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**SCIENCE &
JAIN PHILOSOPHY**
2016
8-10 JANUARY

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Welcome to the BMIRC
INTERNATIONAL CONFERENCE ON SCIENCE AND JAIN PHILOSOPHY

January 8-10, 2016
at
IIT Bombay, Powai, Mumbai

Organised By



Bhagawan Mahavira International Research Centre
Department of Jainology and Comparative Religion & Philosophy
Jain Vishva Bharati Institute (Deemed University), Ladnun, Rajasthan

In collaboration with



Indian Institute of Technology Bombay



University of Mumbai

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णमो अरिहंताणं
णमो सिद्धाणं
णमो आचरियाणं
णमो उवज्झायाणं
णमो लोए सव्वसाहुणं
एसो पंच णमुक्कारो
सव्व पाव षणासणो
मंगलाणं च सव्वेसिं
पढमं हवइ मंगलं

[Namo Arihantanam](#)

I bow in reverence to the Arihantas

[Namo Siddhanam](#)

I bow in reverence to the Siddhas

[Namo Ayariyanam](#)

I bow in reverence to the Acharyas

[Namo Uvajjhayanam](#)

I bow in reverence to the Upadhyayas

[Namo Loya Savva Sahunam](#)

I bow in reverence to all the Sadhus

[Eso Panch Namokaro](#)

This five-fold salutation

[Savva Pavappanasano](#)

Destroys all sins

[Mangalanam Cha Savvesim](#)

And amongst all auspicious thing

[Padhamam Havai Mangalam](#)

It is the most auspicious one



THE NEED FOR AMALGAMATION OF SCIENCE AND SPIRITUALITY FOR PEACE AND BLISS

It was 7a.m. and as per my usual practice, I gave a click to the you tube link to listen to the Bhaktamar Stotra after finishing my meditation. My son walked up to me with his mobile phone showing me the video of a German lady who is said to heal cancer patients, reciting the Bhaktamar Stotra with clear pronunciations. "Mom! do you believe that such recitations can help heal cancer patients"? You and grandmother recite it daily, what benefits do you get? I told him that we both have faith in what the Tirthankaras, the Enlightened souls, have pronounced, and my son, today science has proved that such auspicious recitations have power to keep you relaxed, reduce the heart beats, brain waves and respiration. Such mantras help release the hormone melatonin which not only helps the healing process but even has the power to help shrinkage of tumors. The scientific explanation convinced him!

In the yester years it was the 'Faith' factor that worked in the acceptance of the verdict of the all knowing Omniscient Tirthankaras. As Dravya (substance), Kshetra (place), and Kaal (time) change there is bound to be a change in the 'bhaav', (modes/emotions) and the thought process and to accept the change and walk with it is the need of all times.

Today's youth do not take things at face value, they want logical and empirical scientific reasoning to believe in religious precepts. The generation that embraced age-old teachings based on mere faith and respect is now replaced by a more critically thinking population which takes informed decisions on all fronts.

This instance got me thinking about how wonderful and easily palatable it would be, to our future generations, if each of our Jain tenets were backed by proof and scientific evidence.

Two months back, when I first received the invitation for the ICSJP Conference from Samani Chaitanya Prajna, and was briefed about the purpose of BMIRC, I was thrilled to see that our community is truly taking a step in the right direction. The Jain religion is unique in a way that all of its concepts and principles are not dependent on any supreme authority or any single power. It professes that every single individual including you and I have the ability to attain Moksha, just like the Tirthankaras did. It believes in equal respect for all living beings, be they advanced humans or primitive single-celled species. In many ways, these tenets draw parallels to the scientific principles of fostering stability and balance in the ecosystem and aim towards promoting equitable treatment to all living beings.

Scientific research thus far has mainly been focused on tangible and more material-driven outcomes. The benefits of this type of research are no secret. The technological advances we have made with the help of science in today's day and age, have truly made the world come closer than ever before. It can only be imagined therefore, how tremendous the power of scientific research in the intangible fields of prayer, meditation, penance, compassion and forgiveness can be. Several believers swear by these practices and the positive blissful impact of their observance, not only on the self, but also on others around them.

The Jain Tirthankaras are called 'Kevalgyani' or the omniscients. They have grasped and imbibed the realities of the world and the true path to enlightenment. They have navigated through the extremely complex web of all the realms, understood it to the minutest detail and worked hard towards propounding these truths to the laities, as they wanted all jivas to benefit and walk towards the path of peace and bliss. It is now in our hands to re-invigorate these teachings by fortifying them with the endorsement of scientific research and experimentation in order to help fight today's burning problems like terrorism, violence, intolerance and materialism.

If science and spirituality join hands and we put our heads and hearts or direct our energies, wealth, intelligence and dedication into unraveling the true scientific and empirical evidences for the Jain principles like Ahimsa, truthfulness, compassion for peaceful coexistence, there is little doubt, that the supportive research will help these principles be received with open arms by the future generations thereby making your world and my world - our world - a better place to live in peace and bliss!

Let me take this opportunity to thank all of the Presenters, the Contributors, who have come from far and wide and all those who have been a part of the event. My special thanks to Samani Chaitanya Prajnaji who was the guiding force, Dr. K.P. Mishra for his support, Muni Abhijitji for his complete co operation and dear Pooja who has put in hard work and was at our beck and call all of the time. We are grateful to all others whose mention is not made here due to space constraint but who have been directly or indirectly instrumental in extending their support in the completion of the SOUVENIR.

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Disclaimer: The views and opinions expressed in the articles are those of the authors alone and the editors, publishers are not responsible for errors, and do not endorse them as being complete or correct.

CONFERENCE SCHEDULE

Time	Particulars	Parallel sessions
08-01-2016 FRIDAY		
8:00-9:30	Registration and Breakfast	
10:00-11:30	Inauguration	
11:30-12:15	Convocation – Tea	
12:15-13:55	Technical Session I : Relativism and Jain Logic (Sponsored by ICPR)	Young Researchers' Session 1
13:55-14:45	Lunch	
14:45-16:35	Technical Session II: Soul and Consciousness	Young Researchers' Session 2
16:35-17:05	Tea / Supper*	
17:05-19:00	Experimental Workshop 1: Impact of Lifestyle Intervention, <i>Preksha</i> Meditation, Yoga in Achieving Holistic Health	Technical Session III : Relevance of Jainism in Modern Times
19:00-20:30	Panel Discussion 1: International and National Collaboration for Integrating Jainism and Science	
20:30 onwards	Documentary & Dinner	
09-01-2016 SATURDAY		
8:30-9:30	Registration and Breakfast	
9:30-11:10	Technical Session IV: Science, Society and Ethics	Experimental Workshop 2: Impact of Lifestyle Intervention, <i>Preksha</i> Meditation, Yoga in Achieving Holistic health
11:10-11:40	Tea and Poster Presentation (I)	
11:40-13:10	Technical Session V: Laws of Nature and <i>Karma</i> Theory	
13:10-14:10	Lunch	
14:10-15:40	Technical Session VI: Environment and Ecology	
15:40-17:20	Technical Session VII A: Science and Spirituality	Technical Session VII B: Macrocosmology: Universe, Cosmography, Cosmogony
17:20 - 17:50	Tea / Supper*	
17:50-19:20	Panel Discussion 2: Research Problems and Academic Curriculum in Science and Jain Philosophy	
19:20 -20:50	Cultural Programme	
20:50 Onwards	Dinner	
10-01-2016 SUNDAY		
8:30 - 9:30	Registration/Breakfast	
9:30 - 11:40	Round Table: Developing Scientific-cum-Spiritual Technique for Incultation of Moral Values and Development of EQ in Global Education	Technical Session VIII : Jain Mathematics and its Importance
11:40 - 12:10	Tea and Poster Presentation (II)	
12:10 - 14:00	Technical Session IX A: Microcosmology: <i>Paramanu</i> and Atom	Technical Session IX B: Jain Culture, Literature and Science
14:00-15:00	Lunch	
15:00-17:00	Valedictory Function	
17:00-17:30	High Tea	
17:30	Close	
* Facility of food before sunset will also be available.		

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BLESSINGS



अहम्

5 नवम्बर 2015

दुनिया को अध्यात्म और विज्ञान दोनों की आवश्यकता है। दोनों में समानता है तो असमानताएं भी हैं। मेरा मंतव्य है कि 'सत्य की खोज' के क्षेत्र में दोनों समान हैं। अंतर यह है कि अध्यात्म आत्मा की खोज का लक्ष्य रखता है और विज्ञान संभवतया मुख्यतः भौतिक जगत की खोज का उद्देश्य रखता है। अध्यात्म का लक्ष्य है मोक्ष, सभी प्रकार के दुखों से मुक्ति। विज्ञान का मुख्य लक्ष्य संभवतः पदार्थ से जुड़े सत्य की खोज करना है, मानव को अधिक से अधिक सुविधा उपलब्ध कराना है। मेरा मंतव्य है कि अध्यात्म और विज्ञान दोनों का समन्वय मानव के समुचित विकास में सहायक बन सकता है।

जैन धर्म के कई सिद्धान्तों में विज्ञान की सहमति दृष्टिगोचर होती है तो कई सिद्धान्त अब तक विज्ञान से परे भी हैं। आधुनिक युग में विज्ञान के माध्यम से जैन सिद्धान्तों को समझने और समझाने में कुछ सुगमता भी हो सकती है।

भगवान महावीर अंतर्राष्ट्रीय अनुसंधान केन्द्र, जैन विश्व भारती संस्थान द्वारा समायोज्य 'विज्ञान और जैन दर्शन' विषयक अंतर्राष्ट्रीय सम्मेलन निष्पत्तिपूर्ण हो, शुभाशंसा।

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BLESSINGS



The world needs both– Spirituality as well as Science. There are some similarities as well as some differences among them. As far as the quest of truth is concerned, both of them, in my view, resemble each other. However, they differ in their objectives; whereas the former aims at self-realization, the latter, probably, concerns mainly for the physical world. In other words, the ultimate object of spirituality is liberation, i.e., emancipation from all kinds of sufferings, whereas that of Science is to discover the truths of the physical world and to provide more and more comforts to humans. According to my view, the reconciliation of both– Spirituality and Science, can pave the way for the holistic development of humankind.

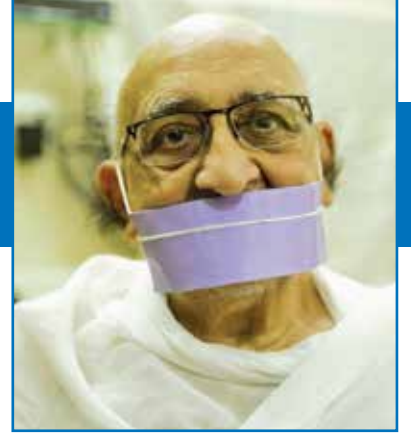
Some of the Jain doctrines are acceptable to Science, whereas there are some, which transcend the domain of science till the present time. In the modern age, if the Jain doctrines are comprehended and explained through the scientific views, it would become easier.

I hope that the International Conference on Science and Jain Philosophy organized by Bhagwan Mahavir International Research Center, Jain Vishva Bharati Institute would be fruitful in drawing concrete conclusions. My best wishes for its grand success.

Biratnagar (Nepal)

Acharya Mahashraman

PROF. MUNI MAHENDRA KUMAR



Every year the number of conferences on Science taking place in the world may be more than 100; similarly, the number of such conferences on spirituality/philosophy/religion may also be not less than 100. But the International Conference on Science and Jain Philosophy of this type is rare, perhaps unique one.

As a matter of fact, the number of such scientists who have interest in Jain Philosophy is also not a great one; on the other hand, the number of scholars who are interested in Jain Philosophy and also in Science, is also not a big one. Generally, both in the field of Science and Jain Philosophy, there is the belief that these two subjects are poles asunder. But, according to a few scholars who have thoroughly studied both, there is striking resemblances between them, and hence, if comparative studies in them are rare undertaken, some fruitful findings would come out, which would be very valuable for both.

The ICSJP is being organized by Bhagwan Mahavira International Research Centre, which is established in 2014 as a Research Institute in the Department of Jainology and Comparative Religion & Philosophy, which again is the part and parcel of the Jain Vishwa Bharti Institute (Deemed University) at Ladnun, Rajasthan, India. This University is the only Jain University in the world, dedicated to higher studies and research in the fields of Jainology, Meditation and Yoga, Non-Violence and Peace, Oriental Languages (like Prakrit, Sanskrit, Pali, etc.) and so on.

The main objective of establishing the Jain University is to blend the Ancient Wisdom with the Modern Knowledge obtained through Science, Technology, etc. The BMIRC has taken upon itself the task of bringing the Jain scholars and the scientists on the same platform in order to achieve this noble objective, and thus, serve humanity through innovative techniques based on both Science and Spirituality.

It is hoped that the sincere deliberations that will take place in this historical event would go a long way in finding out the clues to the baffling issues, and thus fulfill the noble mission, which the BMIRC is dedicated to.



Ch. Vidyasagar Rao
GOVERNOR OF MAHARASHTRA



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10 December 2015

MESSAGE

I am pleased to know that the Bhagwan Mahavira International Research Centre of the Jain Vishva Bharati Institute, Ladnun, Rajasthan is organizing an International Conference on Science and Jain Philosophy in collaboration with IIT Bombay and the University of Mumbai during January 8 - 10, 2015.

It is gratifying to note that the Conference will be exploring intersection of science and Jain traditions and philosophy. I wish and hope that the deliberations will bring to light various less known aspects of science referred in Jain religious literature and scriptures.

I congratulate the organizers for their efforts in organizing an International Conference on this important subject and wish the participants fruitful deliberations.


(Ch. Vidyasagar Rao)

DR. HARSH VARDHAN



डॉ. हर्ष वर्धन
DR. HARSH VARDHAN



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MESSAGE

I am happy to know that Bhagawan Mahavira International Research Centre, Jain Vishva Bharati Institute, Deemed University, Rajasthan in collaboration with Indian Institute of Technology Bombay & University of Mumbai is organizing an International Conference on "Science & Jain Philosophy" from 8th-10th January, 2016 at Indian Institute of Technology Bombay Powai, Mumbai.

I have been informed that the main objective of the conference is to provide a forum to discuss scientific basis of teachings and thoughts of Jain religious thinkers and preachers. The main focus of the conference is to explore intersection of science and Jain traditions and philosophy. Almost 500-700 members including accomplished scientists, reputed academicians and philosophers from India and abroad will participate and share their views for a progressive, non-violent and a poverty-free society.

I extend my greetings to participants, members of managing committee and organizers for this International Conference for its grand success and in all its future endeavors.


(Dr. Harsh Vardhan)

SHRI DEVENDRA FADNAVIS



मुख्य मंत्री
महाराष्ट्र



Chief Minister
Maharashtra

31st December 2015

MESSAGE

I am happy to learn that Bhagwan Mahavira International Research Centre (BMIRC) of Jain Vishva Bharati Institute is organising International Conference on science and Jain Philosophy on 8th to 10th January 2016 at Mumbai.

It is heartening to know that the conference is held in collaboration with IIT Bombay and University of Mumbai and will be attended by around 700 people across the globe.

I hope that this conference will provide a forum to discuss scientific basis of teachings and thoughts of Jain regions, thinkers and preachers. The conference will help to explore intersection of Science & Jain tradition and philosophy.

I wish all the best for the success of the conference and for the souvenir.

(Devendra Fadnavis)

ANANDIBEN PATEL



apn/pat/2015/12/00161

DL 09-12-2015

MESSAGE

Science and Technology have made unprecedented impacts in shaping our society enhancing our understanding of subtle phenomena of life. Whereas the ancient lore of philosophical literature not only contains a rich source of knowledge regarding the secrets of nature but also furnishes us with the logic needed to bring a balance in our perception of looking at the world.

It appears prudent to correlate Jain Principles with the laws of modern science such as physics, chemistry, biology, medical and health science. The scientific and mathematical data found in the Jain canonical text is a rich source for researches engaged in understanding the mysteries of life and the world. It is essential to establish a continuing healthy dialogue between scholars of ancient wisdom and modern science.

It is heartening to know that “**Bhagawan Mahavira International Reserch Centre, JVBI, Rajasthan** is organizing an **International Conference on Science and Jain Philosophy** in collaboration with **Indian Institute of Technology, Mumbai** and **University of Mumbai** on **8-10 January 2016**. I extend my warm wishes to the event and wish this conference be an excellent success.

With best compliments.

Anandiben Patel
(Anandiben Patel)



Vinod Tawde

Minister

School Education & Sports, Higher & Technical Education, Medical Education,
Marathi Bhasha, Cultural Affairs
Maharashtra State

Date: 17.10.2015

MESSAGE

I was pleased to hear about The International Conference on Science and Jain Philosophy-2015. The key focus of the conference being on providing a platform for the exploration of the scientific basis for teaching and thoughts of Jain Philosophy. This reflects the ingenuity and dedication of the members of this association towards the unification of modern sciences with our age old knowledge of religious philosophy, thus reflecting the thoughts of a progressive society.

The hard work and determination shown by your association towards the discussion of scientific basis of our religious tenets is applause worthy. It is interesting that all the members of your association are taking active interest in reaching out and spreading the knowledge that aid the betterment of our society.

