

7th National Seminar 2018

contemplations on 'contribution of Ancient India Scientific Temperament to Modern Sciences'

Friday 16th & Saturday 17th February, 2018

COMPENDIUM CUM SOUVENIR

Venue:

JP Auditorium, University Campus, Khandari, Dr. B.R. Ambedkar University, Agra Dr. MPS College of Business Studies NH-2, Near Naveen Sabzi Mandi, Sikandra, Agra

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COLLEGE OF BUSINESS STUDIES

7TH NATIONAL SEMINAR 2018

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Chairperson Dr. MPS Group of Institutions Agra



It is a privilege to welcome all the dignitaries, eminent academicians, research scholars and students to this two day VII National Seminar on "Contemplations on Contribution of Ancient India Scientific Temperament to Modern Sciences being organized by Dr. MPS Group of Institutions (NAAC accredited).

A recapitulation of the raison d'e^tre and evolution of all branches of modern sciences across the world, with focus on India, is imperative in present times. Prior to this, India had for centuries remained in state of isolation, although in very early times she had taught and sent out educator/philosopher/scholars/scientist around the globe.

This seminar will provide an inquisitive platform for meditating and adding to the sum of Modern Scientific Temperament with learnings, adapting, and applying Ancient India's Golden Heritage of Scientific advancements.

I expect that this seminar will witness issues, concepts, and examples which will show the confluence of ancient India's sciences with advancement in modern sciences. The eminent speakers will create awareness and motivate participants to absorb ancient India knowledge into their own studies and research, which will surely help students to undertake research in areas still unknown to other part of the globe.

I thank all eminent speakers for sharing their knowledge and wish all participants an engaging learning session.

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Squadron Leader AK Singh (Retd.)
Chairperson
Dr. MPS Group of Institutions





Co Chairperson Dr. MPS Group of Institutions Agra

It gives me great pleasure to extend a very warm welcome on behalf of Dr. MPS Group of Institutions, Agra to this VII annual National Seminar on "Contemplations on Contribution of Ancient Scientific Temperament to Modern Sciences".

Today Dr. MPS Group has reached the heights of great success, with its vision to serve the society through moderns learning environment coupled with Indian heritage.

The purpose of this seminar is to confluence unexplored golden treasure of ancient India wisdom and sciences with modern sciences and its contemporary applications.

Ancient India was land of sages, scholars and scientists. Science and technology in ancient India and medieval India encompassed all the domains of human knowledge and activities, including Mathematics where vedic literature abounds with concept of Zero, techniques of algebra and algorithm and other sciences as scripted by Aryabhatta (5th Century), Bhaskaracharya (12th Century), Binary numbers in book Chandra Sastra and Fibonacci numbers as given in Matrameru both by Pingala.

Deliberation in this seminar will inspire students to explore the yet concealed scientific treasure and wisdom in the ancient scriptures for reconnoitering their contribution to modern scientific disciplines. This seminar aims at bringing back to life the lost faith of academia, innovators, researchers and scientist, in India's scientific culture and heritage by disseminating knowledge about the unimaginable advancements of India's ancient science and technology.

I wish all the participants to have an enriching sessions.

Neelam Singh Co-Chairperson

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Col (Dr) C K Singh Ph.D

Chief Advisor Dr. MPS Group of Institutions



We owe a lot to Ancient Indian teaching. Ancient civilization is one of the oldest civilizations in the world and has a strong tradition of science and technology. Ancient India was a land of sages and seers as well as land of scholars and scientists.

Though there is a long list of contemplation on contribution of our ancient India scientific contribution which modern scientists and technocrats need to analyze in depth. Here I would like to make a mention of few major contributions which brought revolution and evolution in modern sciences.

Mathematician Aryabhata enabled one to write numbers, no matter how large by using only ten symbols by giving the concept of Zero. Binary Number System was first described by Vedic scholar Pingala. It basically refers to a set of two numbers, 1 to 0, the combination of which is called bits & bites. Excavation at Harappa's sites yielded ruler or linear measurements. Kanas devised the atomic theory centauries before John Dalton was born. Steel alloy as Woootz steel was made by Tamils of Chera Dynasty. Plastic surgery by Sushruta Samhita involving reconstruction of nose was in 6th century BC. Hypnosis by Abbe Faria full name Jose Custodiæ a decendent of saraswat Brahmin in 1756 to 1819. He did much earlier than Charcot Bernheim or Freud. Treatment through hypnosis is prevalent throughout the world. Even in Institute of Mental Health & Hospital (IMHH), Agra, earlier known as mental hospital, Hypnotherapy lab provides necessary investigation and treatment.

