growth, with potential bioactive components identified.



Cancer Management

In a world where ancient herbal remedies are the shield against cancer, cutting-edge nano-drug delivery is the sword, sharpening their efficacy and offering hope in the battle against chemotherapy's shadows.



Yoga Shastra

Union of Body, Mind, Soul, and Spirit.

Origin

Yoga is a group of **physical, mental, and spiritual** practices or disciplines that originated in Bharat and **aims to control and still the mind**, recognizing a detached witness-consciousness untouched by the mind (Chitta) and mundane suffering (Duḥkha).

Yoga Sutras

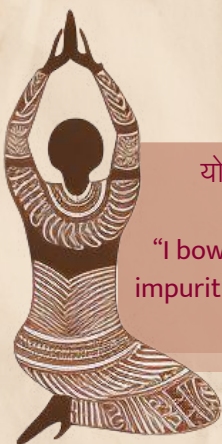
- The sage Patanjali compiled the Yoga Sutras in the early second century BC who synthesized and organized knowledge about yoga from much older traditions.
- It is a collection of Sanskrit sutras (aphorisms) on the theory and practice of yoga – 195 to 196 sutras.

Yoga helps **calm the mind constantly**, leading to more conscious actions and reduced suffering.

A clear link is observed between **overall physical and mental health and the inner tranquillity** yoga promotes.

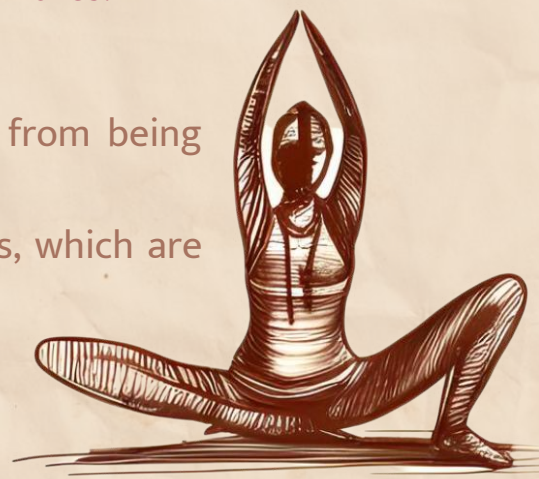
Patanjali - "Stopping the mind's instincts from being fickle (chittavrttinirodh) is yoga."

This union is achieved through eight steps, which are called Angas (limbs) of Yoga.



योगेन चित्तस्य पदेन वाचां मलं शारीरस्य च वैद्यकेन। योऽपाकरोत्तं प्रवरं मुनीनां पतंजलिं
प्रांजलिरानतोऽस्मि॥

"I bow with my hands together to the eminent sage Patañjali, who removed the impurities of the mind through yoga, of speech through grammar, and of the body through medicine."



Eight aspects include all such as **behavioural, physical, mental, and spiritual aspects.** ►

SAMADHI
enlightenment

DHYANA
meditative
absorption

DHARANA
focused
concentration

PRATYAHARA
withdrawal of
the senses

PRANAYAMA
control over
life forces

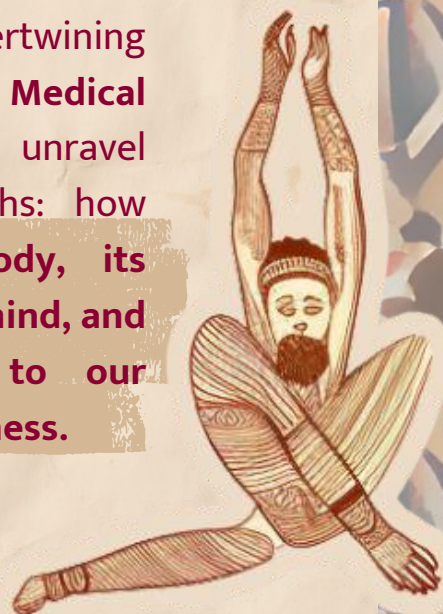
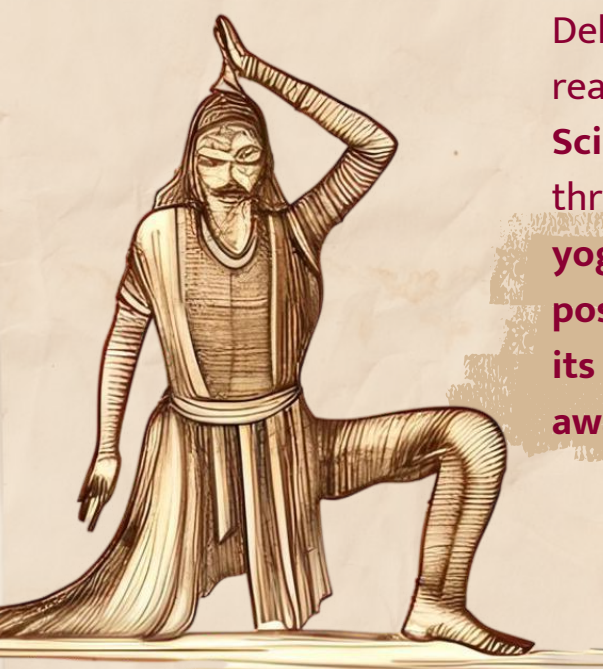
ASANA
posture

NIYAMA
5 Observances

YAMA
5 Moral restraints

In the realm of research exploring the effects of yoga on the autonomic nervous system, significant discoveries have been made. Yoga has been found to effectively reduce anxiety and stress-induced bodily responses, leading to improved circulation and stabilized blood pressure.

Delving deep into the intertwining realms of **Yoga and Medical Sciences**, researchers unravel three foundational truths: how **yoga benefits the body**, its **positive effects on the mind**, and its **deep connection to our awareness or consciousness.**



Shalya Tantra

Surgery

Origin

The ancient surgical science was known as **Shalya Tantra**.

Shalya means broken arrow or a sharp weapon part, and Tantra means manoeuvre.