I wish you my very best for the noble work initiated by your association and pray you continue to put in the good work.

All the best for the conference and all future endeavours!

Yours,

(Vinod Tawde)

(Vinod Tawde)

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BASANT RAJ BHANDARI



Jain Vishva Bharati Institute (Deemed University - JVBI) is one of the premier and prominent seminaries in India established on the pattern of Gurukul traditions. It promotes, propagates and permeates moral, spiritual and value based education; its foundation being ethics, erudition and eternity.

The establishment of Bhagawan Mahavira International Research Center in 2014 by JVBI aims to integrate, perpetuate pious principles and practices designed and developed through Agams (scriptures) and other sources preached and perfected by Bhagawan Mahavira more than 2600 years ago.

Since its inception Jain philosophy has established close connectivity and linkages of those principles and practices with modern science. Mr. Karl Sogan, a 14th century astronomer, has declared that science is not only compatible with spirituality but it is also a profound source of spirituality.

The international conference on science and Jain philosophy being held in IIT Bombay from January 8-10, 2016 will further expand, express and enrich spiritual domain with tools and techniques of modern science. It will, hopefully, inject and identify areas for further investigations and research to strengthen fusion between science and spirituality.

I wish conference a grand success in its deliberations, dialogue and debate to further concretization of this formidable corridor between spiritual world and scientific wisdom.

Basant Raj Bhandari
Chancellor
Jain Vishva Bharati Institute

SAMANI CHARITRA PRAJNA



It's commonly accepted that science and spirituality are not compatible. Science is considered our reliable way forward, while spirituality is often regarded as a sentimental relic of our past we can't quite let go of. For centuries, science has led our progress, while spirituality is the subjective pursuit of value, reality, and understanding through individual experience or consciousness. However, the drive to find external solutions to global problems that have value to our interior world is more powerful than ever. In this special time of human history, Science and Spirituality are converging into a grand new vision. Quantum science has demonstrated unequivocally that our physical reality can't be separated from our conscious awareness of it. The scale of our planet's problems is too great to be solved without an integrated approach of science and spirituality. The power of spirituality needs the systemization of the scientific method, and the tools of science depend on the wisdom and creativity of individual consciousness to guide it in a meaningful direction.

With this vision, scientists and spiritualists have to meet and discuss solutions to global issues of health, hunger, conflict resolution, climate change, economic injustice, war and violence, ethics and values, sustainable development from a perspective that preserves bio-diversity and co-existence of humanity.

Bhagawan Mahavir International Research Center in Jain Vishva Bharati Institute has been established to ideate, innovate and implement philosophical principles into applied way of life by synthesizing science and spirituality for the betterment of quality of life and explore best solutions of global challenges and crucial crisis. The objective of this center is to explore scientifically new avenues of remedies for individual, familial, societal, economical, political, environmental and ethnical challenges based on the heritage of incredible Indian culture, tradition, values, and ethos and specifically in terms of Jain Philosophy and spirituality, one of the prominent and ancient religions of the world. This motive will bring together not only eminent scientists but also leading lights in spirituality providing a platform to carry forward the quest for truth and finding way out from chaotic problems and create foundation for the next evolutionary leap in human potential.

At the onset of the International Conference on Science and Jain Philosophy to be held on 8th to 10th January, 2016, wishing a grand success with a great hope that it will pave the way for emerging new trends of explication in all walks of life to preserve, promote and propagate peace and happiness.

Samani Charitra Prajna
Vice - Chancellor
Jain Vishva Bharati Institute

PROF. SAMANI CHAITANYA PRAJNA



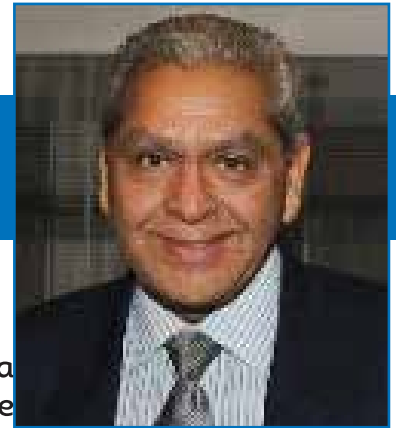
I am very glad that the Souvenir edited by Dr. Raksha Shah has been successfully published and it is in the hands of delegates of the International Conference on Science and Jain Philosophy. I have desired that a Souvenir containing views, opinions and thoughts of enlightened scientists, philosophers and spiritualists should be brought out for the benefit of general readers. Looking at the contents of the Souvenir I am feeling very happy that the objective of gathering fresh views has been meticulously achieved. I hope the goal of connecting methodology of science with the practice of spirituality would be adequately met by this volume. I find the contributors have made sincere efforts to provide deep insight on the topic of their article. The diversity of contributors from different specialties makes the Souvenir interesting for Experts as well as beginners. I hope the readers will benefit in expanding the horizon of their knowledge after going through the articles contained in this compilation.

I have an ambition that future of society should be appropriately guided and steered based on ethics and morality commonly practiced in Jain traditions and teachings. I would like to record my appreciation to all who have contributed their articles at short notice of invitation and have done justice to their topic by putting time and efforts for benefit of society.

I would like to appreciate particularly the sincere efforts put in by Dr. Raksha Shah and the members of the Editorial Board. I specially appreciate the efforts and devotion of staff of Secretariat who have worked tirelessly in planning and execution of the conference for the past several months. I would like to emphasize that the Souvenir and the conference are the beginning of the bigger plans of BMIRC. I would like to exhort all intellectuals, spiritual masters to come together with a sense of purpose and to discuss the prospect of bringing synergy by combining methods of science and spirituality especially following the doctrines of Jainism. I do hope that readers would enjoy absorbing the materials presented in the Souvenir.

Welcoming you to the beginning of new knowledge world of Science and Jain philosophy.

PROF. K. P. MISHRA



I feel tremendously joyful to find that a Souvenir is being published on the occasion of International Conference on Science and Jain Philosophy organized by Bhagawan Mahavira International Research Centre of Jain Vishva Bharati Institute in collaboration with IIT Bombay and Mumbai University.

From the initial stages of planning of the conference I was keen to publish a souvenir on this occasion consisting of articles by renowned scientists, distinguished philosophers and esteemed spiritual leaders despite short time available. Dr Samani Chaitanya Prajna ji was strongly supportive and was in sync with my views on the merit of this proposal.

Following discussions with a few prospective persons, I met Dr Raksha Shah who showed interest and inclination to accept the responsibility of this important publication. We discussed, at length, the framework of the Souvenir, nature of articles and choice of contributors to write for the souvenir. Dr Raksha Shah very readily agreed to become the Editor. I am glad to recognize that she did a good job.

I have been amazed to read the contributions of Bhagawan Mahavira more than 2500 years ago to guide and advise people for their conduct in life. The message given by Bhagawan Mahavira is immensely powerful and even today it is relevant to our society. I foresee an evolution of entirely new world in 21st century with the fusion of science and spirituality. There seems to exist a vast potential to explore secrets of universe by seeking the hitherto hidden power of spirituality

I would like to recall the providence of my meeting with Acharya Mahapragyaji sometime back in 2005 in Mumbai. I was inspired by his scientific approach and logical description of complex issues like death, rebirth and soul. I felt humbled when Acharyashri ji blessed me and advised to meet him again which unfortunately, never happened. Therefore, my association with the conference organized by BMIRC is to a large extent because of the divine motivation. I feel privileged to organize ICSJP and to catalyze publication of this souvenir.

Authors were requested to write on a chosen topic within the broad theme of blending science and spirituality. I am sure the articles chosen by Dr Shah and the editorial team would engage your attention and enable obtaining greater awareness to understand relevance of Jainism in modern time. The growing tendency of people to resort to violence for resolving conflicts is rather frightening and deeply worrisome. Therefore, I feel, embracing the attributes of spirituality to improve quality of life guided by ethics and morality opens door to make the world a better place in the future. I am convinced that non-violence, tolerance and compassion would help achieve happiness and build a peaceful world. It is necessary to continue our firm resolve to promote human qualities for improvement of mankind.

Wish you a better time and a grand success.

ABOUT - BMIRC

Bhagawan Mahavira International Research Centre (BMIRC)

With a view to integrate spirituality and science by evolving a scientific approach to the understanding of Jain traditions, BMIRC has recently been established at Jain Vishva Bharati Institute (Deemed University), Ladnun, Rajasthan. The Centre has an ambitious plan of promoting research in science and spiritualism and looks forward to collaborate with universities and institutes which would help in realizing the goal of integrating science with principles and practices of Jain philosophy. The Centre is in its infancy but has vast potential for advancing scientific knowledge in spiritual practices.

Jain Vishva Bharati Institute (Deemed University) (JVBI)

The institute, established at Ladnun, Rajasthan (India) 25 years ago, is devoted to holistic education and training. JVBI provides higher education to students together with inculcation of spiritual and moral values into them through various courses of two types - the regular course and the distant education course. There are 7 Departments with defined goals of academics. Besides teaching courses, the University provides quality research facilities to Ph. D students. The recent evaluations has categorized it as an 'A' grade university by the Ministry of Human Resource Development, Government of India and re-accredited with an 'A' grade by National Assessment and Accreditation Council (NAAC).



VISION AND MISSION OF BMIRC

The main aim of this International Conference on Science and Jain philosophy 2016 is to have long-term planning for happy blending of science and spirituality. In its post-conference action plan BMIRC at JVBI will focus on following three areas:

Research Problems and Academic Curriculum in Science and Jain Philosophy

The scientific ideas in Jain philosophy extend to the whole range of human knowledge from metaphysics to cosmology, micro and macro, epistemology, physical and biological sciences, ecology and environment, psychology and meditation, and other spiritual practices. Also mathematics in Jain philosophy is of great significance not only for the historian of mathematics, but for comprehensive view of Jainism. Besides Jain philosophy modern science has also made great advancements in many of these fields. A study of these two streams of knowledge shows that though they have been developed in different ways and have many specialties peculiar to them they also have many ideas in common. Further, there is a great scope for ideas of one stream being useful to understand the view points of the other. It is also found that the ideas expressed in Jain philosophy are more comprehensive and refer to much wider domain as compared to modern science in some respect. So, a comparative study can lead to many research areas where a study would be very useful for development of science on one hand and bringing full understanding of the universe and its components on the other.

One problem in studying scientific ideas in Jain philosophy is that the traditional Jain scholars generally are not familiar with science and the scientists have no background of Jain philosophy. The best way to overcome this problem is to teach the basic principles of Jainism to scientists and arranging interaction between Jain scholars and scientists so that the scientists can express the Jain ideas in a scientific way. This would require induction of scientists in a different field of study but this is not difficult as many of the scientists have an open mind and are willing, or rather eager, to learn the ancient traditions.

In order that we have a fruitful activity in the field of study and research in science and Jain philosophy the following agenda would be useful:

1. To facilitate the scientists to study the basic principles of Jainism and their scientific significance.
2. To develop P.G. courses in Jain philosophy and science together with academic curriculum for the same.
3. Identification of areas of scientific research in Jain philosophy.
4. Developing online courses for the benefit of Indian and International students interested in the basic principles of Jainism and their scientific interpretation.

It is also proposed that the Institution such as BMIRC at JVBI, be made the nodal center for organizing activities on above areas and other interested Institutions may collaborate and coordinate with BMIRC so that the work is accomplished fast.

Developing Scientific cum - spiritual techniques for inculcation of Moral Values and Development of EQ in Global Education Curriculum

Moral values help in making the life of an individual, family and the community happy, healthy (holistically), peaceful, and pleasurable. It also cleanses the society of evils like corruption,

malpractices, scandals, violence, etc. and enables the nation to make rapid progress in the right direction. It is now seen that moral values are declining world over and this is becoming a cause of concern to educationists, politicians as well as to all members of the society. How to inculcate the moral values in students has become a challenging task. It appears that traditional ways of imparting value education need improvement and efforts must be made for developing new methods and ways to address this issue.

In this age of science and communication new techniques and technology appeal more to young minds. It is therefore imperative that full use of these new means be used to make the moral education program more effective and successful.

Spirituality has been acknowledged to inspire the individuals towards ethical behavior and boosting morality. Spirituality does not belong to any particular religion; it transcends the religious barriers and relates to the inherent goodness in all human beings. Spiritual practices can greatly benefit humanity in making the life simple, moral and ethical.

Emotions are known to heavily influence the human behavior. Emotional development of students must be a part of education system. Jain philosophy says that passions (kashayas) and quasi-passions (nokashayas), which govern the emotions, introduce perverseness in the soul and remove it away from morality and ethical behavior and obstruct the development of values in life. The attachment (raga) and aversion (dvesha) are the main cause of perversity in life and mental imbalance. Therefore, for purity of conduct and positive emotional development efforts must be made to reduce negative or destructive emotion accruing from attachment and aversion in behavior.

Everyone seeks peace in life. Violence is antidote to peace. We must strive to find non-violent ways to resolve our problems in life as well as in society. Violence is now assuming alarming proportions and posing threat to the civilized society. Recognizing the importance of non-violence the United Nations has declared 2nd October, the birth day of Mahatma Gandhi, as Non-violence Day. Scientific-cum-Spiritual techniques for "Training in Non-violence" in the main solution to mitigate violence.

BMIRC aims to address these issues and suggest ways and means for the following:

1. The information and how of the use of modern means like social media, electronic media, computers, internet, mobile, TV, etc. to inculcate the moral values in youngsters especially students.
2. How spirituality be included in the curriculum and be used to inculcate moral values?
3. How positive emotional development of students can be achieved?
4. How non-violence as a means of peace can be popularized and propagated in the world?
5. In what way Jain philosophy can help in achieving these objectives?

International and National Collaboration for Integrating Jainism and Science

Jainism is known for its scientific approach to philosophical doctrines. Not believing in any Creator God or Super power, it advocates for the universe comprising of independent and eternal existences which are governed by their own nature and laws. There is no place for super natural (or blind) beliefs and role of any external power in the conduct and performance of nature except interaction between the existences as per their natural properties. These basic rules embedded in Jain philosophy also form foundation of modern science which, of course, accepts only the physical order of existence, besides space and time. The Jain view of these scientifically accepted existences also is however very broad

and has not been yet fully explored by science. Jainism has, therefore, much to offer to science in its own domain of perception of the universe, besides describing the living world as a combination of jiva (entity having consciousness) and matter in various forms. Integration of Jainism and science, therefore, can present a comprehensive view of the world and improve our understanding of the processes and phenomena taking place both in the living and the nonliving domain.

Jainism is well known in India as it is scientific. There is therefore a need for National and International efforts to integrate Jainism and science for the benefit of the mankind. To achieve this objective the following steps are necessary:

1. To present the philosophical doctrines of Jainism in scientific terms and modern perspective.
2. Collaboration between Jain Institutions and other Institutions in the country to utilize the scientifically propounded Jain doctrines as means of peace and welfare of the individuals and society without disrespect to other faiths.
3. Collaboration with International institutions and organizations for giving due importance to the Jain studies & research and making it a part of their academic activities.
4. Interaction between Jain scholars and scholars of other philosophies and scientists for exchange of views on subjects of international and societal relevance and establishment of peace in the world.
5. Funding the activities of research and study. Research activity is generally expensive and needs regular availability of funds for unhampered progress.
6. Collaboration with scientific institutes for undertaking scientific research in Jain spiritual practices like meditation, tapa etc, Specially in the field of health & education.

We are confident that with the help of the scientists, scholars, researchers and the support of the generous people of community, the BMIRC will succeed in accomplishing its mission for the welfare of the society!

Samani Chaitanya Prajna

RELIGION AND ENVIRONMENT

ACHARYA MAHAPRAGYA



Acharya Mahapragya was the tenth head of the Svetambar Terapanth order of Jainism. He was a saint, yogi, spiritual leader, philosopher, author, orator, and poet. The well organized Preksha meditation system was formulated by him in the 1970s, and he also developed the "Science of Living" education system which is a practical approach for the balanced development of a student and his character building. He also launched the Ahimsa Yatra movement in 2001 which continued until 2009 to promote non-violence and harmony.

Laid up with flu, I was lying on the ground. It was a small house in a small village with open skies. My mind was absolutely free and unfettered. Right in front of me was a tree. Everything shone bright in the mid-day sun. I first looked at the tree and then at the sky. The former had a miniscule existence against the latter. Small but limitless. The sky is limitless both spatially and temporarily. And in terms of time the tree too is limitless. Not even an atom of the tree can ever be destroyed. It is bound by the philosophical principle that says:

*Anything existent in the present was so in the past and will be in future too.
Anything non-existent in the past can never be either now or in the future.*

The sky and the tree have absolutely no idea of their being or not being and yet their existence is unhindered and limitless. If every single atom that exists will forever be, then how can I doubt my own existence.

