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Modern Scientists and Ancient Indian Civilization System-Philosophic Traditions

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Abstract

The history of science and technology in the Indian subcontinent begins with prehistoric human activity in the Indus Valley Civilization to early states and empires. The following independence, science and technology in the Republic of India have included automobile engineering, information technology, communications as well as space, polar, and nuclear sciences. The Indian civilization has a strong tradition of science and technology the Ancient India was a land of sages and seers as well as a land of scholars and scientists. Research has shown that from making the best steel in the world to teaching the world to count, India was actively contributing to the field of science and technology centuries long before modern laboratories were set up. Many historical theories and techniques discovered by the ancient Indians have created and strengthened the fundamentals of modern science and advance technology. While some of these groundbreaking contributions have been acknowledged, some are still unknown to most the early Vedic practices and subsequent Islamic influences gave a unique dimension to architecture in India. Indian construction technology is awe-inspiring. Ancient Indian civilization's philosophical traditions profoundly influenced scientific thought, with concepts like "Pramana" (valid means of knowledge) and the methods of observation and inference laying the groundwork for scientific inquiry, and figures like Kanad developing atomic theory centuries before **Dalton** these are demonstrated in the form of a portable exhibit. The National Council of Science Museums received great support from Archaeological Survey of India (ASI) in developing the concept of this particular exhibit. There is no doubt that Indian science is losing ground; every indicator shows this. The ranking of our top scientific educational institutions is consistently falling and our achievements are fewer by the day. The most important Indian scientists are nowhere

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to be seen in the world you and inhabit. This is when our modern world requires science to be integrated into every aspect of daily life.

Introduction

This is also the problem I have with the current controversy about the Vedic science whether we flew aircraft or mastered plastic surgery is immaterial for modern India. Scientific and technological developments were done. Many famous mathematicians from India was 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. It is important to acknowledge the involvement of such material and philosophical contributions in the progression of the march of history. We will do so below by looking at some important ancient Indian inventions. Ancient Indians also understood the art of water governance. Kautilya's Arthasastra, written around 300 BC, has details of how tanks and canals are to be built and managed. The key was to clarify the enabling role of the state the king and the management role of local communities. The kings did not have armies of public works engineers; they provided fiscal incentives to communities and individuals who built water systems. The British changed all this, by vesting the resource with the state and creating large bureaucracies for management.

Metallurgy after the Harappans

As we have seen, the Indus civilization was essentially bronze-based, while the later Ganges civilization was iron-based. But it is now known that iron was produced in central parts of the Ganges valley right from 1800 BCE. Its use became widespread by about 1000 BCE, and we find in late Vedic texts mentions of a dark metal‖ (krishnāyas), while the earliest texts, such as the Rig-Veda, only spoke of ayes, which, it is now accepted, referred to copper or bronze. Whether other parts of India learned iron technology from the Gangetic region or came up with it independently is not easy to figure out. Indian heritage concept has been known for its various developments like gemstone therapy, Ayurveda medicine, physics, farming, literature and many more. advancement The quest for historical and archaeological documentation, people usually observe, preserve, and interpret the in-your-face evidence and Materialistic aspect wit proofs such as monuments, palaces, etc. and written sources are prioritized. Along the way, the smaller, but not insignificant, developments and historical achievements are discarded. What matters are that the dates for copper, bronze and iron in India correspond broadly with those in Asia Minor (modern

Turkey) and Caucasus. Let us note that an old theory according to which India learned iron metallurgy from those regions is now discredited.

Made by Ancient Indians to the World of Science and Technology

The major chemical products of this period were glass, paper, soap, dyeing, cosmetics and perfumes, alcoholic lacquers, pharmaceuticals, gun powder and saltpeter. Nagarjuna (metallurgist) and Kannada was chemist of ancient period. Indian and Persian army used arrows tipped with iron. y, the ancient Indian civilization has a history of science and technology that is both extremely robust and comprehensive. This tradition dates back to the earliest times in human history. In the Gupta age metallurgical operations were found. Nataraja statue the god of dance is made of five metals Pancha Dhatu and Iron Pillar, Delhi is as a silent witness to assert the striking metallurgical skill of the Hindus. Paintings found on walls of Ajanta and Ellora also testify to the high level of chemical science achieved in ancient India. Crafts do the creative efforts of man typify a society.

- The Idea of Zero
- The Decimal System
- Numeral Notations
- Fibbonacci Numbers
- Binary Numbers
- Chakravala method of Algorithms
- Ruler Measurements
- Wootz Steel
- Smelting of Zinc
- Seamless Metal Globe

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.