Shalya Tantra embraces all processes, aiming at removing factors responsible for producing pain or misery to the body or mind.

The surgical skill has traversed through **the ages ranging, from the Ashwini Kumaras, Chavana, Dhanvantari through Atreya Agnivesh and Shushruta**. Craniotomy and brain surgery were also practised in a more sophisticated way.

Sushruta is the father of surgery.

He practiced during the 5th century B.C. and his works are compiled as **Sushruta Samhita**.

He describes 60 types of upkarma for the treatment of wounds, 120 surgical instruments and 300 surgical procedures, and classification of human surgeries into eight categories.

7 heads of Surgery

CHEDYA
excision

LEKHYA
scarification

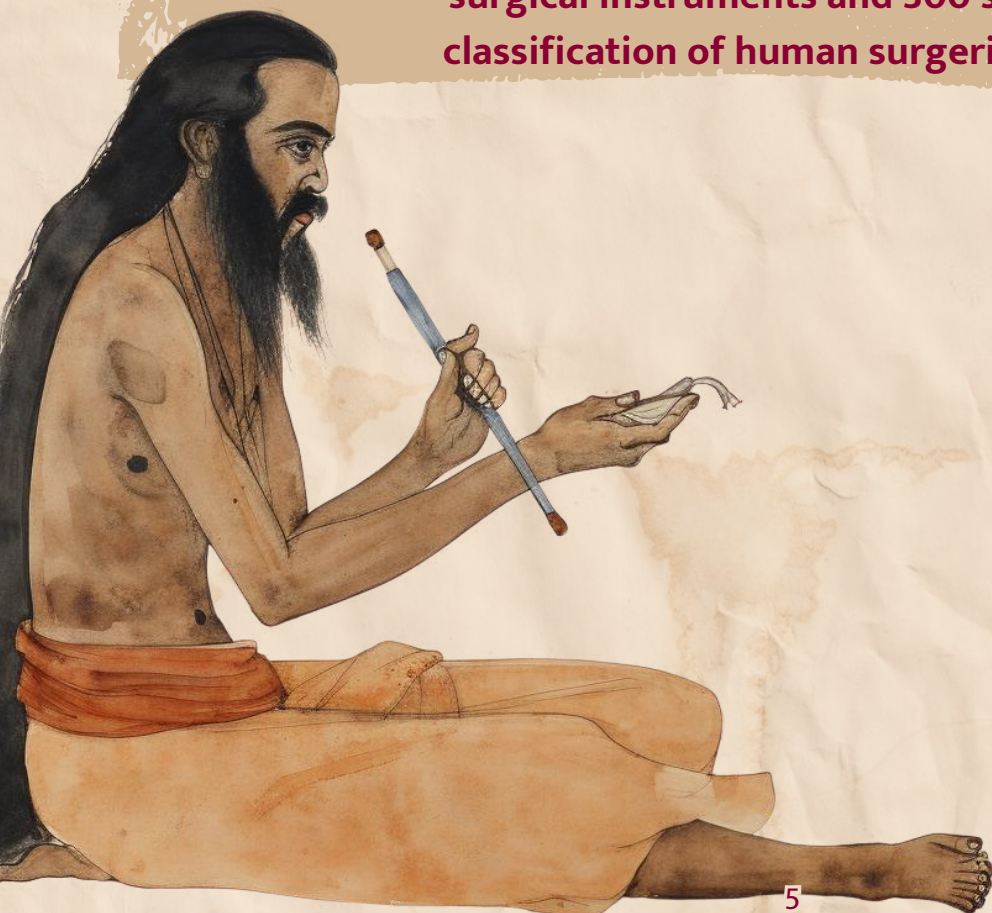
VEDHYA
puncturing

ESYA
exploration

AHRYA
extraction

VSRAYA
evacuation

SIVYA
suturing



Sushruta, a **pioneer in Ophthalmology**, dedicated the “Uttar Tantru” to eye diseases, detailing their diagnosis and treatment. Using a unique instrument, his **groundbreaking method for cataract surgery** showcases his unparalleled expertise in the field.

Forceps (Svastika)



DVIPIMUKHA
panther face



MARJARAMUKHA
cat face



KAKAMUKHA
crow face



KANKAMUKHA
heron face



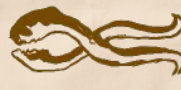
SRIGALAMUKHA
jackal face



MAKARAMUKHA
crocodile face



SASHAGHATTIMUKHA
hawk face



SIMHAMUKHA
lion face



UOOKAMUKHA
owl face



SHVANAMUKHA
dog face



KRAUNCHAMUKHA
curlew face



BHRINGARAJAMUKHA
butcher-bird face

Other tools



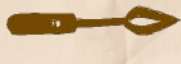
**SHARARIMUKHA
SHASTRA**
scissors



**VRIHIMUKHA
SHASTRA**
trocar



ARA
awl



UTPALAPATRA
lancet



GARBHA SHANKU
fetal traction tool



SARPAPHANA SHALA
snake hood probe



VADISHA SHALA
fish hook probe



NADI YANTRA
tubular probe



DANTA SHANKU
tooth scaler



BHAGANDARA YANTRA
hemorrhoids fistula
treatment tool

Sushruta, known as “**The father of applied anatomy**,” emphasized the importance of human dissection for surgeons. In his pivotal work, ‘Sushruta Samhita’, he meticulously detailed human anatomy, offering insights from bones and organs to cranial nerves, setting foundational standards for the field.

Sushruta, a pioneer in ancient Indian plastic surgery who specialized in **Rhinoplasty**, skillfully reconstructed noses and ears when cutting off noses and ears was a common punishment, documented his methods in the Sushruta Samhita.

Rasayan Shastra

Chemistry

Origin

Bharatiya chemistry, rooted in the teachings of rishis, focused on:

- Theoretical exploration of matter's composition (Alchemy).
- Practical skills for daily needs (e.g., Dyes, Fermentation).
- Society's well-being and health (Ayurvedic remedies).