I see on the one hand the enormous universe and on the other hand a minuscule man. I also find that present-day thinking is inclined towards the enormous, the aggregate. All things are conceived on large and comprehensive scale. But despite it, problems have not mitigated. The problems of the gigantic universe are the same as those of the individual. What is there in the human body is there in the universe too and vice-versa. I see no reason to doubt its veracity. We become partial and one-sided by being concerned with either the individual or the group. This disease of one-sidedness is rampant everywhere. A comprehensive or many-sided viewpoint dictates that we do not forget the individual while being concerned with the group and be aware of the group while being concerned with the individual, whenever or whatever the individual or group may represent. Religion means existence. The nature of a thing is religion. He who defined religion, thus, experienced the inner reality of religion. The nature of the soul is consciousness. Experiencing consciousness is itself religion.

SCIENCE AND PHILOSOPHY IN THE PROGRESS OF SOCIETY

DR. K. KASTURIRANGAN

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(Dr. Krishnaswamy Kasturirangan, recipient of Padma Vibhushan and Padma Shree awards, is a past member of Rajya Sabha and Former Chairman ISRO and Secretary, Department of Space, Government of India (1994 to 2003). He is an M.Sc. (Physics), Ph.D. and has Honorary Doctorates of 16 Universities to his credit. He initiated several space missions of ISRO including Indian Remote sensing satellites, Astronomy missions and Indian Moon mission.)

Let me begin this address with a simple question, what is Science? Science is the systematic study of the structure and behavior of the physical and natural world through observations and experiments, basically aiming to find the truth of the existence of the Universe and its constituents. The second entity, religion can be defined as faith or belief and the rituals followed in worshipping God. It is interesting to note that this conference seeks to explore how science and religion should blend, keeping philosophy at the helm and aim to have a progressive society or smart society.

Is religion different from philosophy can be a question which ponders in the minds of common man. Religion and philosophy are different, but they are related. Religion is generally considered to be composed of a set of morals, rules, principles, and ethics that serve to guide one's way of living. This means practicing something with faith. Philosophy, on the other hand, is a bigger domain of discipline that tackles many concepts like metaphysics, the search for the ultimate truth, knowledge, values, reason and life itself. Aim of the philosophy is to attain wisdom. So, any philosophy whether Greek, Hindu, Christian, Buddhist or Jain will lead towards attaining wisdom, but the paths taken will differ depending on the ideologies of each one of them.

Greek Philosophy had its beginning in 6th Century BC and this is the most ancient philosophy. Greek philosophy not only included scientific thought, but it also is said to have inspired world-historical decisions with their own thinking and decided the path of modern civilization with the creation of science. Hans-Georg Gadamer, a German philosopher, in his attempt to find certain points of conflicts between ancient Greek philosophy and modern science observed 'enduring relevance' of ancient thought to modern science. He felt that, Greek philosophy gives access to a way of integrating the empirical sciences with the praxis of social life.

India has seen many schools of philosophical thought and they were formalized between 1000 BCE to the early centuries of the Common Era. Hindu philosophy, Buddhist philosophy and Jain philosophy were the important ones which are sustained and still practiced.

All of them have their root in India and branched out with little difference in their ideology. Hindu philosophy has six ways of looking at truth. They are the Nyaya, the Vaiseshika, the Sankhya, the Yoga, the Purva-Mimamsa and the Uttara-Mimamsa, or the Vedanta. These six sects of Hindu philosophy are the testimony of Vedas and Upanishad.

There is a misconception about Buddhist philosophy and Jain philosophy being same. Although, there are a few similarities between the two, such as belief in rebirth and ahimsa, they are markedly different in other aspects. Main concern of Buddhist metaphysics is to eliminate pain.

The word Jain is derived from Jina, meaning conqueror, victorious or old and wise. Jainism is one of the oldest religions practiced in India which suggest austere path to individuals who are caught in the cycle of birth and death to attain liberation, i.e. Moksha. Mahavira was the last of the Thirthankaras in the lineage of 24 Thirthankars, which suggest that Jainism originated long before Mahavira.

The core of Jain Philosophy is 'Ahimsa'. Jain philosophy deals with metaphysics, reality, cosmology, ontology, epistemology and divinity. V R Gandhi, a Jain philosopher of 19th century is of the opinion that any philosophy or religion must be studied from all standpoints, and delve into details of what it says with regard to the origin of the universe, what its idea is with regard to God, in respect of the soul and its destiny, and what it understands as the laws of the soul's life. He also feels that religion is not different from philosophy, and religion and philosophy do not differ from science.

It is interesting to note that, both Hindu philosophy and Jain philosophy had fair knowledge of existence of atoms as the building block of matter much before western civilization came up with the Quantum theory. According to Jain philosophy, matter carried an important influence in the lives of the individual jivas. Jainism advocated studying matter in its various manifestations and implications. The atomic theory of Jainism was thus a product of deep enquiry into the mysteries of the material world and to find solution to the problem of the human suffering. According to belief of Jainism, an atom is without any point, without a beginning and without an end. It is eternal, can neither be created nor destroyed. It is invisible and imperceptible. Only the adepts can perceive it through their all knowing vision.

It is interesting to know how scientists are also philosophers and their knowledge of philosophy has influenced their contribution to science. Examples to this are Pythagoras and Aristotle of ancient Greek who were first considered as philosophers and then as Scientists. Pythagoras was a mathematician well known for a theorem in Geometry named after him. He is also credited with founding a philosophical school. Aristotle is well known for his logic of deductive reasoning and elucidation of nature, psychology, ethics, politics and art. He was the first one to identify that earth is spherical in shape.

Charles Darwin, a 19th century European Naturalist's discovery of the theory of evolution by Natural selection, upheld that contemporary species have actually evolved from ancestral ones, through a process known as Natural Selection. Until then it was widely believed that the different species had been separately created by God. So persuasive was the evidence Darwin produced for his theory that by the start of the 20th century it was accepted as scientific orthodoxy, despite considerable theological opposition. His philosophy, Darwin's theory, forms the basis of the modern biological world.

Albert Einstein is regarded as the greatest theoretical physicist of the twentieth century or “possibly of all times”. His contribution to modern physics, his study of the photoelectric effect, for which he was awarded the Nobel Prize and his theory of relativity with its profound modifications of the notions of space, time and gravitation have fundamentally changed and deepened the physical and philosophical conception of the Universe. Apart from his scientific ingenuity, his courageous struggle for human rights, social Justice, and international peace has assured him a unique place in the history. Einstein’s philosophical education made a profound difference in the way he did physics. He was not religious per se but he was a philosopher. I give below a quote from Einstein, which speaks of his philosophical approach towards science and society.

“What Artistic and Scientific Experience Have in Common - Where the world ceases to be the scene of our personal hopes and wishes, where we face it as free beings admiring, asking, and observing, there we enter the realm of Art and Science. If what is seen and experienced is portrayed in the language of logic, we are engaged in science. If it is communicated through forms whose connections are not accessible to the conscious mind but are recognized intuitively as meaningful, then we are engaged in art. Common to both is the loving devotion to that which transcends personal concerns and volition.”

It is clearly evident that all forms/schools of philosophy aim to look for truth in the existence of universe. Is the universe eternal or non-eternal is another question which contemplates in the realm of philosophy. So, ‘Science’ and ‘Philosophy’ have a common goal to unravel the truth for the benefit of mankind. Any scientific discovery, no matter which is the field (Science or social science) aims towards betterment of human life. Philosophy is a binding force in achieving this in the universe.

Scientists do not simply record the results of experiments and observations in log book. They usually want to explain in terms of a general theory. This is not always easy to do, but there have been some striking successes. One of the key problems in philosophy of science is to understand how techniques such as experimentation, observation and theory construction have enabled scientists to unravel so many of nature’s secrets.

According to Philipp Frank, a physicist, mathematician and also an influential philosopher, there is a widespread belief that the rising contempt for tolerance and peace is somehow related to the rising influence of scientific thought and the declining influence of the ethics, religion and art as guides of human actions. He therefore feels that training of generations of scientists in mere science, without making them familiar with the world of human behavior, would be harmful to the cause of civilization. Whether we like it or not, scientists will participate more and more in the leadership of society in the future. Also there is hardly any doubt by now that the contribution of the scientists to our political life has been more on the side of peace and tolerance than have the contributions of the students of law or government or for that matter, of Philosophy proper.

In the twentieth century, two theoretical frameworks emerged for formulating the laws of physics. One of these frameworks was Albert Einstein’s general theory of relativity, a theory that explains the force of gravity and the structure of space and time. The other was quantum mechanics, a radically different formalism for describing physical phenomena using probability. By the late 1970s, these two frameworks had proven to be sufficient to explain most of the observed features of the universe, from elementary particles to atoms to the evolution of stars and the universe as a whole.

Here is a quote from Albert Einstein's book, "Out of My Later Years" which speaks of his approach towards humanity and I find it relevant to be mentioned here to substantiate the fact that pursuit of both science and philosophy was mainly to address and improve the quality of life on this universe. The quote is "A human being is part of a whole, called by us "universe," a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest... a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our tasks must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."

In 1998, two teams of astronomers studying distant supernovae made the remarkable discovery that the expansion of the universe is speeding up. Yet, according to Einstein's theory of General Relativity, gravity should lead to a slowing of the expansion. To explain cosmic acceleration, cosmologists are faced with two possibilities: Either 75% of the universe exists in an exotic form, now called dark energy, that exhibits a gravitational force opposite to the attractive gravity of ordinary matter, or General Relativity must be replaced by a new theory of gravity on cosmic scales. Big Bang model describes current understanding of the universe. New discoveries, such as dark matter and dark energy lead us to refine our model. Science is an ongoing process - forcing us to test our model through prediction and observation. The more tests it passes, the greater is our confidence in it.

All these efforts of both scientists and philosophers are for a better society and better tomorrow, which is healthy both physically and mentally. A path to achieve this can be through Yoga and Meditation.

Yoga and meditation is a way to develop wisdom and compassion. Meditation helps in acquiring steadiness of the mind and the ability to see deeply into the truth of our experience; meditation is a component of the practice that enables us to open our heart to others, and ourselves and to recognize our connection to all of life.

If we train our mind to meditate, we will gradually become more and more peaceful and we will experience a purer and purer form of happiness. Ultimately this will bring stability to mind and to face and handle difficult situation. By training in meditation, we create an inner space and clarity that enables us to control our mind regardless of the external circumstances. Gradually we develop mental equilibrium and experience permanent inner peace known as 'liberation' or 'nirvana', ultimate truth of Jain philosophy.

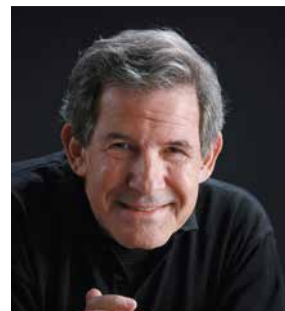
Finally, I conclude with a passage from one of the well known Kannada literary works by Dr D V Gundappa in Mankuthimmana Kagga (translated to English) which high lights the blending role of Science and Sages in uplifting the society at large.

*"New Leaves and old roots what makes a tree magnificent.
New Knowledge and old principles meld to become dharma
If wisdom of the sages can blend with the new sciences,
It would be for the benefit of the humanity." --Mankuthimma*

ISIS, LOVE AND FEAR

DR. GARY ZUKAV

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(Winner of 'American Book Award for Science', The Pathfinder Award, Einstein Award Dr. Gary Zukav is a Harvard graduate, with a degree in International Relations, one of the bestselling authors, a co-founder of the Seat of the Soul Institute, and a member of the Club of Budapest, World Business Academy, the Chair of the Government and Politics Strategy Group for the Campaign for the Earth.)

I am honored to be invited to participate in your joint exploration of science, philosophy, and spirituality. My life is dedicated to contributing the best that I can to a new human consciousness that is emerging and the new world that it can create. Here is a way of looking at our current circumstance:

We stand in two worlds. One is the world of a dying consciousness. The other is the world of an emerging consciousness. If we try to solve problems with the dying consciousness, we will fail because all the problems we face were created by the dying consciousness. This dying consciousness tells us there is a prime source which activates unbreakable causal chains, and that source is action. From actions come consequences. To change consequences, we must change our actions. The emerging consciousness tells us that the prime source of all causal chains is intention. To change consequences, we must change our intentions.

Intentions direct every deed and word, such as intentions to reverse climate change, protect the Earth, and reduce income inequality. When intentions conflict, the result is a power struggle. From the perspective of the dying consciousness, power is the ability to manipulate and control. This is external power. It is inseparable from the dying consciousness, and it now produces only violence and destruction. The West and ISIS are in a struggle for external power, as are the United States and Russia, Saudi Arabia and Iran, India and Pakistan, etc. So also are Exxon-Mobil and environmentalists, Monsanto and the organic movement, etc. Every aspect of the dying consciousness pursues external power – nations, cultures, religions, corporations, friends, and neighbors.

The emerging consciousness is perception beyond the five senses, intuition, and the understanding of power as the alignment of the personality with its immortal part – the part that intends harmony, cooperation, sharing, and reverence for Life. This is authentic power. It is inseparable from the emerging consciousness, and it is now required for our evolution. It is impossible to struggle for authentic power. Authentic power cannot be lost or found, stolen or inherited. We must create it in ourselves. We cannot change the world until we recognize that a new emerging consciousness is replacing a dying consciousness, multisensory perception is replacing five-sensory perception, and authentic power is replacing external power. That is because the world we have inherited/created is made of external power, and pursuing external power adds only more to it.

We need to be aware of this as we create our responses to each of our challenges, such as ISIS. The dying consciousness casts the issue of ISIS as good vs. evil and savage vs. civilized. The emerging consciousness sees it as a matter of love and fear. The pursuit of external power originates in fear. The creation of authentic power originates in love. Fear excludes, judges, and attacks. Love includes, accepts, and reveres.

In the emerging consciousness, love and fear are the fundamental intentions that determine the consequences of all other intentions. For example, if our ISIS strategy is containment, military action used wisely, reaching out to mainstream Islam, opening our homes and borders to refugees, etc. – it will create constructive consequences only when the intention behind it is love. The same strategy will create destructive consequences when the intention behind it is fear. Fear separates, shatters intimacy, and prevents healing. Love heals everything.

If we see ISIS as a “cancer that must be cut out” and “systemic rot in the collective consciousness” we become like ISIS. They see us the same way. Their attacks in Paris targeted symbols of Western culture – a sporting event, a rock concert, and people simply dining out – which they see as “cancer that must be cut out” and “systemic rot in the collective consciousness.”

In order to change the world, we must ask ourselves continually, “Am I doing this from love or from fear?” To be specific, changing the world requires me to ask myself continually, “Am I doing this from love or from fear?” independently of others. It requires you to ask yourself continually, “Am I doing this from love or from fear?” independently of others. We can support one another in creating authentic power, but we cannot create authentic power for one another. Creating authentic power is not a mass movement or even a small movement.

The emerging consciousness understands that world transformation begins with self transformation. The dying consciousness dismisses self transformation as irrelevant to global change, which requires participation of millions. This is the biggest chasm between the emerging consciousness and the dying consciousness, and our evolution requires me to change myself in order to cross it. It requires you to change yourself in order to cross it. If we attempt to find strength in numbers, validation in numbers, we miss the point. My creation of authentic power makes me the authority in my life. Your creation of authentic power makes you the authority in your life. Creating authentic power is an intensely personal, heroic journey. It cannot be crowd-sourced.

Like many of you, I have traveled a long way to reach where I now stand. I earned a degree in International Relations from Harvard; I attended the lectures of Henry Kissinger; I was a Green Beret officer in Vietnam; I wrote an Award-winning book on quantum physics. I did even more, but none of these things prepared me at the time to say, unequivocally as I do now, that recognizing all our adversaries, including our ISIS brothers and sisters, as our teachers and learning to respond to them with love instead of react to them with fear creates authentic power, and there is now no other way to change the world.

I am looking forward to cocreating a new, healthy, and joyful world with you.

S1 + S2 = P

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There is an old story of a blind man and a lame person. Both of them got arrested in a forest. Suddenly a fire broke out in the forest. Everyone started running away to save his/her life. What a pity! The blind man could not understand where to go and the lame man, in spite of knowing the way out, could not run because of his disability. Both of them decided to join hands. The lame man sat on the shoulder of the blind person. The blind man started running while the lame man guided him. Both safely overcame the calamity. Probably, Albert Einstein, in this context had uttered-

*“Religion without science is blind,
Science without religion is lame.”
Let us equate S1 with science
S2 with spirituality
and P with peace.*

Then $S1 + S2 = P$

The ICSJP is probably an unprecedented event both in the history of science as well as spirituality. The vision is: Science and Technology have played the prime role in bringing about an unprecedented development in the history of humankind. On the other hand, Spirituality, which, in itself, is spiritual science, has nurtured the human mind with the values like non- violence, compassion, forgiveness, self-discipline, universal love and friendliness and so on and so forth.

The major global problems that have raised their ugly heads have baffled not only the scientists but also the academicians, social scientists, psychologists, political stalwarts in International Relations and the most intellectual humans. All seem to be groping in the dark to find a way out. Probably, the situation is even worse than that faced by the blind man caught in the wildfire.

Jain philosophy, propounded by Bhagawan Mahavira, nearly 3 millennia ago, perhaps, holds the key to the solutions to the present day burning problems. Spirituality, in general, and spiritual doctrines and practices like meditation, yoga, penances etc, prescribed in Jainism, in particular, are found to affect positively the emotional brain, called the Limbic System, and as a result, it has been scientifically experimented and shown that the negative emotions like violence, cruelty, hatred, anger, fear etc, are amenable to undergo change.