Modern science need to further confirm much other known ancient Indian belief with more visibility – Chanting of OM (AUM) leads to reduction of heart rate and deep form of relaxation with increased alertness. TULSI or BASIL Leaves keep immune system strong and help prevent H1N1 disease. KUMKUM BINDI on forehead by women protects from being hypnotized. SHANKH DHWANI creates sound waves by which many harmful germs, insects are destroyed. MOOLASTHASTHANAM-Hindu temples are made scientifically and idols are placed where earth's magnetic waves are found to be maximum. SITUPS –age old punishment of doing sit-ups while holding ears makes the mind sharper and is helpful for those with Autism, Asperser's syndrome, learning difficulties and behavioral problems. EATING WITH HANDS connects body, mind and soul when it comes to food. TARMERIC has antioxidant, antibacterial and anti inflammatory qualities. EAR PIERCING of baby's ears is part of acupuncture treatment and helps in curing asthma. VEDIC MANTRAS when pronounced & heard are believed to cure so many disorders of body like blood pressure. PRANAYAMA is for stress management

Besides reviving our old ancient scientific temper we need to further synthesize between ancient scientific temperament and modern sciences as modern sciences do not recognize belief or faith but need visible proof.

My heartfelt welcome to all invited guests & speakers who would share their knowledge and experiences with the delegates, participants and students. August bank of knowledge and experience will be able to develop synergy amongst the guest speakers, professionals, delegates and students across the country.

C K Singh)



Dr. Rajiv Ratan
Director
Dr. MPS College of Business Studies (Agra)

Laccord a warm welcome to all the delegates and participants for the seventh National Seminar 2018 on ' Contemplations on Contribution of Ancient Scientific Temperament to Modern Sciences', being conducted on Friday 16th & Saturday 17th February, 2018 by Dr MPS Group, College of Business Studies in the city of Taj, Agra.

Dr MPS Group of institutions has come a long way since its inception; it has to keep pace with the changing needs and expectations of the society. It has to successfully perform the multiple roles of creating new knowledge, acquiring new capabilities and producing an intelligent human resource pool for the promotion of economic growth, cultural development, social cohesion, equity and justice. Apart from strengthening the teaching-learning process, research and extension programmes, special focus is also on extracurricular, sports and other similar activities to foster global competencies among the students is our priority. The objective of this great institution is not only serve as a beacon light for all the stakeholders, but should also inspire our students. The mission of Dr MPS Group of educational institutes is to nurture the youth and develop them into educated, skilled and enlightened citizens.

The topic for the National Seminar 2018 on ' Contemplations on Contribution of Ancient Scientific Temperament to Modern Sciences ', as न हा ज्ञानेन सदृशं पवित्रमहि विद्यते | epitomized our culture's homage to learning and inspired our ancients quest for knowledge. India has been a scientific country right from vedic times to modern times. Today, world acknowledges that much of mathematical knowledge originated in India and moved from east to west. The indepth knowledge in mathematical concepts and developments in arithmetic, algebra, trigonometry and astronomy especially the work done by Aryabhata is not only remarkable but a inspirations and foundation of many scientific calculation in today's scenario. Indian contributions to science from ancient times to the contemporary times clearly states the continuity of scientific thought as a part of our cultural heritage.

(DAM)

Dr. Rajiv Ratan -Director

Dr. AK Goyal Dean Dr. MPS College of Business Studies (Agra)



One of the oldest civilizations in the world, the Indian civilization has a strong tradition of science and technology. Historians research has shown that from making the best steel in the world to teaching the world to count, India has actively contributed to the field of cosmic science, medicine, mathematics, administration, civil engineering, town planning and humanities centuries before modern sciencepropounded present laws, theories and propositions as read by students. Many theories and techniques discovered by the ancient Indians have created and strengthened the fundamentals of modern science and technology. While some of these groundbreaking contributions have been acknowledged, some are still unknown to most.

Under the section on Fundamental Duties, article 51A (h) of our Constitution enjoins every citizen of India 'to develop the scientific temper, humanism and the spirit of enquiry and reform'. is this purpose served by Prime Minister Narendra Modi when he proclaimed in 2014 that Lord Ganesha's elephant head is proof that advanced cosmetic surgery existed in ancient India, and that the way Kunti conceived in the Mahabharata was evidence of the practice of in-vitro fertilization millennia ago?