Kanada, a 6th-century BC sage, introduced the '**atomic theory**', asserting that indivisible atoms make up the world.



◀ **Kosthi Yantra**, was mainly used for extracting minerals.



Patana Yantra ▶ was used for sublimation and distillation

“They have a science similar to alchemy, which is quite peculiar to them. They call it Rasayana, a word composed of rasa, i.e. gold. It means an art which is restricted to certain operations, drugs, and compound medicines, most of which are taken from plants.”

-Al Beruni in his book on India

Traditional Chemical Practices in Bharat

Ayurvedic Preparations, including mercurial compounds, are discussed in Rasashastra and Rasayana.

Pottery involves prolonged heating, fusion, evaporation, and treatment of minerals and pigments.

Mineralogy or the study of Minerals, broadly involves mining Metal Ores.

Building materials like Mortar and Cement using Limestone, Gypsum and their modified forms.

Extraction of Oils and Perfumes for cosmetics and consumption.

Chitrakarma or the art of painting used a variety of chemicals, mordants, and pigments from vegetable and mineral sources.

Dyeing involved the use of various vegetable and mineral-derived dyes, mordants for textiles, and craft paints.



P. C. Ray's Research on “The History of Hindu Chemistry” (1897)

The Initiation: On Mr. M. Berthelot's suggestion, P. C. Ray and Sri Ram Pundit Navakant Kavibhushana delved deep into the annals of ancient Hindu Chemistry.

Revealing Secrets: Their exploration uncovered the mystique of Bharatiya Alchemy, often overlooked by the West.

Ray's Legacy: In his pivotal 'The History of Hindu Chemistry':

- He analyzed esteemed texts like Charaka and Sushruta.
- Charted the evolution of alchemical eras, including the Vedic, Ayurvedic, Tantric, and Iatrochemical periods.
- Compiled insights from 14 cornerstone manuscripts, like Rasaratnakara, Rasahridaya, and Swarnatantra, crafting a comprehensive narrative.

Challenging Perceptions: Ray candidly pointed out instances of potential European bias in interpreting the ancient Hindu sciences.

Sulbha Dhatu Shastra

Metallurgy

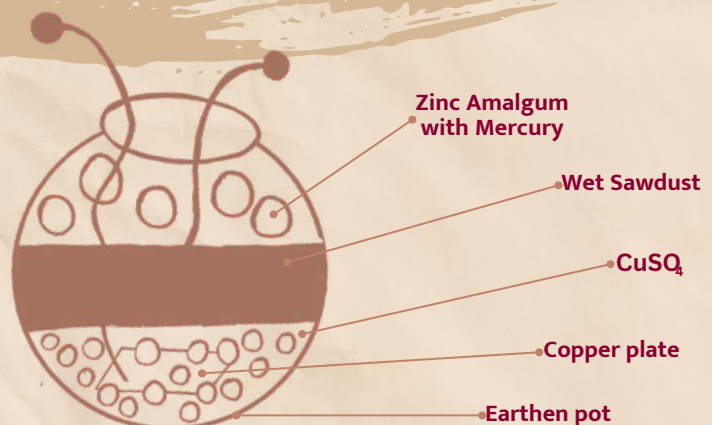
Origin

Metal use and the study of metals started thousands of years ago. Bharatiya scriptures find descriptions of metals. The Rig Veda mentions **ayas**, which means metal. Yajurveda was the first literature to mention **gold** (हिरण्यं), **shyaamaayasa** (श्यामं) or **krshnaayasa** which is black metal or **iron** specifically, **loha** or **red metal** **copper** (लोहं), **sisam** or **lead** (सीसं) and **trapu** or **tin** (त्रपु).

Agastya Samhita

For generating Electricity, Sage Agastya used the following material:

One earthen Pot
Copper plate
Copper sulphate
Wet Saw dust
Zinc Amalgam



Method

- Place a clean copper plate in an earthen vessel.
- Cover the plate with copper sulfate, followed by moist sawdust.
- Place a mercury-amalgamated zinc sheet on the sawdust to prevent polarization.
- This setup creates energy termed as Mitra-Varuna.
- The energy splits water into Pranavayu and Udanvayu.
- A series of one hundred jars enhances the energy output.

If we use the **power of 100 earthen pots of water**, then water will change its form into life-giving oxygen and floating hydrogen. If **hydrogen** is contained in an air tight cloth, it can be used in aerodynamics, i.e. it will fly in air (today's Hydrogen Balloon).

Applications:

- **Bharatavarsha** is known for using gold and silver for jewellery and making ornamental vessels for domestic use with silver.
- **Copper tools, such as axes and sickles**, are found in many archaeological sites, indicating that many farming tribes and agricultural communities used them.
- Metallurgy of copper and its alloys (**brass and bronze**) was highly developed during this period.
- A remarkable use of brass was **made in constructing an unfinished Vihara near Nalanda (Bihar)**.
- Thus, many archaeological revelations have **unearthed valuable knowledge about the ancients' sulbasutra (geology) and dhatu shastra (metallurgy)**.

Metallurgical science was more advanced in Bharat during the Gupta period. **The wonderful iron pillar looks like the polished stone of this period and has not yet rusted through centuries, though exposed to rain and atmosphere.**

Modern metallurgists have not been able to produce iron of comparable quality. **This pillar is a mute testimony to Bharat's highly advanced scientific knowledge of metallurgy.**

The rust-resistant **Iron Pillar of Delhi**, constructed by “King Chandra” (likely Chandragupta II, c. 375-415 CE), stands in Mehrauli's Qutub complex.



Bouthika Shastra

Physics

Origin

Physics is central to Kaṇāda's (sometime between 200 BCE) assertion that all that is knowable is based on motion. His texts state that -

There are nine constituents of realities: four classes of atoms (earth, water, light, and air), space (akasha), time (kāla), direction (disha), an infinity of souls (atman), and the mind (manas).