If this is true, then let us allow the eminent scientists and the scholars working in research field of Jainism as well as spirituality in general to come on the same platform to deliberate over the topics such as

- Science and Spirituality
- Science, Society and Ethics
- Soul and consciousness
- Ecology and Environment
- Laws of Science & Laws of Karma etc.

Also, in spite of tremendous efforts made by the theoretical science including Microcosmology, Macrocosmology, Mathematics etc., the ultimate breakthrough is still to be made to define precisely the subtle aspects of the physical world, the psychical world, space, time, relatively etc. Hence, it is advisable to compare, contrast and correlate the doctrines, enunciated by Bhagawan Mahavira through his extra-sensory perception, with the hypothesis and probable models given by the modern scientists, and try to find out experimentally (both through sensory perception as well as by developing extra-sensory perception) the solutions to the most intricate problems concerning the ultimate nature of reality.

Above all, the threatening challenges like terrorism, global warming (or climate change), the chronic form of domestic violence, specially the one amongst the teenagers and the youngsters, the social, economic and racial disparity and so on and so forth, are to be addressed gallantly through blending Ancient Wisdom with Modern Science and Technology. This is what can be expressed as $S1 + S2 = P$.

UNIFIED MODERN TREATMENT OF THE EIGHT KARMIC COMPONENTS: MULA-KARMAPRAKRITI

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1. Introduction

One of the fundamental concepts of Jain Science of Life is 'The soul exists in contamination with karmic matter and it longs to be purified'. Further, the karmic matter gets differentiated into eight karmic components/karmas (Mula Karmaprakriti). The eight types in standard sequence ordering are shown in Table 1 and divided into two groups: the first four Ghatiyas (negatively influencing the soul quality) and the next four Aghatiyas (their presence does not interfere with Keval Gyan and are connected with embodiment). The major systematic treatment includes that of Davendra Suri's "Karmagranthas" and Nemichandra's "Gommatasara" (Karma-Kanda, NS1 = the first stanza below); we refer below to Gommatasara.

2. New Modern Treatment

There have been many different literal English translations of the above key words, leading to several variations. For example, Ghatiya and Aghatiya Karma are translated as Destructive and Non-destructive Karma (P. S. Jaini's Book), and as Harmful and Non-harmful (Dunda's Book). These do not capture their functional essence in terms of modern scientific and psychology thinking. Kachhara (2014, Scientific Explorations of Jain Doctrines) seems to have taken the first step towards projecting them into modern thinking and thus taken an out-of-the-box approach, namely, he uses Psychical for Ghatiya, and Biological and Physiological for Aghatiya.

However, we start differently; first, we start translating Ghatiyas and Aghatiyas in a functional way, so their intrinsic properties are brought closer to their action as Ghatiyas is more active and observable than Aghatiyas (which is passive/latent) in a particular life-span. Thus, we equate the Ghatiyas as some form of quotient-blocking karma, whereas Aghatiya as coding karma. This nomenclature has the following additional advantages:

(i) that quotients are quantifiable as most of these karmas are in terms of pudgala and these are active in operation, whereas Codings are mostly collecting information for the next incarnation and are otherwise passive in one's life-time.

(ii) Further, we extend the idea and translate eight of these karmas as in Table 1.

1. Emotional Quotient blocking (EQB); 2. Executive Quotient blocking (XQB); 3. Intelligence Quotient blocking (IQB); 4. Spiritual Quotient blocking (SQB);
5. Psyche coding (PC); 6. Bio coding (BC); 7. Actuarial coding (AC); 8. Environmental coding (EC).

These differ from Kachhara's nomenclature of these eight karmas but the aim is similar. Our system tries to unify the concept of the types of the eight karmas as well as describing their functional properties in a broad sense. For example, we can measure emotions, knowledge, executive ability and spiritual strength, but in contrast we don't know what the four embodiment factors are coded for the next life.

In a way Quotients reflects qualities of the Soul (Mardia's Book) as given in Table 1; the higher the life quotients, lower the karmic matter. In contrast, the first four karmic components reduce the Quotients by defiling, obstructing or obscuring the inherent elements of the Soul. The Codings are rules that define an individual,.

The abbreviations EQ and IQ are well-known, XQ and SQ are not. XQ is also known as virya, or the quality of energy, and the generator of the vibrations of body, mind and speech. SQ is controlled perception, and measures a person's spiritual level. It is high in a person with divine qualities, for example, it is the highest in Tirthankars. SQ increases as this karmic matter is at zero level.

The Genetic Coding is well-known, but not Bio Coding. The Jain interpretation of Bio Coding, however, goes well beyond mere DNA – it includes codes for heavenly beings and beings from hell, in addition to codes for earthly beings, both human and animal. . The Psyche Coding is a major part of "personality". The Environmental Coding is related to what is conducive or non-conducive for a Jiva. The Actuarial Coding is deemed to be the length of life span of a Jiva.

3. *Nemichandra's examples of the eight Karmas and our model*

Here now we give the traditional sequence ordering in Table 2 (using Roman numerals) and the mapping (NS21) between this and the standard sequence.

Table 3 gives examples used by Nemichandra to illustrate each of the eight karmas. We now demonstrate that they fit closely with our terminology, capturing the essential features and functions sequentially.

As one cannot get true knowledge of a deity on obscuring the sight by covering the face of the deity, in the same way the IQ is blocked. As the guard on duty prevents sight of the king, in the same way the perception of the SQ is blocked. Licking a sword coated with honey, first one gets a pleasant taste, but then the sword's edge cuts the tongue and causes pain. In the same way the psyche coding karma causes fluctuation between pleasure and pain. Just as one gets careless under the influence of alcohol, in the same way the emotional quotient blocking karma reduces the value/level of the EQ. In the way a chained person cannot move, so the actuarial coding karma restricts one to a particular existence. As the painter can paint/portray various pictures, in the same way bio coding karma gives a jiva the form of a human or hellish being. In the way the potter is able to make pots of different size and glaze (for different uses), the environmental coding karma creates a conducive or non-conducive environment for jiva. As the treasurer does not allow the king to execute his desire to give to charity, so the executive bonding karma prevents the execution of positive activity.

NS18-20 give explanation of this sequential order of their operation. For example, this gives blocking karma IQ the main role, followed by blocking karma SQ, Psyche Coding and blocking karma EQ; thus the Psyche Coding plays a role at a higher level than the blocking karma XQ. This follows common empirical observation, though blocking karma EQ is regarded as the leader of all karmas.

4. Concluding Remarks

As far as I know not much has happened on these lines, and we quote from the thesis of Wiley (2000) for some possible reasons:

“However, in spite of the importance of karma theory.... There seems to have been a reluctance to examine critically this vast and highly technical body of material, which most would characterize as one of the more tedious parts of what has been viewed historically to be a lackluster corpus of literature. “

On the other hand, modern thinkers have been trying to understand consciousness and we give the following quote of Gallen Strawson (Economist, 3-10-15).

‘It is beyond serious doubt that conscious experience is wholly a matter of brain activity, but this doesn’t show us that we don’t know what consciousness is. It shows us that we don’t know what matter is. The hard problem is the problem of matter. Matter is even more extraordinary than we thought, as physicists have been demonstrating for a long time.’

In this the search for matter alludes to something with properties akin to karmic matter though the field is still wide opens as far as scientists are concerned. Our new model gives some insight but further research is needed.

Acknowledgement: I wish to express my thanks to Kristi Wiley for her help.

Table 1: The eight karmic components (Mula karma-prakriti)

		Negative forces/karmic components		New nomenclature	Quotients / Elements of the Soul
Primary components (destructive or Ghatiya in this cycle) = Four Quotients	1	Bliss-defiling 1a = insight-deluding, 1b = conduct-deluding (with four Kashayas and nine subsidiary Kashayas)	Mohaniya	EQ blocking karma	Bliss
	2	Energy-obstructing	Antaraya	XQ blocking karma	Energy
	3	Knowledge-obscuring	Jnana-avaraniya	IQ blocking karma	Knowledge
	4	Perception-obscuring	Darsana-avaraniya	SQ blocking karma	Perception
Secondary components (non-destructive or aghatiya in this cycle) = Four Codes	5	Feeling-producing 5a = generator of pleasant feelings 5b = generator of unpleasant feelings)	Vedaniya	Psyche coding karma	
	6	Body-producing	Nama	Bio coding karma	
	7	Longevity-determining	Ayu	Actuarial coding karma	
	8	Environment-determining	Gotra	Environmental coding karma	

Table 2: Operational order of karmic components

G or Ghatiya = Primary and destructive. A or Aghatiya = Secondary and non-destructive. Roman numerals show traditional sequence; Hindu numerals in brackets show corresponding standard sequence

I (3)	Knowledge-obscuring (G)	Jnana-avaraniya	IQ blocking karma
II (4)	Perception-obscuring (G)	Darsana-avaraniya	SQ blocking karma
III (5)	Feeling-producing (A)	Vedaniya	Psyche coding karma
IV (1)	Bliss-defiling (G)	Mohaniya	EQ blocking karma
V (7)	Longevity-determining (A)	Ayu	Actuarial coding karma
VI (6)	Body-producing (A)	Nama	Bio coding karma
VII (8)	Environmental-determining (A)	Gotra	Environmental coding karma
VIII (2)	Energy-obstructing (G)	Antaraya	XQ blocking karma

Table 3 – The traditional order of the eight karmas and their examples

(Nemichandra's Stanza 21, Gommatasara, Karam-Kanda, Translation: J.L. Jaini)

I	IQ blocking karma	Jnana-avaraniya	The veil (which obscures the sight of the face)
II	SQ blocking karma	Darsana-avaraniya	The guard on duty (who prevents sight of the King)
III	Psyche coding karma	Vedaniya	The sword (coated with honey; licking it, the tongue is cut, 1 so that the pain is more than the pleasure)
IV	EQ blocking karma	Mohaniya	Wine (which intoxicates and deludes)
V	Actuarial coding karma	Ayu	The stocks (which confine one to a certain condition)
VI	Bio coding karma	Nama	The painter (who makes different kinds of portraits)
VII	Environmental coding karma	Gotra	The potter (who turns out tall and low pitchers)
VIII	XQ blocking karma	Antaraya	The treasurer (who obstructs the king in giving money in charity)

SHEDDING OF KARMA THROUGH MEDITATION: SCIENTIFIC EXPLANATION

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Modern science and technology have brought high standards of material comfort and welfare to people, particularly in the 'developed' countries. However, these material gains have not brought satisfaction or contentment. On the contrary, they seem to have created more greed, conflict, insecurity, unhappiness, anxiety, stress and illness. In the face of the failure of wealth and material comforts to deliver contentment, many are turning to yoga and meditation, an age-old Indian tradition, to regain their physical and mental health.

Yoga is a spiritual activity of mind, body, or speech aimed at achieving spiritual liberation or self-realisation. The Tattvartha Sutra defines meditation (dhyana) as concentration on a particular object, Jain scriptures describe four forms of meditation: 'sorrowful' (aarta) 'cruel' (raudra), 'virtuous' (dharma), and 'pure' (sukla). The first two are inauspicious, to be avoided and the last two auspicious ones are worth observing.

Auspicious meditation helps to promote both physical and spiritual health. For the benefit of the Jain Community, Jain Seers have interwoven the virtuous meditation into their daily activities. Rare persons are capable to practise pure meditation.

The living organism consists of the physical body: material constituents such as the sensory organs, brain, mind, sub-conscious mind (chitta), subtle luminous body, more subtle karmic body, and non-material conscious element: the soul. Jainism believes the universe consists of six substances; 'non-material thing' the soul and five 'material' things: the matter, medium of motion, medium of rest, space and time. It emphasises the knowledge of these six substances (sad draavyas) or Realities necessary to progress towards the path of spiritual liberation.

Substances change their forms (paryaya), states or modifications, but basically they are permanent and unchangeable. They can combine together without losing their separate identities or natures. Substances are endowed with 'coming into existence' (utpada), when they change their forms, decay or 'cease to exist' (vyaya), and permanence or 'continuous existence' (dhrauvya). All six substances are continuously active. To be active, the substance has to undergo modifications at every moment. It has to have a new mode, simultaneous disappearance of the old mode and at the same time permanency. These phenomena happens at every moment by the inherent, momentary, imperceptible and continuous wave motion found in the constituents of the substance itself, similar to the waves of the ocean.

There are two forms of stationary wave motion: common stationary wave motion found in all the substances: existence, functionability, knowability, individuality, spatiality and special stationary wave motion with a process of integration and disintegration, found only in the soul and in matter.

The pure soul and pure matter have special attributes(guna). Special attributes of the soul are: infinite faith, knowledge, bliss and energy; perfect conduct, eternality, non-materiality and the absence of lightness or heaviness. The special stationary wave motion of the soul provides it with consciousness, which remains invisible. Special attributes of matter are: touch, taste, colour and smell. The special stationary wave motion of matter provides it with sensibility, which makes it visible.

Stationary wave motion cycles occur in the substance countless times per moment, they establish vibrations in the parts (pradesas or paramaanus) of the substance, and cause disturbance when combined with other substance to produce differing modes. The modes are termed dravyavyanjanaparyaaya. The disturbance-carrying energy waves precipitate the attribute (guna) of the substance.

In all omniscient souls (embodied or disembodied) these two types of dravya and gunavyanjanaparyaaya function normally, as such pure souls are free from obscuring karma. They function abnormally in all worldly souls because of their karmic bondage. Likewise they function normally in elementary particles of matter and abnormally in all elementary particles within the molecules.

From the onset the relationship between soul and matter has been responsible for worldly existence. Apart from the gross organic body there is a subtle body which serves as a link between the soul and the material body, and which is only discarded at liberation. The disintegrating matter particles of this subtle body are replenished in a continuous succession, and thus the subtle body remains intact. It is the subtle body, which includes the karmic body that keeps the soul in worldly cycles.

The soul itself, a conscious entity, forms the nucleus of the organism. A contaminating field producing malevolence (the passions), derived from the karmic body, envelops it; this field not only circumscribes but also governs psychic activity. Transcendentally, the soul is the supreme 'ruler' but, in actuality, the influence of the passions is so powerful that the ruler is unable to act independently. The soul radiates pure psychic energy, but as the radiations have to pass through the domain of the karmic body and passions, they get distorted. During their passage, they interact with the passions and form a new field; in Jain scriptures this is the 'domain of the primal drive' (adhyavasaaya) i.e. the primal psychic expression. While the mental states due to cerebral activity are found only in vertebrates; the primal drive is present in every living organism including plants. Further, the radiation intermingles with the other subtle bodies, luminous and karmic, and the consequences are biochemical and bioelectrical.

The radiations of urges and impulses move between the subtle body and the gross body. These compelling drives, derived from the subtle body, activate the endocrine system when they reach the physical body, stimulating the latter to secrete and distribute chemical messengers (hormones) corresponding to the nature and intensity of the impulse. These hormones become the agents for executing the primal drives in the physical body.

The chemical messengers secreted by the endocrine glands are carried by the bloodstream and interact with the brain and the nervous system; together they constitute an integral co-ordinating system, which modern medicine calls the neuro-endocrine system. The primal drives depend upon the karmic components and create the psychic mind with appropriate knowledge and perception to radiate image across the field of liaison between the subtle and the gross bodies. The physical mind acts as a vehicle for the flow of emotions, which stimulates the endocrine and nervous systems, creating thought, speech and bodily activities.

How meditation works

Relaxation and bodily detachment are the prerequisites of meditation. The first signs that one is benefiting from virtuous meditation are control over the senses, fine health, kindness, an auspicious aura, bliss and clarity of voice. It leads directly to heavenly pleasures and indirectly to liberation through merit, stopping the influx of karma and the shedding of previously acquired karma.

Through its continuous vibrations, the pure soul radiates its characteristics: infinite bliss, knowledge, perception and energy. The vibrations that have to pass through the cloud of karmic body become distorted and produce malevolent field of passions and primal drives. Although this distorted radiation sheds karmic particles through its natural characteristic of disintegration, it not only influences the activities of the gross body, mind and speech, but also is influenced by the process of integration of karmic particles attracted by the external environment and the passions generated by the shaded karmic particles. When all bodily activities are halted through bodily detachment and meditation, the distorted radiation of karmic body becomes ineffective. As a result one experiences mental equilibrium and blissfulness. As it is ineffective, the karmic body continues transmitting vibrations with greater speed, resulting in shedding of more karmic particles and the process of disintegration or shedding karmic particles carries on till all karmic particles are shed..

When one gets rid of karmic body, spiritual liberation of the soul is attained to manifest its true characteristics. Thus the meditation aids the soul in shedding the karmic body and achieving self-realisation and also in early stages to promote both physical and spiritual health.

Meditational practices and their beneficial effects have been well known in India for thousands of years. Recently these practices have become widely popular in the West. In India many institutions employ meditation to assist the cure of illnesses and work to establish the scientific basis of meditation.