The National Seminar on Contemplations on "CONTRIBUTION OF ANCIENT INDIAN SCIENTIFIC TEMPERAMENT TO MODERN SCIENCES" will strive to bridge the gap and create awareness towards ancient science and technology of the past and their utility in the current scenario. The objective is to use modern technology sustainably with inspiration drawn from the scientific and cultural heritage of the past Indian Civilization. Ancient Science and Technology is an everlasting source of intellectual resource and our ancestors have excelled in rational thinking. The seminar will highlight inspirational past technologies that have been metamorphized hand-in-hand with Mother Nature unlike current technologies that aim to conquer Mother Nature to achieve ends. Protection of intellectual property of our ancestors will also be covered, and a re-look on present scientific culture vis-a-vis ancient scientific heritage will be discussed. This seminar will be deliberating on ancient mathematics, science, Life-Sciences, architecture and engineering, Spiritual Sciences, heritage and culture among the students &faculty members.

lextend my heartfelt gratitude to all participants for joining us at this National Seminar.

Dr. AK Goyal

Dean

Sanskrit Grammar Framework: A forerunnerto Modern Day Computational Linguistics

Varun Modi

Department of I.T., Dr. MPS Group of Institutions

Abstract- The rapid assimilation of highly intelligent and intuitive applications in multiple domains of our daily life is being led by the revolutionary transformation of human-computer interaction powered by striding advances in computational linguistics. These advances are based on the integrated field of study of mathematics as a language, computer programming languages, and natural human languages called the Formal Language studies. The Formal Language uses a concept called Context-Free Grammar. CFG essentially produces a mathematical algorithm for generating language blocks. Noam Chomsky, formalized CFGs, taking a lead from Panini's work. He called it Phrase Structure Grammar. CFGs were then introduced as block structures into programming languages.

Thus, it can be seen from a preliminary overview that these semantic and cognitive technologies are underpinned on a base of influences from the ancient Indian Sanskrit grammar framework to help computers capitalize on their potential for human-like understanding of speech and text. This paper examines such contributions and their resultant impact as evidenced over the ages.

Index Terms- Sanskrit, Computational Linguistics, NLP, Panini, Ancient India.

INTRODUCTION

With man's constant endeavors to avoid the language of machines, emerged the need to nourish normal language as contributions to machines. Every regular language expresses a lot of vagueness. In spite of the fact that the languages are effectively translated by people out of use, for a PC that does not have the capacity to recognize the different understandings consistently this equivocalness ends up being a limitation of crippling proportions. Subsequently, the present day needed a language that could, all things considered, wipe out this vagueness and at a similar time be appropriate for learning portrayal in misleadingly clever frameworks.

Some of the ambiguities that arise in natural languages are:

The Ambiguity of Scope

Example: I was eating ripe strawberries and kiwi.

Here the word ready might be related with just strawberry or both strawberry and kiwi.

The Ambiguity of Attachment

Example: I touched the girl with the gloves.

Here the individual may touch a young lady who is wearing the gloves or the individual touches the young lady utilizing the gloves.

The Ambiguity of Semantics

Example: The car hit the dog while it was moving.

Here the sentence can be deciphered as the car in movement hit a stationary dog or the car hit a moving dog. This equivocalness emerges as a result of the PCs failure to recognize between what is coherent and what isn't.

The Ambiguity of Pragmatics

Example: I hate you too.

Here the sentence can be deciphered from multiple points of view like I hate you (just like you hate me) I hate you

someone else does) I hate you (and I hate someone else) I hate you (as well as I like you).

Thus, there arose the need for developing computational linguistic framework which would help counter these inherent ambiguities.

Ancient Indian Management Philosophy Originto Modern Management Thoughts

Shiva Tomar, MBA IV. College of Business Studies

Abstract

Indian civilizationis the oldest one amongst all world civilization distinguished by its thoughts and wisdom. The ancient India produced two epics that ranks among the greatest epics of world. The great Indian epics like Ramayana. Mahabharat, are among most revered works not only in Hinduism, but also among other religion followers of the world. Our Indian mythology is known for religion and philosophy. In depth contemplation reflects that they are related with modern management. The theory developed during earliest period of Vedic thoughts is still prevalent in the writings of modern scholars of management like Peter Ducker, Fayol ,F W.Taylor and others. Whatever we study today in modern management like, vision, mission, strategy, communication. leadership, motivation, human relation, team work, entrepreneur development, cooperate governance, coordination etc. they are already reflected in our Vedas, Upanishad, Itihaas, major Puranas, great epics, Kautilya Arthashastra, Brahamsutras, there is nothing new to land of India. In fact,India gave birth to theworld managementtechniques.