Every object of creation is made of atoms (paramāṇu), which connect to form molecules (aṇu).

Atoms are eternal, and their combinations constitute the empirical material world.

Individual souls are eternal and pervade material bodies for a time.

There are six categories (padārtha) of experience - substance, quality, activity, generality, particularity, and inherence.

Substances have traits like colour, taste, smell, touch, size, and various emotional and relational properties.

He connected observed phenomena like fire, magnetism, and rain with theories on atomic interactions and molecules.

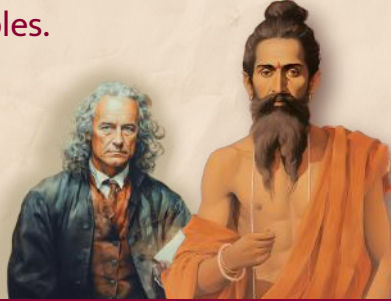
He categorized events into two: those caused by volition and those caused by subject-object conjunctions.

“The unity and continuity of Vedanta are reflected in the unity and continuity of wave mechanics. This is entirely consistent with the Vedanta concept of All in One.”

-Schrödinger

Newton vs. Rishi Kanad (Laws of Motion)

- Newton's three laws of motion form the foundation of classical mechanics.
- Contrastingly, we have Rishi Kanada's "Vaisheshika Sutra," an ancient Sanskrit text from Bharat. It presents three principles.



Rishi Kanad's Laws of Motion

वेगः निमित्तविशेषात् कर्मणो जायते।

Change of motion is due to impressed force.

वेग निमित्तापेक्षात् कर्मणो जायते नियत्तिक क्रिया प्रबंध हेतु।

Change of motion is proportional to the impressed force and is in the direction of the force.

वेगः संयोगविशेषाविरोधी।

Action and reaction are equal and opposite.

As a result, ancient books from **Bharat were the primary inspiration** for outstanding innovation and discovery worldwide.

In the early 20th century, quantum physics emerged as classical physics proved inadequate for subatomic phenomena.

It grapples with subatomic particles' dual, wave-like and particle-like behaviours through experimentation. Intriguingly, **ancient Vedanta likens the mind to 'vrittis' or waves, hinting at a potential convergence with quantum physics.**

"Quantum theory will not look ridiculous to people who have read Vedanta."

-Werner Heisenberg

Sanskrit

Language of Science & Mathematics

Origin

- With thirty million existing manuscripts, Sanskrit is the world's oldest language, and the Rig Veda in Sanskrit is its oldest literature.
- These manuscripts cover a vast array of topics, from sacred texts and literature (poetry, epics, dramas) to scientific studies (mathematics, medicine, chemistry) and even many specialized subjects.
- Sanskrit is the mother of many languages, fostering their growth and prosperity.
- Research indicates that Sanskrit phonetics resonates with body energy points.
- Sanskrit engages all tongue nerves during speaking or recitation.
- Its pronunciation activates body energy points, improving blood circulation.
- Enhanced brain function and energy levels promote better health.
- It boosts resistance to illnesses and reduces stress.
- Helps control Blood Pressure, diabetes, and cholesterol.

“The Sanskrit language, whatever be it's antiquity is of wonderful structure, more perfect than the Greek, more copious than the Latin and more exquisitely refined than either.”

- Sir William Jones, British Orientalist

Encryption

Using the **Katapyadi numbering system** in Sanskrit, similar to ASCII in computer science, **a shloka encodes the value of Pi accurately to 31 digits when letters are replaced with their corresponding numbers.**

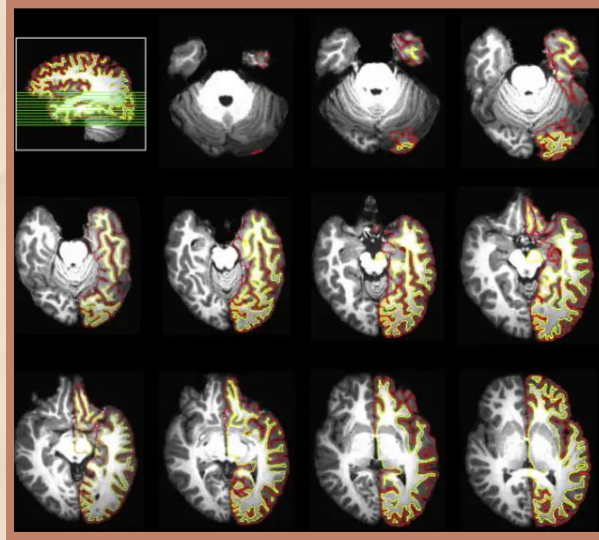
गोपीभाग्य मधुव्रातः श्रृंगशोदधि संधिग्र ।
खलजीवितखाताव गलहाला रसंधरः ।

$\pi = 3.1415926535897932384626433832792...$

1	2	3	4	5	6	7	8	9	0
क	ख	ग	घ	ङ	च	छ	ज	झ	ञ
ट	ठ	ड	ढ	ण	त	थ	द	ध	न
प	फ	ब	भ	म					
य	र	ल	व	श	ष	स	ह		

With its precise structure from Panini's "Astadhyayi", Sanskrit was noted by NASA's Rick Briggs in 1985 for its AI programming potential. Its logical consistency positions it as nearly 95% computationally prepared, anticipating tech advancements to harness its full potential.

A study focused on the “**Sanskrit Effect**” involved professionally qualified Vedic Sanskrit Pandits. Neuroscientist Dr. James Hartzell's research revealed **significant increases in participants' grey matter density and cortical thickness.**



Pandits who had learned and consistently recited Sanskrit texts for over a decade displayed these notable brain changes.

Notable increases were observed in the brain regions related to language, memory, and visual systems.

The cerebellum, responsible for coordinating motor and cognitive functions, showed a 33% increase in grey matter density in the Pandits compared to other participants.

“Indian study of language was as objective as the dissection of the body by an anatomist.”