JAINISM, BUSINESS ETHICS AND ENLIGHTENED LEADERSHIP

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In the past decade, the world has experienced dramatic economic upheaval. The economic “tsunami” that swept through the world’s financial markets highlighted weaknesses in the global banking system, revealing this bedrock of the modern marketplace to be more fragile than most suspected. Problems arose when widespread risk management processes failed. The crisis then spread quickly because of the very quality that otherwise lends strength to this network: the interconnectedness of these financial institutions. While the meltdown was not merely the result of personal ethical lapses – other factors also played a part, including systemic incentives and complicated, sometimes poorly understood financial tools – there were too many instances where short-term focus on material gain created an environment conducive to unsustainable, and unenlightened, leadership practices.

When reflecting on the crisis – or on business ethics overall – from a Jainist perspective, it becomes clear that a number of our spiritual tenets could have helped prevent these market excesses.

In these challenging times, the core Jain principles, such as non-violence (ahimsa), non-absolutism (anekanta), and non-possessiveness (aparigraha), can serve as a valuable framework for each of us, and for our leaders whose actions touch millions of lives. Indeed, the world seeks enlightened leadership to address a range of global issues: economic, environmental, political and others. Because the stakes are so high, it is crucial that we each do our part to help cultivate an enlightened mind through the “three jewels” (ratnatraya) of proper faith (samyag-darsan), proper knowledge (samyak-jnan) and proper conduct (samyag-caritra).

Our challenges are many, but rather than regard these problems as evils to be ignored or avoided, we can view them as opportunities to make the right choices and contribute our talent and goodwill to create solutions. It is by courageously meeting these challenges that we progress as individuals, while also offering a significant gift to the world. For political leaders, this perspective is essential since it can result in an honest engagement with social problems. From this engagement can come beneficial policy and governance that helps others achieve their full potential. For leaders in business or education, this engagement can create material and intellectual prosperity, as well as innovations in science and technology that have broad implications for well-being. And for each of us, working in whatever way our path directs, our efforts to make a positive difference lets us cultivate merit that transforms us as human beings so that we can be our best.

When we consider the problems facing us, usually the causes have their roots in ignorance. When we reduce the obvious “sparks” of anger, greed, fear, small-mindedness to their source, we find that ignorance is the fuel for these impulses. And ignorance, then, is an inability to understand the true nature of reality and our responsibility to ourselves, to our neighbors and to the world. It’s bad enough when an everyday citizen displays this ignorance, but much worse when we encounter leaders who, in caring more for their own narrow interests or for the interests of a few stakeholders, use their power to betray the needs of the larger society.

Jainism, however, offers the resources and the path to reflect on what matters most and then to renew ourselves as we set upon the journey of making ourselves, and the world, better.

One helpful core Jain principle to guide leaders is *anekanta*, or respect for diverse views. While yesterday’s “command-and-control” leadership model used authoritarian tactics to manage people, the best leaders today understand the importance of seeking a multiplicity of perspectives in a world moving ever faster and growing more complex. Because each person operates with limited knowledge, we all see the world with less-than-perfect insight. By benefiting from others’ counsel, leaders not only increase the odds of making wise, holistic decisions, but they also create environments founded upon compassion and tolerance, since *anekanta* encourages us to see the world through the eyes of others too. In a way, this principle is the very soul of leadership. Great leaders are those who can connect with others and who inspire caring, inclusive cultures where people thrive in collaborative pursuit of organizational goals. Jainism helps a leader achieve this objective, creating value for everyone throughout the organization and beyond, into the broader community.

Clearly, this respect for diversity holds promise for many areas of modern life, and even could help resolve issues of political or religious strife. Before uttering a harsh word, even in the face of an adversary, we have the choice to pause and reflect and to imagine how that other person sees things. This may provide a platform for fruitful dialogue. On the other hand, the poorly chosen phrase, spoken in anger, can result in a lifetime of regret. Through its emphasis on “right thought,” “right speech” and “right action,” Jainism encourages leaders to look beyond the immediate or the material for ways to make an enduring, significant contribution. Of course, Jain mendicants take a more austere path, but for the layperson (*shravaka*), the challenge is to remain engaged with the world even while seeing past the mundane illusions that can hinder our spiritual progress.

If one follows the Jain faith, it would seem crucial to conduct one’s business affairs scrupulously, being as careful as some monks and nuns are, when walking, to sweep the ground before them to avoid crushing insects on the path.

Taking an even broader view, Jainism offers us a transcendent perspective on the very nature of value. While the market concerns itself with transactional value and unvarnished materialism, Jain tradition reminds us to continue our more important, long-term journey to attain *moksha*. Our ethical practice should support this ultimate goal, rather than ensnare us in mundane commerce. The Jain’s relationship to the market, it seems, should be to regard the accumulation of material wealth as being spiritually helpful so long as this wealth is deployed in ways that create widespread social benefit.

Business, like all human relationships, has the potential to create material and spiritual prosperity, but only if we pursue our work with a compassionate heart, the wellspring of all ethics.

RELEVANCE OF JAIN ETHICS IN PROMOTING PEACE

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Principle of Jaina Ethics

Ethical discipline is an important aspect of Jainism. It has a twofold objective i.e. spiritual purification and making an individual a worthy social being. The ethical discipline is well graded in Jainism to suit an individual. It is prescribed according to his will to carry it out sincerely, without any negligence either in its understanding or in its practice. *Jaina ethics is based neither on oneness of life as in Vedanta, nor on momentary nature of soul as in Buddhism. It is based on equality of life. Basically all souls are equal.* The social organizations as anticipated by Jaina ethics, do not make any distinction on the basis of caste, creed or colour.

The metaphysical Reality or Truth of logical coherence will remain merely a theoretical possibility unless it is translated into good of life through right-living. In fact, the Reality or Truth is supra-logical and can be better realized by living it practically than by speculating on it intellectually. Indian philosophy in general and Jainism in particular, therefore, ascribes the supreme place of all the branches of philosophy to ethics. The foundation of the ethical discipline is the doctrine of Ahimsa. If we correctly comprehend it, it will be seen that it is the recognition of the inherent right of an individual to live, and is generally expressed that every one wants to live and no body likes to die. No one has any right to destroy or harm any other living being. Viewed as such Ahimsa is the fundamental law of civilized life and rational living, and thus forms the basis of all moral instructions in Jainism.

Jaina Ethics for Present Day Problems of Global Civilization.

Syādvāda, which has become almost a synonym for Jainism, teaches us that the same truth could be differently expressed without involving us in any real contradiction.

Jainism has always kept the problems of global civilization in view, and shown the utility of Jaina ethical concepts for humanity in general. Jaina ācāryas have always stood for the dignity of man, and equality of all, advocated the birth-right of independence of all individuals and have preached the elevated ideal of non-violence. When there is realization of the true nature of the self and when one is completely absorbed in the bliss of self-realisation, the observance of all the moral rules become spontaneous, coming from within and not being imposed from out. No ethical study could be useful unless it provides an answer to the problems with which our lives are beset. The problems of global civilization arise out of various factors, which can be classified under the following broad categories:

(i) *Selfishness*

(ii) *Ignorance*

(iii) *Scarcity*

(iv) *Injustice*

(i)Selfishness–Selfishness lies at the root of all global problems. All immoral practices of global civilization arise out of selfish nature of man. Selfishness can be overcome by realizing the true nature of the soul.

According to Advaita Vedānta, the individual soul (ātmā) is identical with the universal soul (Brāhman). This broadens our outlook and lifts us above selfishness. Buddhism, on the other hand, asks us not only to destroy our ego but also to believe that the soul, for which we struggle so much, is a non-entity. Both of these views represent idealism, where as Jainism is a realistic system. It propounds that the soul is a real, permanent entity and that each soul has a distinct existence. What Jainism lays down is neither a belief in the unity of life nor in the non-entity of the soul, but a distinction between the soul (jiva) and the non-soul (ajiva) and a victory over passions, which are based on a false conception of the identity of the two.

The above ethical idea, which Jainism gave with reference to individual Sadhana, could be interpreted afresh in the context of modern day global problems to suggest that all nations of globe could also maintain their individuality, and yet live in peace and harmony if negative ideas of anger, pride, hypocrisy and greed could be renounced.

(ii) Ignorance–In spite of spread of education in modern times, the problems of life seem to multiply rather than decrease. Of what use is knowledge, which binds us rather than liberate? Jainism teaches us that all knowledge is relative and co-related. Let us be receptive to every thought. One sided attitude only complicates global problems rather than solve them. It does not give us any solution to such ethical questions as 'determinism' and 'freedom of will'. Non-absolutism shows us the path of synthesis among fate and human effort; faith, knowledge and action; and supra-moral plane of life and practical code of morality. *The answer of Jainism to the problem of knowledge is represented in its doctrine of non-absolutism.* Much of misunderstanding between one nation and the other of globe could be solved if we could adopt the attitude of non-absolutism on political problems.

(iii) Scarcity–*"The greater the possessions, the greater the happiness" is the motto of many. Jainism and yoga teach us quite the opposite : "the lesser the possessions, the greater the happiness".* Happiness comes from what we are and not from what we possess. We should realize the blissful nature of the soul, becomes free and be not the slaves of worldly objects. This puts an end to the struggle for wealth and other possessions *The answer of Jainism to the problem of scarcity is : Be not attached to the worldly objects; be not their slaves; turn to the self within ; from within comes the happiness.* It is a state of inner peace and harmony. This does not imply a life of inertia, but a state of dynamic equilibrium of contentment and action.

(iv) Injustice–The bigger fish swallows the smaller ones. The mighty and the aggressive prosper; the humble and the meek suffer. The result is the rule of jungle. In the sphere of

politics we kill and crush in the name of caste, creed and colour. The result is war and bloodshed. Jainism brings us hope of justice in the form of doctrine of karma. *As we sow, so shall we reap*. All lives are equal and the stronger have no right to do any injustice to the weaker and if they do, they don't harm anybody but themselves. We should meet on injustice not with force but with forbearance. *Violence begets violence, enmity leads to enmity : but if we don't retaliate it, subsides*. In fact, the haves should spare more and more for others rather than becoming greedy and increase their possessions. This principle of cast system in our society that the Brahmins should live a life of simplicity, austerity, less and less for themselves and more and more for others, sharing with love are all brought to practice in Jainism. Jainism has also opposed from the beginning to any social injustice arising out of wrong notions of casteism or racialism. The creed of non-violence, if applied to the global problems, has the potentiality of wiping out the institution of war from the surface of global civilization. *Thus, the answer of Jainism to the problem of injustice is fourfold : doctrine of karma, equality of life, non-violence and equanimity*.

Non-violence and its Role in Peace and Harmony of Global Civilization

It is a very well known fact that the man of today is living in a world which is much more complex than that of an ancient or mediaeval man. Independence among nations has increased and this has brought an ever widening and deepening impact on the economic, intellectual and social conditions of our existence. Jain ethics has both the eyes of the individual as well as the social betterment. Social dependence cannot rob individual freedom to achieve spiritual individuality. Thus, the individual and society influence each other. The individual moulds and is molded by society.

Ahimsa with the Jain doctrine of nayavada can very well serve as the supreme principle of morality. *Hence there is nothing in the world or even out of it that can be called good except the principle of Ahimsa of all beings as the manifestation of divine love for all creation*. The establishment of international organization and the tendency towards disarmament are the symptoms of the inefficacy of force, war and violence to act as arbiters among international disputes. "Thus the principle of non-violence really implies that life should be elevated altogether from the plane of force to that of reason, persuasion, accommodation, tolerance and mutual service." The virtues of non-violence and Aparigraha are capable of establishing universal peace. Jain ethics believe, *Ahimsa means universal love*. Non-violence cannot be materialized in the life of the country without extirpating the passion of greed. The *root cause of violence is material goods*. If the importance of the virtue of Aparigraha is understood at the international level, the attitude of non-violence will synchronize.

Moral Ideals of Jain Ethics

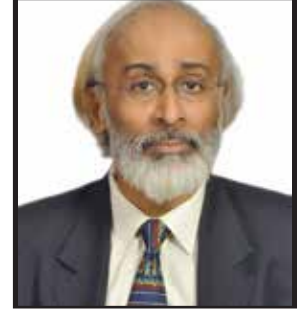
The attainment of bliss is the objective of Jain ethics to be aimed at. Brahma is the delight of life, mind, the fullness of peace and eternity. The Taittiriyaopaniad compares Brahmanic bliss with other types of physical blisses and after enumerating a number of blisses enjoyed by men, gods etc. It may be pointed out here that the spiritual bliss is the highest bliss and no physical bliss can stand comparison with it. Jain ethical ideal may be expressed in terms of action. The Isopanisad tells us that "a man should try to spend his life span of a hundred years only in the constant performance of actions, but in detachment. It is, thus, only that we can hope not to get contaminated by actions.

According to Bhagavad Gita, karma-yoga or the life of activism constitutes the supreme end to be aimed at. It is, no doubt, true that we can find passages in the Gita where Jnana is superior to karma, where karma is superior to Jnana and where they are at par. But the law of body, the law of society and the law of universe indicate and even vindicate activism. The Gita tells us that the actions should be performed after brushing aside all attachment to and the desire for the fruit Jain asceticism embraces social goodness within its fold along with individual goodness. The Jain concept of Anuvratas is a means between asceticism and sensualism. It completely makes possible the achievement of social goodness and brings about individual goodness at social level. Jainism looks at distorted casteism featured by selfishness with an eye of contempt. The show of superiority of one caste over the other due to wrong notions of selfishness, ignorance, lack of love for one another, non recognition of divinity in every one, is foreign to Jain ethics. So the present deterioration of Casteism is an evil and is based on the passions of hatred and pride. *There is only one caste, namely manhood.* Merit of selflessness is the basis of caste and the arrogant pride of caste destroys right living. If the modern democratic set up is to be made successful, the wrong notions of casteism must be abolished.

MANY, ONE AND NONE – REFLECTIONS ON SCIENCE AND JAINA PHILOSOPHY IN THE INDIAN TRADITIONS

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It is indeed a great honour for CPFS to be associated with the International Conference on Science and Jaina Philosophy, as the knowledge partner.

In the echo chamber that the traditions of learning in India represented, there were from the very beginning a number of voices in perpetual contention. The big questions concerning the nature of reality, the fundamental constituents of reality, the knowledge of reality accessible to sentient beings, the nature of sentience, the valid means that lead to knowledge of the real, the destiny of human and other beings, the nature of right conduct that led to the fulfillment of our destiny, were relentlessly debated over millennia. The traditions ranged over the whole philosophical spectrum encompassing ontology, epistemology, logic, ethics and soteriology.

If Plato could locate the origins of Greek philosophy in the questioning of the gods of Homer who displayed an all-too-human capriciousness, the origins of philosophy in India must be located as I have long maintained, in the open and unconstrained debate that took place between rival viewpoints from the very beginning. The so-called 'orthodox' traditions which owed allegiance to the Vedas were challenged by 'heterodox' traditions, creating a public sphere in which rival contenders debated questions and the canons of argument were developed to distinguish between valid arguments and fallacies. The freedom to speculate and argue with one another led traditions to ramify endlessly, both internally and externally, leading to a rich shared vocabulary and treasure trove of ideas which remain, in several areas, fecund to this day.

While Jaina philosophy became the standard-bearer of a thorough-going pluralism (anekāntavāda) with a dualism of *ajva* and *jva*, Vedānta was noted for its emphasis on monism with just one ātman which was the same as Brahman the essence of reality (advaita), the Bauddha schools maintained that there was no atman (anātman). It is in the incessant jousts between philosophers of such varied persuasions that philosophy in India became a highly professional undertaking, requiring the study of opposing views which had to be stated fairly and accurately as the *pūrvapakṣa* before it was methodically taken apart in debate. Philosophical writing in India was not required to have literary merit and when it did, no special virtue was attributed on that account. The format followed was to state the problem, then the solutions suggested by the *pūrvapakṣins*, followed by a rebuttal, all in the most economical prose, much like modern scientific texts in which an impersonal style is adopted to suggest an objectivity in which the author's individuality is effaced. The *apauruṣeyatva* (impersonality) claimed for the Vedas was perhaps a forerunner of this trope. In the light of the counterposition of reason and revelation that characterizes Western thought and which resulted in the persecution of the pioneers of the scientific revolution, it is perhaps worth noting that the Vedas were regarded as *śruti* which refers to what is heard by the novitiate directly from the

preceptor, thus making it the original and unvarnished narrative, unmediated by commentaries.

The Jaina and Bauddha canons followed much the same demarcation between what was originally imparted by preceptors to their pupils, which subsequently became the object of commentaries, elucidations and glosses. The intensification of debates occurred when the Vaidikas, Jainas, Bauddhas, Ājivikas and Bārhaspatyas vied to establish their positions as valid based on argument (tarka), not the ipse dixit of preceptors. Remarkably these schools also taught astronomy, mathematics, medicine and even statecraft, all of which benefited from the rules of tarka-sāstra which commanded universal acceptance. From antiquity down to recent times, the great centres of civilization had a flourishing trade in ideas as much as it did in commercial goods. The ground was prepared for the sixteenth century scientific revolution by Indian mathematics with its use of zero and the decimal place value system which made arithmetic child's play. The geometrical framework of the Greeks was leavened by the arithmetic, algebra and trigonometry that were carried by the Arabs from India to the West. A similar claim can be plausibly made for the 20th century scientific revolutions.