F W Taylor defined work and worker, Peter Drucker defined knowledge and knowledge workers, but the topic of work and knowledge were already described and practiced in our Indian epics. Our ancient Indian scriptures have ample of knowledge and references of modern management theories and practices. It is said that I lbertLinstein.Ralph Waldo Emerson. Henry DavidThoreau have quoted the BhagwatGeeta in their writings. The present paper is an attempt to draw insights from Indian ancient books to enrich modern management practice.

Great Thinkers thoughts on Indian scriptures (as quoted in different references)

Albert Einstein- BhagwatGeeta reflect about how god created this universe, everything else seems so superfluous.

Hermann Hesse(Nobel prize winner):-the moral of the BhagwatGeeta is its beautiful revelation of life's wisdom which enables philosophy to blossom into religion.

EShreedharan- A person behind Metro rail says" everyday I go to sleep I read BhagwatGeeta".

Peter Senge- one of the prominent management thinker of our time has quoted BhagwatGeeta in his 5thdiscipline.

Leadership

One of the main domain of management is leadership because two organization can acquired same physical and tinancial resources but what makes one to win over another is efficient utilization of its human resource which can be only done through effective leadership leadership enables organization to leverage to great heights, fame and credible positions among stakeholders, whereas the bad leader destroy the whole company's image. For example- the decisions of Infosys chief Narayan Murthy madeshareholder consistently gain on their investmentswhereas anunethical decision of Satyam chairman Ramalinga Raju destroyed the image and equity of the company. Hence organizations are continuously looking for how great leaders can be identified, created and nurtured. Keeping this in mind several theories have been propounded. Modern Leadership theory have evolved over last 100 years in the western world. But they are already known to Indians before 5000 years ago as given in Indian wisdom. Many leadership topics like leadership style, emotional intelligence, situational leadership, duties of leader, character and integrity already discussed in BhagwatGeeta and Ramayana, Kautaliya Arthashastra. Corporate leader like RajatGupta former Managing Director of Mckinsey & company, wrote book 'timeless leadership 18 leadership sutras from the BhagwatGeeta'. Debashis chatterjee has taught leadership at Harvard university and IIMKolkata, Lucknow and Kozhikode for nearly 2 decades. He says that lesson from BhagwatGeeta continues to be very relevant in 21century across the world. Chatterjee notes the idea of Geeta is fundamentally a global idea.

Contemplations on the influence of Ancient Indian Astronomical Sciences on Modern Day Astronomical Science

Anjali Garg, Khyati Jain ,BCA-2nd, Dr. MPS Group of Institutions

Abstract

Modern science has shown magical happiness in the domain of astronomy. Great developments can be seen for the last few decades. But Ancient India's contribution in the area of astronomy are also well known and well documented. By 500 AD, ancient astronomy has emerged as an important part of Indian studies. An effort in this paper is made to review all those hidden contribution of ancient literature which were left unelaborated, may be due to lack of instruments. This revision investigates all those ancient astronomical description which remain silent in the huge bundles of literatures. All new researches in this field were almost explained in Indian literature already.

Key Words: Ancient literature, Indian scientists(Aryabhatta, Bhaskaracharya, Varahamihira) Gravitation, Heliocentric theory

INTRODUCTION

Prachin Bharatiya Vigyaan ke saamane NASA natmastak!!

Indian Scientist contribution in the history of the astronomy is remarkable. India is one of the oldest civilizations in the world. Many significant contributions that India has made to the world in the field of science, art and mathematics and so on.

It is confirmed that modern science and medicals would be meaningless without the contribution of ancient Indian scientists like ARYABHATTA, BRAHMAGUPTA, SUSHRUTA etc.

In our country, a great scientist and mathematician Aryabhatta discovered zero and let the world know about the numbers. Just imagine erasing the theories given by Pythagoras, Aryabhatta, Plato, and Aristotle from the current philosophy because it is an old past. Then our modern innovations will remain of no use as their base was removed assuming that as an old past.