- Walter Eugene Clark

Khagol Shastra

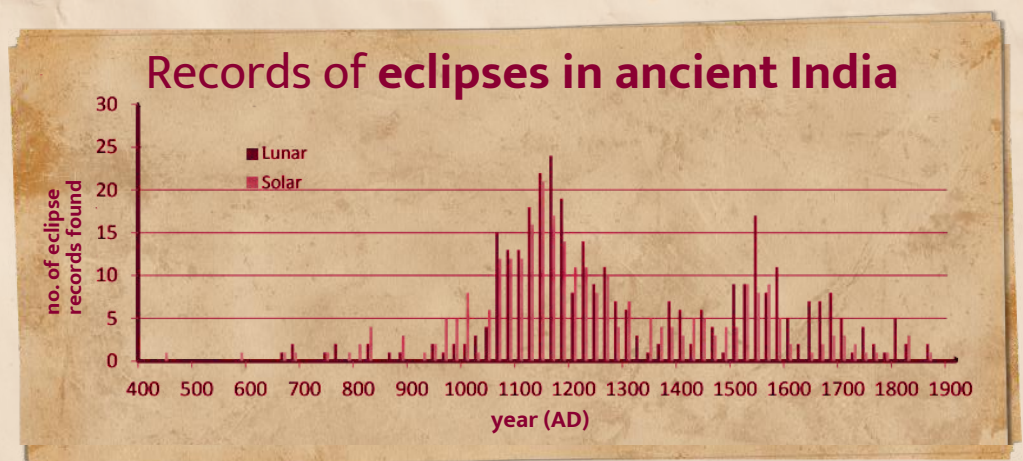
Astronomy

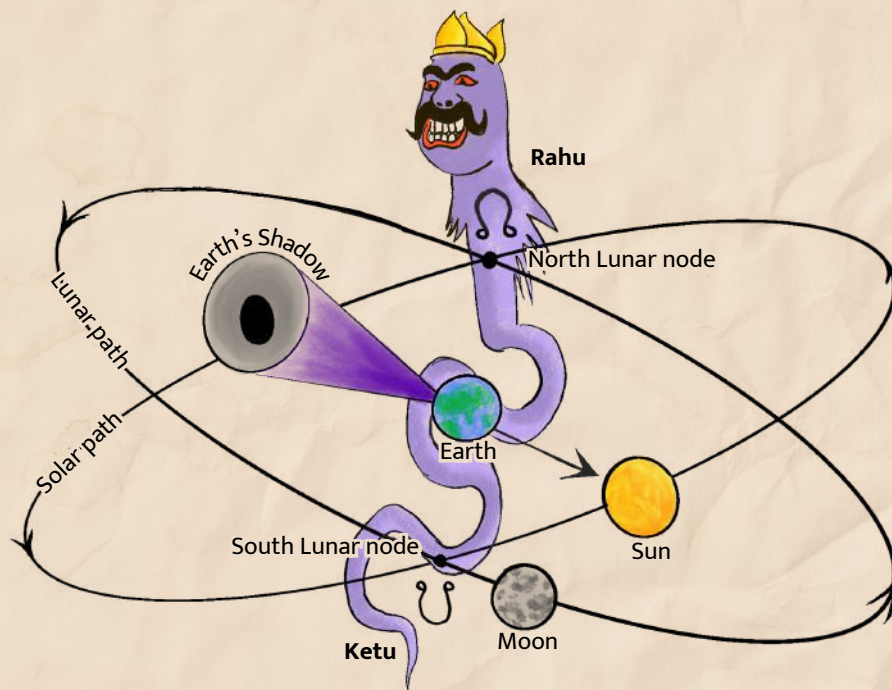
Origin

- “Surya Siddhanta” is a **4th to 5th-century Sanskrit astronomical text** with fourteen chapters.
- It provides rules for **calculating planetary motions and relationships to constellations**.
- The text describes various **astronomical body orbits**.
- It's known from a 15th-century palm-leaf manuscript and newer versions.
- It was **revised around 800 CE** from an earlier version.
- Verses are structured in two lines, each with eight syllables per half.
- Noted Indian mathematicians like **Aryabhatta** and **Varahamihira** referenced the “**Surya Siddhanta**.”
- **Varahamihira** cited it in his “**Panchasiddhantika**” alongside four other commentaries.

“**Siddhanta Shiromani**” is an ancient Sanskrit text on mathematics and astronomy, composed by Bhaskara II (or Bhaskaracharya) around 1150.

It comprises four sections - **Mathematics, Algebra, Planetary studies and Astronomy**.





Aryabhatta was known as the Father of Astronomy.

- Khagol was the famous astronomical observatory at Nalanda, where Aryabhatta studied.
- **Aryabhatta stated that the 'earth is round and rotates on its axis'.**

Aryabhatta's Explanation of Eclipses (499 AD)

Eclipses occur due to:

- Moon positioning between the Sun and Earth.
- Moon entering Earth's shadow.

Calculation of Eclipse Parameters

- Aryabhatta used geometrical arguments and object sizes.
- No eclipse happens if vertical separation exceeds the sum of angular radii of the Sun and Moon.

Eclipse Predictions:

Aryabhatta's method predicts:

- Exact date and time.
- Type of eclipse.
- Visibility location.

“They were very advanced Hindu (Indian) astronomers in 6000 BC. Vedas contain an account of the dimensions of Earth, Sun, Moon, Planets and Galaxies.”