Few civilizations have shown the ability to exchange ideas freely and not feel threatened by scientific advances. In the Indian case, this feature was reinforced by the distinction between parā vidya and aparā vidya, transcendent knowledge and its everyday counterpart, adumbrated in the Mundāka Upaniṣad. The latter realm included even the four Vedas and six Vedāngas, which were regarded as propaedeutic, stepping stones to the knowledge of reality, which was virtually on par with advances in worldly knowledge in that it did not threaten transcendent knowledge that had sanctity and was linked both to theory and to meditative practices. The other-worldly and the this-worldly – the latter including the canonical texts as well – were placed in distinct realms. Modern science thus posed no threat and was eagerly embraced by our thinkers.

The power and prestige of modern science is such that even the most hallowed of ancient traditions seek to engage with it and even to enlist its support which is a sure sign that the victory of science is complete. From scientific studies of meditative states which commenced half a century ago, to ideas that overlap with modern science, the traditions of transcendence choose science as the universal yardstick of knowledge. This raises a plethora of questions. Science is notoriously fickle, yesterday's heresy could become today's dogma. It is knowledge based on the human senses and its amplification via instruments, which allows us to probe microscopic as well as macroscopic scales. It is irreverent and the community of seekers recognizes no rank or authority. A distinction between supersensory and sensory knowledge holds in science as homologues of instrumentally enhanced and unaided human cognition, which is not, however, adequate for traditions of transcendence, though I must confess I did at times find the temptation to hold such a view irresistible. Even more telling is the fact that the idea of alternatives to modern science sought in ancient traditions is also in thrall to science as we know it today. That is not meant to be a criticism of the traditions nor of modern science.

The presiding genius of the 17th century scientific revolution, the incomparable Isaac Newton, was characterized by Keynes as the 'last of the great Magi'. Newton spent more time and energy on biblical prophecy, Judaeo-Christian theology and alchemy than in mathematical physics, making him a transitional figure between the old and the new philosophies of nature. Indeed Newton was an arcadian who thought that the ancients knew everything and that discoveries such as his must be in the Biblical

texts if only they could be properly deciphered, a task he felt compelled to do himself. To engage in dialogue with modern science, ancient wisdom must come to terms with this prominent tendency.

Even as our hallowed traditions have perforce to adapt to the modern world, it is not a one-way street. I recall an anecdote which an Indian student of Wittgenstein at Cambridge, K.J. Shah (whose Wittgenstein lecture notes have been published) narrated to me. Once as they were on a walk together, Wittgenstein stopped and turned round to ask Shah whether he was Muslim, which Shah denied. Wittgenstein then asked if he was Hindu, to which too his student gave the same answer. A perplexed Wittgenstein went on to ask him what his faith was, upon which he said he was Jain. Wittgenstein asked Shah what the Jain religion was about and the latter gave a somewhat distanced account of Jain beliefs, to which Wittgenstein reacted: "so you think you are cleverer than your ancestors, do you?" This conversation had a salutary effect on Shah who became one of India's leading philosophers in his time, as he began to explore our philosophical legacy on returning to India.

What can science learn from Jaina thought? One might plausibly argue that science as a body of organized reasoning that forever questions itself is the polar opposite of spiritual schools which exalt their scriptures to the level of unquestionable truth. Let me side-step the question of meditative practices and their effects on the human mind as that is a field that has been ploughed for quite a long time, indeed for at least half a century. My concern is with ideas and I ask whether modern science makes sense when viewed through the prism of Jaina philosophy. It is generally agreed that within Western philosophy, quantum theory is highly unconventional. Indeed, physicists like Bohr maintained that quantum theory makes great demands on human understanding and sought parallels in Eastern philosophy.

The Jaina concept of 'avaktauya' or 'inexpressible' which applies to statements in addition to the standard truth values, true and false, has parallels in quantum theory. In a double-slit experiment conducted with a weak beam of light that emits one photon at a time, one can either observe interference or establish through which slit the photon arrived at the screen. The concepts of a discrete quantum particle and that of an extended wave are distinctly at odds with one another. When wave-like properties are manifested, we are unable to say anything about the slit through which the photon passed. One is then led to the conclusion that it is avaktauya.

The dualism of aj va and j va mirrors the Cartesian divide which was essential for the scientific revolution which was able to treat the former as a closed causal system subject to natural law. The aj va consisted of pudgala (matter), dharma (dynamics) and adharma (statics), ākāśa (space) and kāla (time). Here, instead of translating dharma as the 'principle of motion' and adharma as the 'principle of rest' as many scholars do, I have substituted 'dynamics' and 'statics' respectively, which, while being accurate, resonate with the ideas of modern physics formulated in the scientific revolution. What is striking in this context is that j va or soul is an entity to which none of the qualifiers of ajiva apply. Hence j va is not a spatiotemporal entity nor is it subject to the causal order of dynamics or statics.

If the realms of the aj va and j va are so sharply differentiated, how do the two interact? This is a problem which all dualist ontologies, the Cartesian included, are confronted with. Descartes speculated on the possible locus of the interaction which he thought was the

pineal gland, without clarifying how such an interaction is possible at all. It was necessary in the Cartesian account for there to be such a connection in order to explain free will, which contrasted with the clockwork universe of matter. In the Jaina case, soteriology depends on removing through renunciation, defilements that obscure the j u a, raising the parallel problem of how two entirely distinct orders of reality could impact one another. In view of the non-spatiotemporal and acausal character of the j u a, the Advaitin could argue that the ātman (which is the equivalent of j u a) is in fact one. The Nyāya school suggests that the unity is in the genus or jāti, much as the Jainas suggest that the unity lies in all constituents sharing the property of existence. Bauddha schools avidly filled the gap left by the Buddha's silence about matters metaphysical. Mādhyamika philosophers like Nāgārjuna suggested that all conceptions are bedeviled by contradictions and the anātman doctrine stemmed from the apparent impossibility of describing the concept of the ātman consistently. The śūnyavāda was not nihilism, but an assertion that taken in isolation, the component entities posited by the theory were not in themselves part of reality, they partook of reality in a relational sense.

The shared set of concepts thus permitted a range of ontologies, from those populated by many entities, to one and to none. All three traditions began with a set of works accepted as the source of revelation, usually in groups of three. Alongside a logic of debate, tarka, philosophers employed the pramāna framework in which the sources of knowledge were laid out. While the sceptical Lokāyata philosophers accepted perception and disdained inference, the Jainas looked upon perception itself as a species of inferential knowledge. There was resistance to the use solely of tarka without authoritative starting points, such as the āgamas. The argument was the apratitiṣṭhatvam or instability of tarka. This epistemological practice is akin to accepting a set of axioms from which truths are deduced through the rules of tarka. This is true of science as well, with the exception that the instability induced by reason is accepted as a legitimate route to overthrowing old theories in the light of new evidence and theory, not always without resistance.

At the end of the 20th century, the first quarter of which saw the twin revolutions of relativity and quantum theory, a new revolution arose in cosmology, with the discovery that the expansion of the universe, far from slowing down as expected, had in fact gone into overdrive some 5 billion years ago, suggesting the existence of dark energy . Studies of galactic rotation curves showed that there had to be dark matter which interacted gravitationally. The matter of which the visible universe is made, turned out to be some 5% of the energy content of the universe, which is dominated by dark energy at 75%. No cosmological theory had anticipated such a profound revision in the understanding of our universe, if it had, it would have been dismissed as fanciful. Physicists in the 21st century have a huge challenge ahead of them and prima facie it is not clear what traditional philosophies can do to mitigate their plight. The epistemological tolerance of the Jaina schools could be an asset, were it to discourage physicists from holding excessively rigid views. As J.B.S. Haldane remarked, "the universe is not only queerer than we suppose, it is queerer than we can suppose."

SCIENCE AND SPIRITUALITY: COMPLIMENTARY PARTNERS

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Are science and spirituality distinct realms? The answer to this debate rests on two broad questions, our perception of reality and the world view based on this perception. The perception of reality is either subjective or objective depending on the individual capacity to perceive the world and the belief system one holds. It is the subjectivity of perception that introduces diversity and doubts about the reality and gives rise to different belief systems.

The cognitions are of two kinds direct and indirect. The indirect cognitions are made through senses and mind and the direct cognitions are made by the soul (consciousness) by passing the mind and senses. Normal individuals make indirect cognitions, the direct cognitions are possible only when the mind has been silenced and noise (by the mind) has been reduced to a level so as to enable one to perceive his intuition. In indirect cognitions the perceptions are made with respect to the frame of mind and are subjective. The subjective perceptions realize the relative truth and the absolute truths are not revealed. The direct perceptions are also subject to purity of consciousness; it is only the pure soul that perceives the absolute truth. For a pure soul there are no options, no decisions to be made, the absolute truth is experienced without application of logic, intellect and scientific theories.

A reality is supposed to have infinite aspects of its existence and the knowledge of all aspects is essential to know the truth. Indirect cognitions suffering the limitations of mind perceive only a few aspects and therefore such knowledge may reveal some true aspects of the reality but it is essentially incomplete. It may so happen that we discover different aspects of the same reality at different times that are contradictory but true in their own ways, for instance the classical and quantum views of matter. Such fragmented views though correct do not describe complete truth and are likely to introduce some kind of differences regarding the nature of reality.

All principles in Jainism are based on the teachings of the Omniscient Mahavira. Mahavira said that both matter and soul (consciousness) are fundamental and distinct substances in nature, one cannot convert into another. Consciousness is the exclusive property of soul; matter in no case can have or produce consciousness. The consciousness of soul manifests chiefly as power of knowing and perceiving. Cognitions are made by the soul and not by the body or brain. No process of brain at any level, micro or macro, can produce consciousness, all processes in the body are the requirement of the body functions.

Science has done a commendable job in exploring the body functions but in the absence of insight into the reality the brain processes are sometimes mistaken to belong to the realm of consciousness. Many scientists, psychologists and philosophers have rightly questioned this supposition which does not have a sound scientific and logical support. Consciousness can never be explored by scientific means, it can only be experienced. Our experiences are generally subjective, and therefore uncertain, as said before, which prompts the investigators to deny the existence of consciousness as a distinct entity.

All organisms, small and big, possess soul; no life is possible without soul. The consciousness of organisms is not a part of a universal consciousness, as supposed by some philosophies; each individual consciousness follows the law of causality, which is not possible if universal consciousness is assumed. The law of causality is a universal law that applies equally well to all existences animate or inanimate. The soul has existed since the beginning less past and has not been created by any super power. Since soul, and also paramanu, the smallest indivisible constituent of matter, is neither created nor destroyed. The total number of souls, and paramanus, in the cosmos is a fixed quantity that runs in infinity. The form of souls changes according to the law of causality; all organisms are in a different state of development of consciousness. There exists no super power like God the creator, the cosmos is governed by the laws, known or unknown, which are applicable to animate and inanimate objects. Modern science has been able to discover the laws for the physical order of existence at macro and micro level. But this enquiry is not yet complete and there are many more aspects of nature still unknown to science. For example, matter also exists in subtle form, much smaller than the particles known today, and the laws for this kind of matter are likely to be different from the known laws, such as super luminal speed, anti-gravity property, etc. Study of such matter may need a radically different approach from that employed now.

Our existence is at three levels soul, subtle and gross bodies. The gross body is being studied by science but the subtle body is still unknown to it. The functions of the gross body cannot be understood fully without knowing the subtle body and its interactions with the gross body. The mind is a part of the subtle body and is different from the brain. The subtle mind is yet unknown to present day science and needs a different approach for its study that may involve a mix of scientific methods and conscious experiences. The subtle body is likely to have the property of coherence that enables storage of vast amount of information and very fast processing of information typical of life processes. The mind is intimately linked to the brain and the two are supposed to interact through radiations. It means that the brain must also have the capability to receive and transmit signals from the mind. The study of mind-brain connection is likely to reveal many secrets of nature and also lead to the recognition of soul as distinct entity by science. I feel that there is a great scope for scientists, psychologists and philosophers to work together and put up a joint effort to uncover the mysteries of nature, particularly relating to life.

The spiritual leaders like Mahavira knew the reality, subtle, micro and macro, in all its aspects by their spiritual powers. They did not need any scientific instrument; it was the power of their soul that enabled them to perceive all details of nature in its true and objective form. Their teachings and the description of the cosmos available today is qualitative but is sufficient for us to realize the distinct features, the diversity and the qualities of the constituents of nature, particularly at subtle level. The science has explored the micro and macro states of physical nature, and therefore the spiritual science and modern science together provide us means for knowing the nature to its fullest extent. Spirituality and science are complimentary, and not opposing, partners. Science explores a part of reality experimentally, theoretically and quantitatively and spirituality knows the whole range of reality intuitively.

JAINISM: LOOKING BEYOND SCIENTIFIC TECHNIQUES

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When we look at religious scriptures, a question which always comes to mind is whether they represent mental deductions based on observations of nature and logic, made by some wise men and women? Those men and women, who pondered over fundamental questions related to life and universe. Or do they represent, as claimed by their staunch followers, some revelations or Extra-Sensory realizations or the 'word of the Lord'. This is true of all the holy books of various religions, Christianity, Islam, Hinduism, Buddhism and Jainism. They contain many statements which are controversial and contradictory to scientific observations and defy logic so that a rational mind would favour the first alternative.

But, in case they represent the 'Ultimate Truth', beyond mind and logic, which science has not yet been able to explore, some proof must exist to support such a belief. It is said that Jain scriptures are compilations of the teachings of the Enlightened, Omniscient Tirthankaras and wherever they contradict science, the faithfuls take recourse to the argument that science is always improving upon its theories, as more observations are made, and one day would come to the same conclusion. This to be true, the first evidence would be that one should find many truths in the scriptures, written millennia ago, when scientific techniques were not developed and which science has discovered only recently. A survey through the scriptures show many such examples. The most outstanding case is the statement in Jaina scriptures that plants are endowed with life and consciousness; they feel pleasure and pain in the same way as other living beings do. This is clearly stated in Gomattisar, Bhagawati sutra, Acharangasutra and many other texts, compiled over 1500 years ago and attributed to pre-Mahavira era, before 2600 years ago. This evidence that plants are living entities, was discovered by Jagadish Chandra Bose only during the past century. Biologists and physicists are still trying to quantify the fine points of the sensitivity of plants to music, sound, affection and cruelty. Certainly, to realise that plants feel pain and pleasure, without any experimental facility, requires some supernatural insight. This fact is deeply imbibed in the conduct of all the Jain followers. Another glaring example is existence of microscopic life in air, water and earth etc. propounded in ancient Jain texts written millennia ago which was only recently realised by scientists, after the advent of a compound optical microscope by Zacharias Jansen in 1590.

On theoretical side, Law of conservation was well documented in Jaina texts where it is clearly stated that the basic 'substances' (dravyas) can neither be created nor destroyed, only their modes can be, which are in a continuous state of flux, origination, persistence and destruction. This has also led to the concept of symmetry in Jain philosophy.

Causality, i.e. cause and effect relationship, is the foundation of all processes in nature, according to Jainism as well as science. Whereas causality is applied only to matter in scientific theories, the scope of causality extends to the living beings in the famous Jaina principle of Karmavad and there its scope is much wider. These theories could be attributed to mental deductions except for the fact that they are discussed in such minute details in Karma granthas that mental deductions can not arrive at, but they require some supra-mental faculties. For example, it is clearly stated that karmas do not bind when emotions (like greed, attachment, anger, pride etc. termed kashayas) are absent. The brain scientists have found evidence for secretion or inhibition of chemicals due to emotions; chemicals like Serotonin, Epinephrine, Adrenaline, Testosterone; Cortisol, Oxytocin etc., which affect the DNA, are involved in various emotions, it has been only recently found. Neurologists have recently also identified parts of brain involved in emotions, active during meditation, for example, and happy and unhappy chemicals which are produced during different states of mind which are now being used as medicines. In absence of emotions, these secretions are inhibited, proving the Kashaya theory of Jainism.

Much has been said about the microcosm, the subtle particles of which all matter is made up of. The modes of vibrations and motion of the ultimate atom, the Paramanu, is clearly stated in Agamas, in which the concept of quantum physics is ingrained, which was only conceived recently after it was developed during the last century. It is amazing that Mahavira correctly and clearly described the properties of paramanu, which is only possible, not by mental deductions but by a divine vision by which one can see these processes operating. There is also mention of mass less particles about which scientists learnt only during the past century. True, that everything is not stated in modern scientific terminology but the concepts are profound and relevant. Take for example the property of paramanu, by which one to innumerable or infinite paramanus occupy only one space unit, defined as pradesha. This behaviour is the same as those of bosons, discovered by Satyendra Nath Bose during the last century. We can quote many such examples, which preempt the concepts of modern physics.

A very profound concept of Jainism is Syadvad, propounded by Mahavira, which defines limitation of sensory knowledge and the indescribability of certain states included in the 'Seven modes of predication (Saptabhengi)'. Limitation of knowledge has been debated by mathematicians after Godel proposed his Incompleteness theorems during the last century. The principle of determinism in physics is the same as Krambaddha paryaya of Jainism; only that this law extends to the living, besides the material universe.