Vedic Cognitive Science

The Rigveda speaks of cosmic order and they it is assumed that there exist equivalences of various kinds between the outer and the inner worlds. It is these connections that make it possible for our minds to comprehend the universe. It is noteworthy that the analytical methods are used both in the examination of the outer world as well as the inner world. In the Vedic view, the complementary nature of the mind and the outer world is of fundamental significance. The philosophic knowledge is classified in two ways: the lower or dual; and the higher or unified. What this means is that knowledge is superficially dual and paradoxical but at a deeper level it has a unity. The Vedic view claims that the material and the conscious are aspects of the same transcendental reality. The idea of complementarity was at the basis of the systematization of Indian philosophic traditions as well, so that complementary approaches were paired together. We have the groups of: logic (nyaya) and physics (vaisheshika), cosmology (sankhya) and psychology (yoga), and language (mimamsa) and reality (vedanta). Although these philosophical schools were formalized in the post-Vedic age, we find an echo of these ideas in the Vedic texts.

Mathematics and Astronomy

One would expect that the development of early Indian mathematics and astronomy went through several phases but we don't have sufficient data to reconstruct these phases. Acertain astronomy has been inferred from the Vedic books, but there existed additional sources which have not survived. For example, there were early astronomical siddhantas of which we know now only from late commentaries written during the Gupta period (320-600) this period provided a long period of stability and prosperity that saw a great flowering of art, literature, and the sciences. Of the eighteen early siddhantas the summaries of only five are available now. Perhaps one reason that the earlier texts were lost is because their theories were superseded by the more accurate later works. . In ancient and mediaeval India in introduced to the science and technology encompassed all major areas of human knowledge and major activity. In any early culture, metallurgy has remained a central activity to all subsequent civilizations, from the Bronze Age to the Iron Age. India has proficiency in metallurgy since ancient times. T In addition to these siddhantas, practical manuals, astronomical tables, description of instruments, and other miscellaneous writings have also come down tous (Sarma 1985). The Puranas also have some material on astronomy.

Modern Scientists and Ancient Literature System

Many of the scientists who are willing to read the past literature appreciate both its glory and its limitations. But as the fringe nationalistic groups who wish to go beyond these logical explanations, try to forcefully occupy the main stream dialogue on India's past, they are not willing to accept limitations imposed by logic. The great seers of the past were supposed to be all-seeing and all-knowing, period. There may be no evidence that they knew electromagnetism or thermodynamics, which are crucial steps that lead to quantum mechanics, but the fringe groups would want to believe that they knew of quantum mechanics and even aerodynamics. Similarly, all rational studies of ancient literature and modern sciences firmly put timescale of human evolution, but the fringe groups, with limited patience for logic and rationality would like to completely redefine the timescales, simply out of a false sense of pride. While most sciences begin with descriptive recording of their work, true and rapid progress comes only after these results are put in mathematical format, allowing generalization and cross-applications. Weave no evidence of such a transition in the past. Most modern developments in science would not have arisen without several important mathematical tools that are now routinely applied to science.

Here's a more detailed look:

- Intertwined Philosophy and Science
- Nyaya and Vaisheshika
- Zero and Decimal System
- Observation and Inference
- Foundational Elements of Mathematical tools
- Demonstrated to Correlate with Modern Scientific Concepts

Conclusion

Indian mythology is being interpreted in terms of its underlying astronomy or/and cognitive science. We find that many Indians dates are much earlier than the corresponding dates elsewhere. What does it all mean for our understanding of the Indian civilization and its interactions with Mesopotamia, Egypt, China and Greece? The great seers of the past were supposed to be all-seeing and all-knowing, period. There may be no evidence that they knew electromagnetism or thermodynamics, which are crucial steps that lead to quantum mechanics, but the fringe groups would want to believe that they knew of quantum

mechanics and even aerodynamics. A large number of assertions and materials contained in ancient Vedic literature have been demonstrated to correlate with modern scientific results, and these literatures have also revealed a highly developed scientific content. The chemical activities of this period are illuminated by the Puranas, and Upanishads The Indian knowledge carried to the other nations or do we have a case here for independent discovery in different places? Contemporary science has begun to examine Vedic theories on the nature of the "self "and see if they might be of value in the search for a science of consciousness.

References

- Chaudhuri, K. N. (1985), Trade and Civilization in the Indian Ocean, Cambridge University Press, ISBN 0-521-28542-9.
- Singh, A. N. (1936), "On the Use of Series in Hindu Mathematics", Osiris, 1: 606–628.
- Srinivasan, S. & Ranganathan, S., Wootz Steel: An Advanced Material of the Ancient World, Bangalore: Indian Institute of Science.
- Tripathi, V.N. (2008), "Astrology in India", Encyclopedia of the History of Science, Technology, and Medicine in Non-Western Cultures (2nd edition) edited by Helaine Selin, pp. 264–267, Springer, ISBN 978-1-4020-4559-2.
- Srinivasan, S. (1994), "Wootz crucible steel: a newly discovered production site in South India", Institute of Archaeology, University College London, 5: 49–61.
- Rao, S. R. (1985), Lothal, Archaeological Survey of India.
- AK Mandal, Physics in Ancient India: An Introspective Study, American Journal of Engineering Reasearch Vol.9, Issue 9, Pg 1-6.