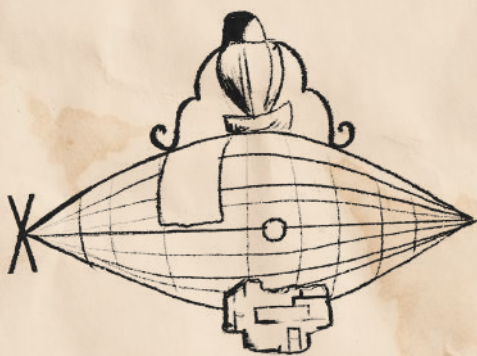
- Emmelin Plunret in the book 'Calendars and Constellation'

Tanatrajnyan

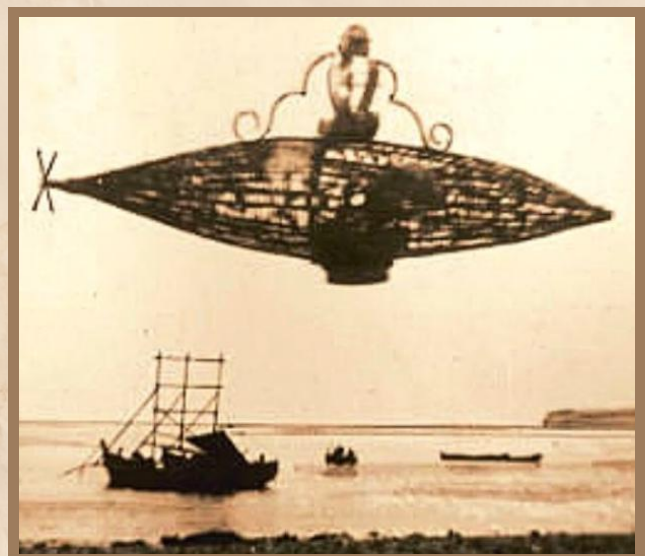
Technology

Origin

- "Vaimānikaśāstra" is a segment of Yantrasarvasva by Bharadvāja, also known as Brhadvimanasāstra.
- It delves into **aeronautics, detailing aircraft design** and diverse applications.
- The text consists of 100 sections, Eight chapters, 500 principles, and 3000 shlokas.
- Bharadvāja elaborates on:
 - Aircraft construction and operations in air, land, and water.
 - The potential to convert aircraft into submarines.
 - The design of warplanes or fighter aircraft.
- The treatise discusses the use of specific metal alloys and materials to make aircraft invincible.
- The text's first principle defines an aircraft as one that can fly like a bird: 'vegasamyat vimana aṇḍajānāma'.
- Further principles detail the qualifications needed to be a vimanādhikari (pilot).
- Aircraft in different yugas are classified as mantrikā, tantrikā, and krtakā.

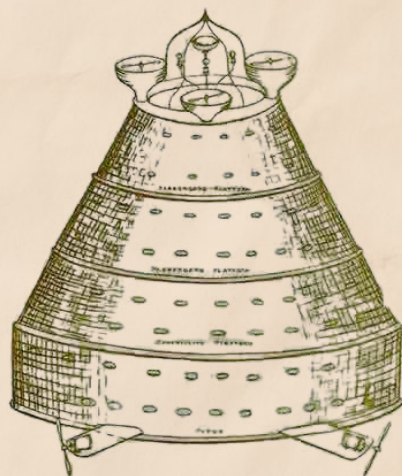


The first unmanned aircraft built by Shivkar Bapuji



In 1895, eight years before Orville Wright's famous flight, Bharatiya Sanskrit scholar Shivkar Bapuji Talpade constructed and flew the "Marutsakthi", an unmanned aircraft inspired by Vedic technology and sources like the **Vaimanika Shastra**. His groundbreaking flight in Mumbai reached 1500 feet and is recognized by historian Evan Koshtka as a pioneering achievement in aviation.

Rukma Vimana

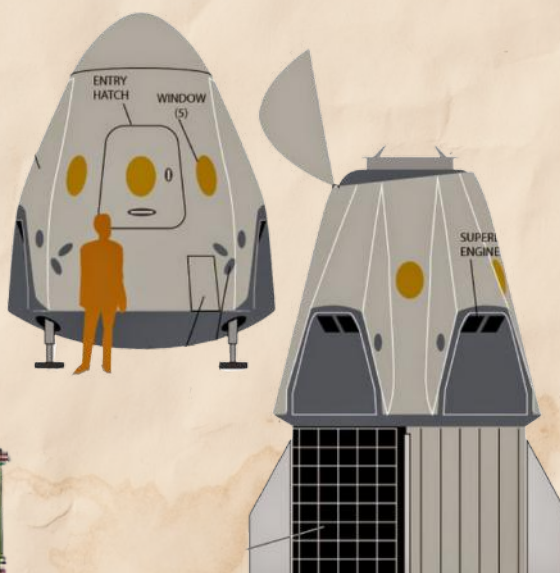
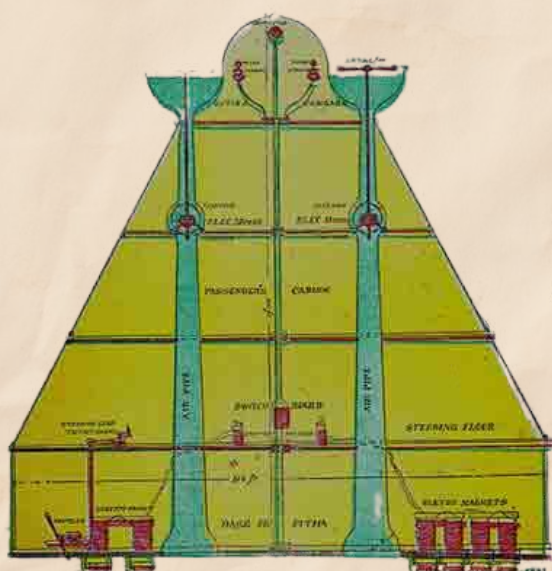


SKETCH



VISUALISATION

Similarities between the Rukma Vimana and the SpaceX Dragon



Those who looked down upon Bharatiya scientific achievements were not even aware of 1% of the vast repository of ancient literature. Is disproving anything Bharatiya without deeper studies, not a dangerously irrational trend?

Ganitashastra

Mathematics

Origin

Bharat's rich mathematical history boasts contributions that continue to influence modern methods, with notable inventions by ancient mathematicians. Among them were:

Baudhayana, who **calculated 'pi'** for circle calculations.