Concepts of various types of infinities were developed by Jaina mathematicians over a thousand years ago. The concept of Sunyavad developed by Buddhist scholars over 1500 years ago maybe akin to Quantum vacuum from which, according to Modern science, even the Universe can emerge. Mutual interaction of the six basic dravyas i.e. time with space, time with soul, time with matter, time with dharmastikaya etc. is mentioned in the Agamas which can be conceived as space-time continuum, Transmigration and Becoming of Jiva; origination, persistence and destruction of matter; origin of motion etc. respectively.

In astronomy, Krishnaraya (black body) and Tamaskaya (dark body) and their many varieties are mentioned in Jaina texts which may be likened to blackholes, conceived and studied only during the past few decades; There is a mention of stars brighter than a million suns in Hindu texts, documented only recently. It is hard to attribute these

profound concepts simply to mental abstractions, in absence of experimental or theoretical framework, available in the ancient times. but they point towards some kind of divine vision, attained by techniques such as meditation and Samadhi, by which one can connect to the omnipresent Bodhi (conscious) field of the Universe.

In spite of numerous insights into wide range of topics such as working of microcosm, brain, mind and the laws governing the universe etc., some of which have been mentioned above, the texts do contain statements, related to geography and astronomy which are definitely inconsistent with scientific observations. Some scholars have argued that this may be a case of erroneous interpretation, but surely such anomalies raise much doubt. It is also difficult to justify that many scientific concepts, like forces in nature, which govern all the processes in the universe do not find any mention in the scriptures.

A clinching evidence in favour of divine revelations would be some new insight not established by scientific theories so far. Numerous such concepts exist in scriptures, but for them to be true, they need to be scientifically established, by experimentation or by logic, within the scientific framework. A case in point is the origin of life. Scientists are working on the materialistic model of life, in which life originated from matter, whereas some faiths believe in biocentric origin of the universe in which soul (Brahma) is the cause of the material universe. Jainism, in contrast, propounds that soul is eternal, without origination and destruction. Considering the tremendous efforts currently being made, this problem may be resolved during the present century. Some of these aspects may be discussed during this Conference on Science and Jain philosophy, which assumes a great importance in this context. Hopefully Jainism and science can be amalgamated and deliberations during this conference would lead to further advancement of scientific theories by incorporating some of the Jaina concepts, which are very appealing.

PHILOSOPHY BEHIND SPIRITUALITY IN JAINISM

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Your journey starts with your own self.

Who am I, where am I?

This exploration leads to the investigation of various forms of life and cosmology.

This heads to the next level of search-what is spiritual about this science?

As you look into that, there arises a further question: why diversity?

If you explore all these questions, you know Jainism!!!

The present article is meant to explore philosophy and science behind the idea of spirituality in Jainism. Philosophy refers to intuitive and logical knowledge obtained through spiritual awakening and reasoning. Science refers to a system of acquiring knowledge. This system uses observations and experimentations to describe and explain the natural phenomena. The idea of spirituality presented in this article is based on intuitive knowledge which is also verifiable to a certain extent by the observations and experimentation of science. It would be better to clear at the outset that the article is meant to give a blue print of the Jain idea of Spirituality rather than provide a detailed study about Jainism. Further details will be explored in the subsequent articles in this series.

The idea of spirituality in Jainism is based on the concept of the soul. Spiritual awakening, perfection, enlightenment and divinity are the core components of spiritualism. Spiritual awakening is possible through self-awareness and the self-awareness is possible through knowledge of the true self. Thus, inquiry into the nature of our true self is the foundation of spiritual excellence or divine consciousness in Jainism. The philosophy and science working behind the idea of spirituality in Jainism starts with the inquiry of the true self and ends with the realization of the true self.

The inquiry of the true self starts with the queries, 'who am I?', 'Where I am coming from?', 'Where Will I go after I die?' and so on. In the view of Bhagawan Mahavir, the answers to these queries can be obtained clearly and distinctly if one is able to look into his/her past lives. The experience of the past lives opens many secrets of our existence in this world. The secrets can be seen as four watches. The four watches have taken the place of fundamental doctrines of Jain philosophy and science working behind the idea of spirituality. The four doctrines are:

Atmavad: The Doctrine of Soul

Lokavad: The Doctrine of Cosmos

Karmavad: The Doctrine of Karma

Kriyavad: The Doctrine of Action

Doctrine of Soul

In the first watch one gets insight into all of his previous lives and experiences. With the experience of the past lives one encounters his own transmigration. The experience of the past lives unfolds the secret that it is me who is transmigrating from one birth to another. It is me who is taking various forms of life. It is me who is suffering. The experience gets expression in the words—"my soul, being subject to birth, transmigrates in these cardinal directions or intermediate directions, that (soul) is 'I' myself" (Acharanga1.4). Thus, the first watch opens the secret that I am an eternal and independent soul. I am not body, speech and mind. I am something different and beyond all the material objects. With the realization of this truth starts the intense search of the true self. In the long journey of the true self one has to pass through many other experiences.

Doctrine of Cosmos

In the second watch, one witnesses the rebirths of all other beings. One realizes that like me there are other beings in the world. The word 'Loka' i.e. cosmos, stands for the existence of other living beings and non-living things existing in the world. One also watches that all other living beings are also taking birth in various forms of life just as I do. In his further search of various forms of life one perceives four realms of existence or four types of birth occurring in the world. They are: Hellish, Heavenly, Human and Non-Human- tiryanch.

Hellish and heavenly forms of life are beyond the sense-experience and therefore not easy to verify but the last two forms of life are visible and also verifiable. One cannot deny the existence of human and non-human forms of life which are in front of him.

The existence of human form of life is clear and distinct to everybody but the non-human form of life is not very much clear to the world even today in the age of science and technology. Some of the scientific studies show life in plants, stone and water but still they lack in clarity.

Jain religion has been very clear about the existence of all forms of life from its inception. It is because the foundation of spirituality is laid on the knowledge of the living and non-living world. Equality of all souls, equanimity and non-violence towards all forms of life subtle and gross have been the core concerns of spirituality in Jainism.

Doctrine of Karma

In the third watch one discerns the indelible law of karma as the principle that determines the quality of rebirths. The exploration of the self and other living beings raises a question as to why this diversity. The exploration of the answer opens up a new domain of reality of life, which is karma. The difference or diversity of the forms of life is caused by the karmic particles. The karma particles are the subtle psycho-physical energies which affect one's spiritual and psychical growth and cause birth and death, pain and pleasure etc. in one's life.

The energies are identified in eight forms affecting different spiritual qualities and physical growth of the living beings.

The eight forms of the energies are:

Jnanavaraniya Karma i.e. Knowledge-covering energy

Darsanavaraniya Karma i.e. Intuition-covering energy

Mohaniya Karma i.e. Attitude and conduct deluding energy

Antaraya Karma i.e. Obstacle-creating energies

Vedaniya Karma i.e. Pain and pleasure producing energy

Ayusya Karma i.e. Life-span determining energy

Nama Karma i.e. Body-shaping energy

Gotra Karma i.e. Status-determining energy

The first four karmas cover, pollute and block qualities of the true self. The true self is endowed with four qualities: infinite knowledge, infinite intuition, infinite bliss and divine power. If the self is not covered by the karmic veil, it has direct access to know and perceive the truth of life and the world directly without any external means: sense, mind and instrument. Similarly, the self is blissful and divine. The qualities are affected in different proportion in different living beings. The difference of the karmic bondage leads to the difference of the physical, mental, emotional and spiritual development of an individual as well as that of other living beings.

Doctrine of Action

During the fourth watch one realizes another enduring principle—that of Āśrava, the mental, verbal and physical action causing inflow of the karma particles. The difference of the nature and effect of karma

particles is caused by the nature of the action performed by living beings. No living being is free from action. Where there is life there is action. Where there is no action, one can safely surmise that there

is no life. It is important to note that action in itself is not bad. It becomes good or bad by positive or negative emotions, intentions and means used to perform the act. If both the goal and means of the act are righteous then the result of the act will always be good. If either of the two the goal and means of the act are non-righteous, the result of the act will always be bad. This subtlety is important to note - if the goal is right but the means are wrong or vice-versa, the result would be bad. It is only in the condition when both goal and means or intention and action are right; the act will yield good results.

The criterion of righteousness or non-righteousness of goal and its means depends on the purpose of life. In the spiritual domain, the purpose of life is spiritual excellence. So the goal is right if it leads to spiritual purification and the means are right if they are devoid of violence, untruthfulness, stealing etc. In the social domain, the purpose of life is materialistic development of individual and society. The means for the development are right if they are moral and legal. Immoral and illegal acts cannot yield good results.

Thus, we have found that the idea of soul, cosmos, karma and action are main pillars on which the magnificent edifice of spirituality in Jainism is built. Self-inquiry leads to the acceptance of others or diversity and the acceptance of others leads to the cause of the diversity as karma and the cause of diversity leads to the cause of karma as action. So the control of body, speech and mind is the first step towards spirituality.

INTEGRATION OF SCIENCE AND SPIRITUALITY FOR FUTURE DEVELOPMENT

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Discoveries in modern Science have deeply impacted human society. There has been revolution in communication, transport, energy, medicine, agriculture with the use of science and technology. Intensive research and spirit of inquiry have transformed human life, expanded the horizon of knowledge on universe, altered the concept of time and space, and stimulated us to know the unknown in the course of time. We have witnessed generation of enormous new resources, boost in economy and rise in standards and style of life of people. Consequently, the trust of society in science and technology has tremendously increased over the years. It is heartening to note that the quest for unraveling the secrets of nature continues though much remains to be explored.

Classical Science

Both European and Eastern philosophers showed keen interest in understanding the phenomenon and events around them. The observation of order and regularities of planetary events have been engaging the attention of philosophers and scientists for centuries. It is intriguing that scriptures refer to knowledge of various subjects which is yet beyond the grasp of science. It is indeed puzzling to think if ancient seekers had methods and approaches to acquire knowledge about cosmos and governing principles. Many of the concepts and perceptions of scriptures are unverified but intense efforts continue in this direction. The questions about why universe was born, why life exists what is the purpose of life continue to in exploring minds. It however remains to be examined by methods, tools and techniques of modern science. In general, methods and approaches of science have received greater acceptability in society. The mindset of public has changed from usual believing in faiths blindly to examining them on reasons. The entire new culture of scientific approach to inquire and, tendency to reason out before accepting a viewpoint is rapidly growing in society. A rational examination of has taken over blind acceptance which to me looks promising for understanding nature and acquiring new knowledge.

It is mistakenly viewed that science and spirituality are not compatible. Science is considered reliable and repeatable, while spirituality often regarded as a sentimental relic of our past we can't quite let go of. So to say it is necessary for the two to work together may seem unrealistic. For centuries, science has led our progress; spirituality, as indicated through participation in orthodox religion has been in steady decline. But the unorganized, personal aspect of spirituality is the subjective pursuit of value, reality, and understanding through individual experience or consciousness. This aspect of spirituality has not declined. Instead, the drive to find external solutions to global problems that have value to our interior world is more powerful than ever.

The scale of our planet's problems is too great to be solved without an integrated approach of science and spirituality. The power of consciousness needs the systemization of the scientific method, and the tools of science depend on the wisdom and creativity of individual consciousness to guide it in a meaningful direction.

More and more scientists are recognizing this need, in part, because fundamental science has come to a place where the ultimate questions of matter and creation cannot be understood unless consciousness is accounted for and factored in. Consciousness may well be the common ground on which the objective and subjective worlds are derived and united. With this vision, scientists have begun to meet and discuss solutions to global issues of health, hunger, conflict resolution, climate change, and economic injustice from a perspective that joins science and spirituality

It will bring together not only eminent scientists but also leading lights in spirituality based in the development of consciousness. Spirituality is rooted in the idea that a transcendent reality exists beyond the external realm of the senses. This is pure consciousness, the source of the subjective world or the mind as well as the objective world of matter. Our future depends on the concerted effort of science and spirituality working together, because separately, neither has been up to the monumental task. Science works fine in everyday affairs without dealing with spirituality. And on the other side, spirituality can continue serving people's spiritual needs as they go through their individual insights, crises and awakenings. However, unless the two views join forces, we won't be using our full human capability to solve problems. Such a comprehensive human effort is precisely what global solutions require. Beyond providing a platform for addressing humanity's problems, the joint efforts of science and spirituality promises to be the foundation for the next evolutionary leap in human potential.

Spirituality emphasizes humanistic qualities of moral values (e.g. love, compassion, patience, tolerance, forgiveness, contentment, responsibility, harmony, and care of others). These are aspects of life and human experience which go beyond a purely materialist view of the world without necessarily accepting belief in a supernatural reality or divine being. Nevertheless, many humanists such as, Bertrand Russell who greatly valued the non-material, communal and virtuous aspects of life, reject this usage of the term spirituality as being overly broad because it effectively amounts to saying "everything and anything that is good and virtuous is necessarily spiritual. Similarly, Aristotle, one of the first known Western thinkers to demonstrate that morality and humanism already efficiently and succinctly describe the pro-social and civility meant to be conveyed by the term

Spirituality Unexplored

There is a school of spiritual science. The parameters of acquiring spiritual knowledge are largely unknown and, by tradition, highly subjective. The practice of spirituality is essentially a personal experience and is stated to largely depend on individual faith and belief. The practice and methods of spiritual science remain confined to enlightened seers and sages who endeavor to gain knowledge of unknown or ultimate truth of reality. These practices do not permit rigorous examination of outcome but certainly command influence on a sizeable population. In scientific era, there has been facing with skepticism and demand the testing of approaches to reasoning and rationality. Therefore, culture of inquiry and experimental verification of spiritual practices are growing in human mind. There is a declining trend of acceptability especially in younger generation of population.

The progress of philosophy and science shows the role of philosopher, Plato (427-347 BC) and in classical science by Issac Newton (1647-1723) and modern science by Renes Descartes(1596-1650) in substantially advancing knowledge. A firm scientific basis of natural events leading to discoveries of the laws of motion and law of gravitation to explain many of the curiosities of the time. However, thinkers and philosophers were struck by the observed order and precision in planetary motions. The limitations of knowledge occasionally brought in the concept of Creator? Great physicist and mathematician, Newton was believer of super power for the creation of universe. With the discovery of quantum force by Max Planck (1858-1947) and later Richard Feynman's (1918-1988) contribution to understand details of universe a new era of science commenced. In 21st century, we have begun to ask if mind and humans obey quantum laws?

Infusing science in spirituality

The spirituality has remained enigmatic and unexplored in the past decades and it managed to escape from experimentation and rigor of science. There is a need to open practices and methods of spirituality to scientific experimentation and research using modern tools. Though, spirituality has already benefited society in effective manner for inculcating the human qualities of compassion, love, morality, ethics and propagated universal peace and lasting happiness. Vedantic, Buddhist, Christianity, Jainism and other spiritual traditions have reformed society and guided for higher goals in life brought social awareness but lagged behind in modernization and research. The new trend especially from younger generation has necessitated refinement and has found no support and lacked initiative. There is an urgent need to plan and execute researches in several fields of spirituality. As a consequence, it is becoming necessary to employ tools and techniques of science in widely accepted established practices of spirituality. Spiritual leaders Ancharya Mahapragya ji sought and welcomed science Jain practices and principles and advocated the need of finding scientific basis of Jain doctrines. In recent times, it has been felt that spirituality has to invoke basics of relevant sciences such as physics, chemistry, physiology and neuro sciences for validation of traditions followed in ancient times. Philosophers and thinkers prior to modern era of science enunciated providing and practices that were enthusiastically accepted and followed by the society. However, with the rise in scientific temper and access to vast information pool, change in these practices became inevitable. The questions of existence of life and creation of universe have always been pondered ever by scientists as well as philosophers and spiritual masters.

Harnessing Power of Spirituality

Thus, the goal of science and spirituality has been to unravel the secret of nature and understand the purpose of life. Who am I and where I came from and where will I go? Have been repeatedly asked in the ancient time and these questions continue to haven't human mind even today. How to be happy and get rid of miseries, philosophers from West as well as those from East have pondered over these vexing questions. Christianity, Hinduism, Buddhism, Jainism and other religions have put forward their understanding and opinions from time to time. For example, Jain Acharyas and Hindus have known atom to be the building block of matter since long. Likewise, values of ethics and morality have been given prime importance in human development.

Life, Consciousness and Technology

The role of mind, body and consciousness in living and life has been explained in many of these philosophical and religious teachings and discourses. The existence of soul in body has been put forward by philosophers, seers and sages since ancient-times. It is unclear whether body needs soul or soul needs body. It is suggested that body without soul is dead matter, soul is said to be eternal but acceptance of such statements need experimental verification. Likewise, it is unclear what the fate of soul is after death (loss of consciousness). It is widely accepted that soul leaves a body and seeks sojourn in another body. Science needs to devise experiments to demonstrate such events. In spiritual domain, technology of practices has to be developed for the welfare of society. I find it exciting that spiritual technology has to emerge and branded for its benefit.

Is there birth after death? Jains strongly believe in re-birth. But again in modern era of science, experiments have to be designed to verify. Skepticism continues till proved otherwise.