"It looks like that the writers of Vedas and Puran came from the future to deliver knowledge. The works of the Ancient Arya Sages is mind blowing. There is no doubt that Purans and Vedas are word of Bhagwan(God)." -Scott Sandford, Space Scientist, NASA

A lot of modern day inventions are based on the principles that were created in India right from the mythological age.

Indian astronomy flowered in the 5th -6th century, with Aryabhatta, whose Aryabhatiya represented the pinnacle of astronomical knowledge at the time.

The earliest references of astronomy are found in the Rig Veda, which were dated in 2000 BC.

So, let have a look over the events that what modern science proving now, ancient literature declared already.

Contribution of Aryabhatta:-

Aryabhata propounded the heliocentric theory of gravitation and modern scientist Copernicus predicted that
theory after 1000 years. In the Vedas he is also referred as the source of life. He also contributed in the
Helio-centric theory. Thus, we can say that what ancient Indian astronomers comes across with

Confluence of Ancient Indian water conservation and preservation to modern scientific methods

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Abstract- Water is one of the valuable resources for human life and has been tried since ancient times to save water and keep it pure. Even in Vedic period utmost importance has been given to conservation and protection of water. Early civilizations started around the water sources. In the present time, we are using various scientific methods for water storage, water supply and water purification. The technology and innovation we are using today in the water management is actually influenced by the ancient times. The Indus civilization shows various methods of water management. Ayurveda indicates methods to identify impure water and suggested several techniques to enhance the quality of drinking water. Many of these techniques can be practiced even today. This paper explores genesis of modern water preservation method influenced by ancient literature and civilization.

Keywords: Indus civilizations, ancient literature, water storage, water treatment, present techniques of water management

Rumination on Earliest Binary Number System In Ancient India: Foundation of Computing Machine

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Praveen Satya, Head of the Department, Department of Training & Development, Dr. MPS Memorial College of Business Studies

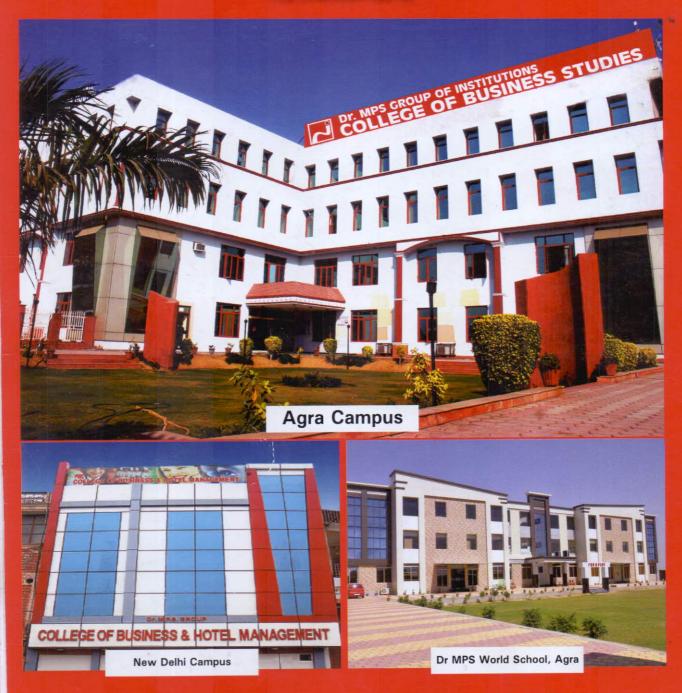
Abstract

As we know that the foundation of computer systems are based on Binary Number System. The evidences as early as 2nd B.C. confirms that the description about Binary Number System was originally found in ancient India. The great Indian scholar **Pingala** in his book *Chanda* sästra, also known as Pingala-Sutras, has presented the first known description of Binary Numeral System. The word *sunya*, referring to zero, was explicitly used by this great scholar in his book Chanda sästra. Instead of using 0 and 1 Pingala reffered *light* (laghu) and *heavy* (guru) to describe 0 and 1. The aim of the paper is to focus on earliest evidences on binary number system which are constitution of modern computing system. The paper specifically centered towards the work found in Pingala-Sutras referring to application of binary numeral system.

Keywords: Binary Number System, Pingala, Chanda□śāstra, Ancient India, Computing Machines

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