Katyayana is known for the accurate **square root of 2** computation.

Acharya Pingala explored **binary numbers** in '**Chhanda Shastra**'.

Aryabhata, whose '**Aryabhatiya**' covered numeric notations, advanced problems, and Astronomy.

Brahmagupta's 'Brahmasphutasiddhanta' introduced our math system, **negative numbers, area formulas for cyclic quadrilaterals, and rules involving debt, fortune, and zero.**

Bhaskaracharya authored '**Siddhanta Shiromani**' with sections on Arithmetic, Algebra, Sphere, and Planetary Math and introduced the Chakrawal Method.

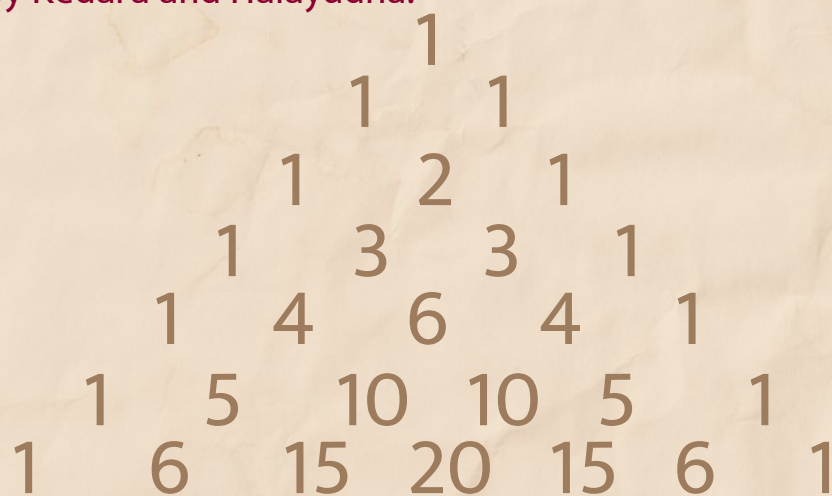
Mahaviracharya's '**Ganitasarasangraha**' was the first modern arithmetic textbook, covering LCM, permutations, equations, cyclic quadrilaterals, ellipse formulas, and foundational terminology.

These luminaries made significant contributions in Algebra, Trigonometry, Astrology, Number Theory, and Engineering, **advancing concepts like endless expansion, trigonometric terms, and disparity equations.**

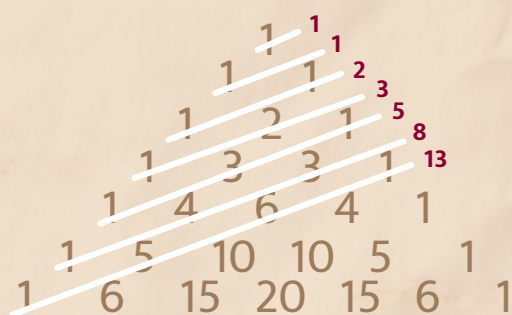
THE COMBINATION OF ZERO AND ONE

0000 with the numerical value = 1
1000 with the numerical value = 2
0100 with the numerical value = 3
1100 with the numerical value = 4
0010 with the numerical value = 5
1010 with the numerical value = 6
0110 with the numerical value = 7
1110 with the numerical value = 8
0001 with the numerical value = 9
1001 with the numerical value = 10
0101 with the numerical value = 11
1101 with the numerical value = 12
0011 with the numerical value = 13
1011 with the numerical value = 14
0111 with the numerical value = 15
1111 with the numerical value = 16

Pingala's Mount Meru, known today as Pascal's triangle, **unveiling the Fibonacci series through its shallow diagonals** found clarity in later commentary by Kedāra and Halāyudha.



MOUNT MERU

FIBONACCI SERIES
FROM MOUNT MERU

Virahāṅka's disclosure of the sequence 3, 5, 8, 13, 21 showcased India's early grasp of the Fibonacci series, termed the Hemachandra series.

Gopala-Hemachandra numbers be used for the general sequence: $a, b, a+b, a+2b, 2a+3b, 3a+5b, \dots$ for any pair a, b , which for the case $a=1, b=1$ represents the Fibonacci numbers.

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

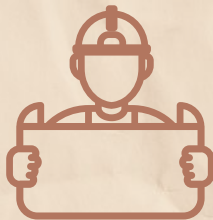
-Albert Einstein

Vastu Shastra

Architecture

Origin

- Derived from Sthapatya Veda, a subset of the Atharva Veda.
- Several ancient texts, including Vishwakarma Prakash, - Samraangan Sutradhar and many others, convey the knowledge of Vastu Shastra to subsequent generations.
- Vastu focuses on building placement and design.
- "Vaastu" translates to "wisdom of the dwelling place".



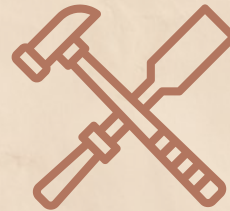
Sthapati
Architect



Sutragarahi
Draughtsman



Takshaka
Carpenter



Vardhak
Mason

Applications and Principles:

