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The Technological Developments and Scientific Cultural on Heritage System in India

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Abstract

Indian civilization has a long recorded history of scientific culture that goes back to more than 5000 years. Indian heritage has been known for its various developments like gemstone therapy, Ayurveda medicine, physics, farming, literature and many more Cultural Heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, objects, artistic expressions and values.. Most of the developments are covered from the time of ancient India. It is only the heritage of India that has led to current advancements in science and technology and many famous mathematicians from India contributed a lot in the development of theories that we still use and applied in majority of fields. Indian civilization has a long recorded history of scientific culture that goes back to more than 5000 years. Indian heritage has been known for its various developments like gemstone therapy, Ayurveda medicine, physics, farming, literature and many more. Here are also monitoring systems and sensors that measure and record environmental factors that can affect the conservation of heritage assets, such as humidity, temperature, air quality and others. Laser scanning and photogrammetry are some other technologies that help in digitizing the cultural heritage through the most of the developments are covered from the time of ancient India. It is only the heritage of India that has led to current advancements in science and technology this technique was not short-lived either. In the eleventh century, a much larger iron pillar was forge-welded and now lies free of rust in two or three pieces at Dhar in Central India. The countries are strongly encouraged to commit to contribute resources for adaptation and to cancel Internationally Transferred Mitigation Outcomes to deliver an overall mitigation in global emissions.

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Introduction

The Indian civilization, among world's oldest and richest, has a strong tradition of Science and Technology. Our contributions to astronomy, mathematics, medicine and practical arts are not adequately acknowledged in the Western World, either due to ignorance or prejudice. This paper presents the glimpses of the achievements of the India in the sciences and technology field Our contributions to astronomy, mathematics, medicine and practical arts are not adequately acknowledged in the Western World, either due to ignorance or prejudice. This paper presents the glimpses of the achievements of the India in the sciences and technology field within this Harappa civilization, which has flourished many towns and cities including Mohenjo-Daro, Harappa, Chanhudaro, Kalibangan and Lothal, which have proposed an agriculture-based economy with granaries and other storing techniques that made for an enriched community life. The evocation of nostalgia, culture, and heritage and the subsequent digital practices around their conservation call for mainstream policy attention. Digital archiving enhances global engagement and accessibility, presenting heritage as an effective tool for soft diplomacy.

Digitized Heritage Conservation and Inventory Management

They encompass the disciplines of astronomy, mathematics, medicine, and also such techniques as metal-working including iconography, Engaging community networks also facilitates access to local resources, preserves surrounding intangible aspects, and ensures greater socio-economic benefits to the local communities there was no division between scientific and religious thinking in those days, all innovators being regarded as philosophers or rishis. They did not necessarily speak of religion alone. They had deep insight or a tardrishti. Their invaluable contributions to Astronomy are an inseparable part of the holy Rig Veda. Similarly, the Samhitas and the Atharva Veda, respectively, are the repositories of important treatises on medicine and mathematics. Culture is thus inseparable from science, and vice versa. 'Nahi jananena sadrsam', or there is nothing that bears comparison to knowledge, epitomizes the homage of Indian culture to learning and inspired our ancients' quest for knowledge. Science was an integral part and important preoccupation in ancient Indian culture.

Ancient Inventions & Discoveries of Science That India Gifted To the Rest of the World

- Ancient Dentistry (7000 BC)
- Ayurveda (5000 BC)

- Ancient flush toilet systems (2500 BC)
- Ruler (2400 BC)
- Weighing scale (2400BC)
- Plastic surgery (2000 BC)
- Pythagorean Theorem (700 BC)
- Crucible steel (200BC)

The Past Inspire and Scientific Ideas

The ancient Sanskrit texts reflect shades of twentieth century thinking. Scientific ideas were developed in India over 5,000 years ago and have stood the test of time. Science .museums and centers came into being during the Scientific Revolution and came of age after the Industrial Revolution. In recent years, they have changed again in response to the special needs of a society increasingly dependent on factors that appear largely incomprehensible. Science centers in India have grown 'and multiplied rapidly and impressively over the past two decades and are essentially museums of ideas concerned with nature and technology. Such ways of thinking have traditionally been an intrinsic part of our culture, though the methodology today may be said to be logical 'and scientific. In the words of Frank Oppenheimer, the doyen of science center activities and founder of the prestigious Exploratorium in San Francisco, 'People continue to talk of art and music as culture but neglect the fact that our view of ourselves - our role in the world and what the world is like-is equally and vitally a culture Compounds of mercury, inorganic salts and alloys were used for treating diseases. Perfumes were distilled from flowers, herbs, and spices, and laced with richly scented oil extracted from sandalwood. In a twentieth century recreation of an alchemical laboratory these ancient processes were demonstrated. The Charaka Samhita, Sushruta Samhita, and Astanga Hridaya, written between the first and seventh centuries AD, form the basis of ayurveda, or traditional Indian medicine, which to this day is practised by modern doctors. The Unani system of medicine was founded by Hippocrates, but came to India early in the twelfth century and developed rapidly utilizing herbal, mineral, and animal ingredients, in its treatment. These have been depicted alongside excerpts from old manuscripts, specimens of the raw materials, demonstration through animation, charts, and visuals.