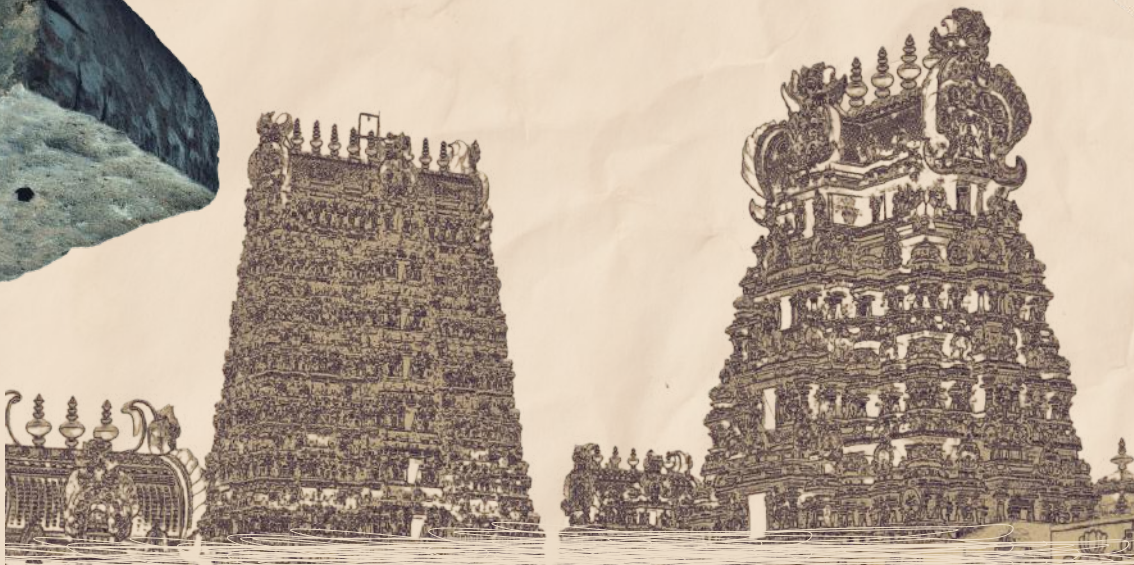
- Offers guidelines on site selection, construction, layout, and - interior designs for various structures, including temples, houses, and towns.
- Sthapatya Veda outlined city layouts; Smrithi Shastra addressed street planning; Vastu Sastra focused on house planning.

Core Concepts and Influences:

- Based on the "Panch Mahabhoot" or the five essential elements: Air, Earth, Fire, Space, and Water.
- Aims to harmonize these elements with human existence and structures.
- Considers celestial movements, such as those of planets, the Sun, and the Moon.
- Factors in environmental considerations like wind direction, rainfall, and soil characteristics.
- Takes into account cosmic influences like Earth's magnetic and gravitational fields, solar radiation, and effects from galaxies.

Konark Sun Temple, an architectural marvel dedicated to Sun God Surya, is known for its magnetic vibrations and precise solar alignments.

Shaped like a sun chariot with 12 stone wheels and drawn by 7 horses, it ingeniously represents time, months, and days of the week, seamlessly blending history and science.



In the heart of Madurai, Tamil Nadu, the Meenakshi Amman Temple is a monument to India's architectural and scientific prowess. With its Dravidian design, this temple isn't just a religious emblem but a testament to ancient scientific understanding. **Its layout emulates a mandala, showcasing perfect symmetry, and boasts 14 towering gateways, with four primary ones reflecting each other's design. A highlight is the Hall of Thousand Pillars, which, despite having 985 pillars, offers a unique, non-echoing acoustic environment. With its intricately designed pillars, this structure speaks volumes of the ancient artisans' knowledge of acoustics and design.**



Did you know ?

Palindrome

A palindrome reads the same forward and backwards across words, numbers, phrases, sentences, verses, and symbols, showcasing an enchanting symmetry.

Most Exquisite Palindromes created by Surya Pandita

Palindrome as a whole - syllable - for - syllable

तं भूसुतामुक्तिमुदारहासं वंदे यतो भव्यभवं दयाश्री।:
श्रीयादवं भव्यभतोयदेवं संहारदामुक्तिमुतासुभूतं

When we read the first line of verse, it is for the lord “Rama” - “I bow down to him who Freed Sita, whose laughter is deep, whose avatar is grand, and from whom mercy and grandeur are born or spread everywhere.”

When we read the second (which is exactly the reverse of the first half), it is for the lord “Krishna”- “I bow to Krishna, a descendant of the Yadava dynasty, who is the lord of sun and moon, who liberated even her (Pūtana) who wanted to bring an end to his life, and who is the soul of the universe.”

The most complex and exquisite type of Palindrome (by Magha) ever invented reveals the same sequence of syllables when read forward, backward, down, or up.

सकारनानारकास -

कायसाददसायका ।

रसाहवा वाहसार -

नादवाददवादना ॥

sa kā ra nā nā ra kā sa
kā ya sā da da sā ya kā
ra sā ha vā vā ha sā ra
nā da vā da da vā da nā

And the lines reversed :

nā da vā da da vā da nā
 ra sā ha vā vā ha sā ra
 kā ya sā da da sā ya kā
 sa kā ra nā nā ra kā sa

This stanza is called ‘Sarvatobhadra’, which is ‘perfect in all directions’.

The syllables of the stanza form the shape of a “drum”.

सा सेना गमनारम्भे
 रसेनासीदनारता ।
 तारनादजनामत्त
 धीरनागमनामया

Function:

- Read the first line sequentially.
- Start from the left-most syllable on the first line.
- Follow the shape of a U/V to move to the subsequent lines.
- You will find that you are reading the same syllables as the first line.

sā se nā ga ma nā ra mbhe
 ra se nā sī da nā ra tā
 tā ra nā da ja nā ma tta
 dhī ra nā ga ma nā ma yā

- An inverted drum is visible between the first and last rows.
- It contains the same syllables as the last line.
- Three drums are seen in the top two lines (inverted-upright-inverted).
- They have the same syllables as the second row.
- The bottom two rows also have three drums (upright-inverted-upright).
- These drums make up the third line.
- Any syllable one touches is part of a drum structure and a row.

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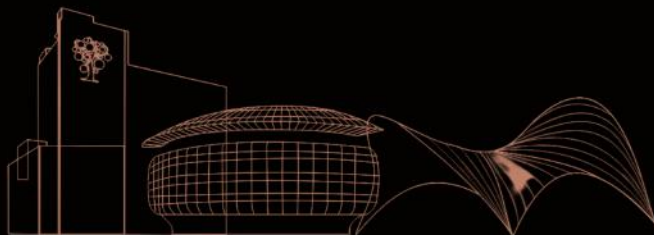
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