Basis of Indian Culture and Digital Preservation

Digital collection for long term into the foreseeable and distant future and sustainability and accessibility of the digital collection is the main objective of scheme of digital preservation. The preservation of digital collection is must as without appropriate digital preservation method a digital collection may become useless. The main goal of a digital preservation process is to keep digital information in readable and usable condition. In New Delhi stands a rust-proof iron pillar representing an ageless tribute to Indian excellence in metallurgy. Zinc production too began centuries before that in Europe. The exhibition presented a fiberglass replica of this famous celebrated iron pillar and zinc furnaces recreated with art effects of the sixteenth century. The story of metals in ancient India was related through the display of Damascened swords from wots steel and rare bronze castings. Science education forms an integral part of the nation's cultural progress. India's distinguished record in the field of structural engineering has been reflected in another recent project entitled ‘Structures: the Indian Heritage'. The early Vedic practices and subsequent Islamic influences gave a unique dimension to architecture in India. Indian construction technology is awe-inspiring. These are demonstrated in the form of a portable exhibit. The National Council of Science Museums received great support from Archaeological Survey of India in developing the concept of this particular exhibit.

Scientific and Technological Developments in Indian Heritage

The Crafts are the creative efforts of man typifying a society as a technology shapes the craft, and two are inseparable. Products of craftwork carry the message of a culture to a world audience. The Science Centers thus considered it very important to highlight Indian handicrafts. At all the international expositions it organized live demonstrations by master craftsperson in diverse fields such as silver filigree, marble inlay, meenakari, solapith work, lost wax methods, loom woven textiles, etc. These aroused keen interest amongst foreign visitors, who tended to view them as novel perspectives of India.

The background in science and technology monuments of historical backgrounds in India enjoyed a position of prestige in the past. The technology of the Mughals, particularly during the reign of Akbar and Jahangir, was remarkable as is evidenced from records and memoirs. There has however been a serious setback in scientific and technological development during the period of colonial rule, even indigenous craft technology suffering greatly towards the last quarter of the nineteenth century; however, India witnessed a new

spell of deliberate R & D efforts. A galaxy of visionaries likes M.L.Sircar, J.C.Bose, P.C.Ray and later, M.M.Saha, S.N.Bose, C.V.Raman, S.K.Mitra appeared on the Indian scientific horizon and pioneered new trails at the frontiers of scientific research and brought about a renaissance in Indian science. J.N.Mukherjee, S.S.Bhatnagar, P.C.Mahalanobis, Birbal Sahni, H. J. Bhabha carried forward this scientific spirit and added an altogether a new dimension to Indian science. D.N.Wadia, M.Visvesvaraiyya, K.S.Krishnan, Srinivasa Ramanujam were among the other scientific geniuses that India subsequently produced.

The Significant Science and Tech Discoveries Ancient India Gave the World contribution

Indian astronomers made substantial contributions, including the accurate calculation of planetary orbits, the concept of the heliocentric model, and the measurement of the Earth's circumference. Aryabhata's "Aryabhatiya" and Brahmagupta's "Brahmasphutasiddhanta" are notable works in this field. the invention of the decimal system, the concept of zero, advancements in mathematics like algebra and trigonometry, and contributions to medicine, metallurgy, and astronomy

- The Idea of Zero
- The Decimal System
- Numeral Notations
- Fibbonacci Numbers
- Binary Numbers
- chakravala method of Algorithms
- Ruler Measurements
- A Theory of Atom
- The Heliocentric Theory
- Seamless Metal Globe

The invention of the decimal system and the concept of zero level advancement in mathematics like algebra and trigonometry, and contributions to medicine, metallurgy, and astronomy this view became a part of the astronomical framework and ultimately very long cycles of billions of years were assumed. The Sankhya evolution takes the life forms to evolve into an increasingly complex system until the end of the cycle. The categories of

Sankhya operate at the level of the individual as well. Life mirrors the entire creation cycle and cognition mirrors a life-history.

Institutional Measures to Protect Heritage System

Technical skills, artisans and craftsmen played an important role in enriching the sociocultural life of the people over the centuries, thanks to their expertise in metallurgy and metal working, dyes and pigments, casting exquisite copper-bronze icons, pyrotechnics, cosmetics and perfumery. Gen-really, artisans and craftsmen occupied a low position in the caste-ridden social hierarchy. Even so, some, like the metal-smith achieved recognition through excellence in their techniques. As early as in the fourth century BC, the metal smith had perfected the complex process of extracting zinc from its ores by the downward distillation method that re-quire exceptional care in the type of furnace, retorts and are atmosphere as well as temperature management. India must learn from past mistakes by addressing overlapping and ambiguous mandates that lead to bureaucratic inefficiencies and resource wastage. Collaborative initiatives should be streamlined and accountable to a central nodal agency. Large-scale digital public infrastructure can benefit the heritage.

- Providing a shared historical context that is “positive.
- Implying a similar value system that the heritage represents.
- Preserving it to reinforce the credibility of national narratives both in physical and virtual spaces.
- Heritage heavily relies on the level of end-user engagement envisioned for the site.
- an overly tourism-centric approach risks reducing heritage to a mere commodity,

Conclusion

There is no any second opinion that India has contributed a lot in science and technical aspects and its related fields. . Indian civilization has a long recorded history of scientific culture that goes back to more than 5000 years. Indian heritage has been known for its various developments like gemstone therapy, Ayurveda medicine, physics, farming, literature and many more. This paper presents the review of scientific and technological developments in Indian heritage. Most of the developments are covered from the time of ancient India’s cultural heritage is not only one of the most ancient but it is also one of the most extensive and varied. Due to its rich and precious Cultural and Natural heritages, India is come to be known as the land of great wonders and diversities to the vibrant tapestry of

diversity and tradition, stands as a beacon of pride and inspiration. Yet, its full potential remains untapped due to a lack of awareness and the challenges of unethical appropriation and trafficking. Embracing the four methods of Culture, Creativity, Commerce, and Collaboration

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