Generally, spiritual leaders claim realization of super-soul where from soul is believed to be originated. However, Jain seers do not support this view point. It is widely accepted that universe existed in the past and will exist in future and it is eternal. No one created or put celestial bodies in place and order. Seers have frequently mulled over these questions and have explained the natural phenomenon in considerable details.

Enhancing Human Potential

Human mind is complex and our understanding is inadequate. In modern age, a happy meeting has begun between spiritualists and scientists with a clear indication of open mind to accept the mythology and practices of the other. For example, meditation and yoga have been recognized to affect human mind. The study of human mind is highly warranted to unfold human potential for positive contributions in social progress in the globe. Man is in search of and desires to acquire peace and happiness. Spiritual practices point to promotion of these virtues in human behavior (ethics, compassion, love, feelings etc). Due to scientific and technological advancements prosperity has increased but, at the same time, tension has increased in human mind leading to disturbed life. As a result, happiness is reduced. It is clear that prosperity achieved by science and technology may not necessarily give peace and happiness.

It is intuitively thought that thinking of an individual can produce physical effects on another person located far or near but research is needed to substantiate this postulate. Likewise, it is a puzzle how soul of a person leaves one body and enters another as commonly stated. I felt tempted to suggest the possibility of invisible entity of matter of soul that may hop from object to object. There are examples due to microwave that an object may not be visible to our eyes but it exists. Experiments may be designed to verify some of these intriguing problems.

Research Prospect in Spirituality (Jain spiritual context)

Nature is replenished with mysteries. We do not have answer to many fundamental questions about origin and purpose of life. Why universe is created? Is there a creator? Research is needed to conduct experiments on syad and anekant related topics. It would be interesting to examine if individual's thought process can influence physical traits of another person located near or far. Systematic research on meditation, life style, food regulation, ascetic practices will help reinforce the governing scientific basis and possible improvements.

Principles of biotechnological sciences in Jain beliefs and practices are needed to be validated. Research projects on consciousness and its scientific experimentation are needed to be pursued in the context of genome science. The scientific understanding of soul and its structure, nature, physical description, behavior and functions within body and beyond are fascinating areas of future research using modern imaging methods and high resolution microscopic techniques. I personally imagine that it may become possible to image and track departing and arriving souls in the near future. In the backdrop of rapidly growing nanoscience and technology, it may be possible to establish authentication of the concepts of micro and macro entities in Jain philosophy. To my mind biological research in spiritual domain would bring startling results revealing hitherto unknown/hidden facts to human mind and unimaginable entire new biological knowledge and create a sophisticated technological world unknown at this point of time. It looks equally exciting to embark on mathematical and conceptual research on mysteries of universe. I clearly foresee a huge possibility for conducting research for generating new knowledge within the objectives of BMIRC in years ahead.

Human Curiosities unaddressed

We often raise several questions in intellectual forum. Our questions seem too complex and generally answers are attempted in the shadow of spirituality and its peripheral borders without chances of verification or convincing conclusion.

- Why universe is born? When?
- Where did all, we see, come from?
- Does the universe need a creator? Is there a designer or controller of events.
- Mystery of being born?
- Why life exists? Do we have a specific purpose of being?
- Do we feel the purpose of our being fulfilled?
- Are we confused and ignorant or closer to reality.
- Are we proceeding in right direction in conformity with will of the nature ? do we know it ?
- Do events occur randomly or a definite order is followed?

These and many other queries are haunting in our minds and acquisition of new knowledge is the hope for the future

NEED TO MAKE A PLAN TO PROPAGATE THE CONCEPT OF NON-VIOLENCE TO ONE BILLION PEOPLE IN ONE YEAR

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If we look at the state of our planet as on today then we find that half of the animals in the world have disappeared since last 40 years. It is because of uncontrollable human expansion. A report by the World Wildlife Fund (WWF) has found that populations of mammals, birds, reptiles, amphibians and fish have declined on average by 52 per cent in the last 40 years (1970-2010). And for freshwater creatures the situation is even bleaker, with population collapse of more than three quarters over the same period. Almost the entire decline is due to human activity, through habitat loss, deforestation, climate change, over-fishing and hunting (Reference 2). If this is not adequate enough to shock the human soul, there is another heart burning news, and it that every year, we are losing almost 25000 biological species (Reference 3). But this again only one side of the coin. We also observe a large increase in terrorist activities and sense less violence in daily life in many countries in the recent times, including attacks on women etc. An increase in ill feelings towards competitors and even fellow beings can be also observed these days. There is another side of the issue. It is damage done to the environment by eating non-vegetarian food. Here are some real facts which showcase that how “meat production” is affecting overall ecosystem and environment. It shows that land area required to produce non-vegetarian food and water is about 10 times and about 20 times more respectively than what is required for producing the same amount of vegetarian food. (Reference 5).

In this scenerio, the Jain concept of non-violence can play an important role in bringing about a substantial positive change in this situation, since Jainism talks to protect not only human beings but also all living beings in the world. Not only this, Jainism also talks of not to even hurt the feelings of any living beings in the world. It goes even further and say one should not involve in any action or even directly or indirectly support any activity which hurts any living being or their feelings. Hence in view of the above developments, there is a need to propagate the concept of non-violence on a large scale in the whole world and educate the people about its importance. Now the *United Nations Organization (UNO) has declared October 2, the birth day of Mahatma Gandhi as an International Non-violence Day in June 15, 2007.* There is a need to celebrate October 2 as an International non-violence day in 192 member countries of UN in particular to make the people aware of these issues and an overall improvement in world's environment.

As Gandhiji learned the concept of non-violence from Shrimad Raj Chandji, a great Jain saint and also Jainism has put maximum emphasis on non-violence, so it is responsibility of the Jain community to take a big lead in this direction.

So Jain community should play a proactive role in first celebrating this day as non-violence day on a very large scale in India along the same scale as the International Yoga day was celebrated on June 21 this year. A policy framework should be prepared for this. Various International organizations should be involved. All religious groups should be brought on the same platform for this purpose. Literature should be prepared in different languages of the world. All heads of states should be communicated about the importance of non-violence in the modern context.

In this era of globalization, where communication through satellite technology like internet, emails, wordsapp, sms, digital apps like digital language translators, tweets, Facebook, should be optimally used for this purpose. Seminars and conferences should be organized with organizations working for similar objectives like PETA, WWF and others. Televisions programs and films should be prepared. A small experiment was carried out on this day in 2015 in Ahmedabad. About 10,000 pamphlets in Hindi containing messages of all religious leaders about Ahimsa were distributed in Ahmedabad. A film on ahimsa is being prepared in Hindi which will highlight work of all religions about ahimsa. An essay competition was organized entitled "Gandhi, Ahimsa air Aaj" for sixty departments of Gujarat University. About 280 students from different religious communities actively participated in this competition. Such small examples should be amplified thousands of times. A plan should be made to educate at least one billion people by October 2016. Youths all over the world should be encouraged to join this movement.

UNLOCKING THE MYSTERIES OF LIFE THROUGH SCIENCE AND SPIRITUALITY



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Jain ascetic, Dr. Muni Abhijit Kumar, Ph. D., M.A., B.A., is a young research fellow who has mastered 12 ancient as well as modern languages. He has many articles published in reputed national and international journals and has delivered talks on crucial issues of science, philosophy, culture and society in several National and International Conferences.

Wonderful discoveries, recent inventions and technological advancements in Science have definitely improved the standard of life. Sound techniques, advanced tools, latest machinery, sophisticated systems and modern equipments have made life easier, comfortable and even more luxurious.

Today's new breed of mystics comprising of quantum physics, molecular biologists, mathematicians, cyberneticists all have largely explored the depths of frontier sciences. They have been making constant efforts in the search of truth. Global village concept is emerging. Interlinking in the whole world has resulted by the application of scientific principles in the form of information technology, electronic media, satellites, internet, mobile phone and many more.

In the last few decades, developments on the globe have fostered on both the sides positive and negative. With the advancement of technology and interconnectivity many other problems have also increased. Economic disparity, poverty, pollution, natural calamities, psycho-somatic diseases, domestic violence and political conflicts are some of the main problems.

A question arises – How is it possible?

On one hand we are proud of new developments made by human race in all branches of knowledge. But on another, the increasing tension and lack of happiness in a major part of human society have raised many questions on these developments.

The pursuit of eternal happiness must be one of the main aims and not mere possessing and developing material comforts. In most of the religions, the issue of eternal happiness is dealt in one or another form. Summum Bonum, Moksha, Salvation, Liberation, Mukti, Nirvana, beatitude of these terms relate to the same concept.

These are moments in history when a new direction has to be given to the age old process. Today, in this scientific age or in the age of modernity and technology, we have to give it a spiritual direction.

Upturning the pages of history of western philosophical tradition, we find that radical changes took place with the arrival of Socrates, Descartes, Kant, Nietzsche etc. The emergence of science especially Newtonian physics in the 16th Century brought a revolutionary change in the world history.

Has not the time for evolution of an ultra- modern personality comprising of both the scientific spirit of objective pursuit and spiritual spirit of developing intuitional insight ripened? I think it is high time that an integration of these two diverse but complementary schemes should take place to save the humanity from the ultimate doom, threatened by both the nuclear weapons waiting for devouring the whole mankind on one hand and the ecological imbalance and environmental disorder, which already have started taking their prey through global warming, on the other.

SCIENTIFIC BENEFITS OF JAINISM ON OUR HEALTH

DR. BIMAL CHHAJER

bimalchhajer@yahoo.com



Dr. Bimal Chhajer MBBS, MD. is the Founder and Director of SAAOL, and a specialist in Preventing and Reversing Heart Disease. The Former Consultant of AIIMS, New Delhi, Dr. Chhajer has authored five books and is the recipient of many awards like The Bhaskar Award for Bharat Nirman

Introduction:

As a medical doctor I work on Heart disease prevention and reversal. I worked initially at the All India Institute of medical Sciences (AIIMS), New Delhi for about 6 years where we carried out a trial on Reversal of heart disease by Lifestyle change. As for diet we were using very low fat (Zero Oil) for Cooking vegetarian food.

As for Yoga we were using Presksha Meditation (which derives its origin from Jain Scriptures and is popularized by Late Shree Acharya Tulsiji and Acharya Mahaprajyaji). After resigning from AIIMS we started in 1995 - a movement called "Saaol" - Science and Art of Living. In the last 20 years we have spread the concept of Lifestyle change based on non invasive therapy for heart and related diseases all over India and abroad. Many of the advices that I propagate to the patients is actually based on Jain philosophy.

Fortunately I am a Jain by birth. But till I passed my MBBS from Kolkata I never planned that I must promote Jainism to people. But afterwards in course of my lifestyle based treatment from medical science I realized that Jainism says all that I tell my patients to follow for better health. I read about the Jain principles and when I found them scientifically valid I introduced them in my therapy. Today tens of thousands of Muslim patients follow my Vegetarian diet and Preksha Meditation as a treatment of Heart disease.

What are the good things for health in Jainism ?

For writing this article I tried to collate all that may be good for health and disease prevention in Jainism and these are the major advantages of Jainism in favour of our health.

1. Vegetarianism
2. Fasting
3. Early dinner/dinner before sunset
4. Forgiveness
5. Ayambil
6. Pad Yatra
7. Avoiding Five Vigais
8. Ahimsa/Non violence
9. Meditation
10. Aparigraha/Non Possisiveness
11. Tyaag/Avoidance of Luxury
12. Upasampada
13. Pratikraman and Samayik

Let me describe at least few of them which are well accepted by the scientific community.

Vegetarianism:

Heart disease is now the biggest killer in the world and it tops the list of commonest causes of death in the almost all the countries of the world. Everybody knows about Cholesterol being the most important cause of heart disease and heart attack. You must know that the only source of Cholesterol in food is “Animal Food”. In other words, no plant based food has Cholesterol. So, all those who want to avoid heart disease have to compulsorily stop taking meats, fishes and eggs. Just shifting to vegetarianism can prevent millions of deaths.

But there are two riders in this. One is that Milk is also an animal food and hence contains Cholesterol. But if fats can be removed from milk to great extent (double toned Milk and Skimmed Milk) milk becomes safer. It is recommended that people should also stop Milk and milk products completely and become VEGAN.

The second fact is all the oils are Triglycerides and should be taken as less as possible to prevent heart disease and heart attack. So, we developed thousands of vegetarian recipes called “Zero oil Cooking”.

Otherwise vegetarian diet contains a lot of fiber and antioxidants – so, are very good for our heart and health. These also prevent cancer and keep us in good health.

Fasting and early dinner:

Fasting is another good health advice from Jain philosophy. Fasting in different ways is good for our health. It gives rest to our intestines, reduces weight and makes us develop good mental control on our life/stress.

Giving up intake of food after sunset is also another good practice and helps to keep the guts healthy. Gas -acidity improves, sleep becomes better, people can go to bed early. The body gets more time to utilize the calories and digest the food. Weight can also come down.

Stress management:

Jain philosophy has unique ways to reduce stress and tension. Preksha meditation, Forgiveness, Non possessiveness (Aparigraha), Non violence (Ahimsa) and Tyag (the art of restraining and giving up luxuries), Samayik – are all excellent ways of stress management. Meditation makes people peaceful and relaxed. Preksha meditation has been proven to control high Blood pressure, diabetes and lead to heart disease reversal. By managing stress by the above principles one can get rid of all the psychosomatic diseases. We can now see effects of violence across the world – Iraq, Syria, Afganistan, Pakistan and some part of India also. Non violence is the key to reach the goal of universal peace. The quality of life will improve.

Other health friendly ways in Jainism

Jainism has many other recommendations to its followers which are also very much health friendly. Pad Yatra or travelling by foot is an excellent way to improve fitness, burn calories, improve joints and make the heart healthy. The process of Ayambil- leads to non intake of any fats during the lunch, the only food time during the day. This is especially good for heart disease prevention. Jainism also recommends avoidance of five Vigais- ,sugar, milk, ghee, curds, and oil. This will definitely help in preventing high BP and heart disease.

HISTORY OF JAINISM- AN OVERVIEW

DR. HEMALI SANGHAVI

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Dr. Hemali Sanghavi is the Head of Department of History at K.J. Somaiya College. She is the recipient of Bharat Jyoti Award for her contribution in the field of education.

Hinduism, Jainism and Buddhism together constitute the cultural heritage of India. Jainism is both a system of philosophy and a way of life. It is one of India's most ancient Śraman religious traditions. The origins of Jainism lie far back in prehistory. Some of the relics discovered from Mohenjo-Daro and Harappa point out Jainism as a pre-Vedic religion. Rig-Veda refers to the hymns referring to the first Jain Tirthaṅkara Rishabhdev. It is said that the traditional name for India, Bharat, has been derived from that of Rishabhdev's son. The twenty-second Tirthaṅkara Neminath was contemporary and cousin of Krishna. Parsvanath the twenty-third Tirthaṅkara preached four vows in the eighth century B.C.

The period of twenty-fourth Tirthaṅkara Mahavira (599-527 B.C.) is important in the history of India because it brought about significant changes in religious, social and economic spheres. Mahavira attracted a number of people, both men and women to be his disciples. He taught his followers to observe penances and live a life of restraint in all possible ways. Rich bankers, merchants, kings, queens and ministers became the followers of Mahavira. It is from 527 B.C., the date of nirvana of Mahavira that Jains count the Vira nirvaṇa era. It is the longest continuous era in Indian history. It starts 470 years before the Vikram era.

Jainism was dominant in Magadha during the reign of the Nandas (364-324 B.C.) and the Mauryas. Chandragupta Maurya the founder of Maurya dynasty (324-300 B.C.) at the end of his reign accepted Jainism. Later Samprati, the grandson of Asoka propagated Jainism in the country. It was after 500 B.C. that Jains via Mathura begun their migration towards the Western part of India, where they settled and where they have remained concentrated to the present day.

In course of time Jainism spread to different parts of India and received royal patronage. The period from the eighth to twelfth centuries was a golden time in the history of Jainism. It attracted a large number of followers. Jain scholars enriched the different languages by their works. Dynasties such as Kadamba, Ganga, Chalukya, Western Chalukya, Rashtrakutas, Hoysalas and Kalchuris patronised Jainism in varying degrees. Jains have contributed to the development of art and architecture, sculpture and painting from very early times in the history of Indian art. Jainism made a striking progress under the rule of the Rajput rulers in Gujarat, Rajasthan and Madhya Pradesh from the eighth century onwards.

During the medieval period Jainism made contribution to the success of Vijayanagar empire. The Jain teachers impressed the Mughal teachers by their teachings. The

merchants also contributed to the growth and development of Jainism by constructing religious places. Towards the end of the medieval period the Jain community lost royal patronage. There was persecution of the Jains in different parts of the country. So during this period the Jain community suffered rapid decline. Demographically the Jains witnessed decline during the modern period. The proportion of the Jains in the total population of India was 0.48 per cent in 1881. The increase in the Jain population has been noticeable following the decade of 1950's. There has been concentration of the Jain population in the urban areas in the modern times. Statistically the Jains are at present the best educated community in India.

Various schisms took place in Jainism from time to time. Consequently, Jainism has been divided into sects and sub-sects. What constitutes total renunciation, along with disagreement over the ability of women to attain liberation, were questions that divided the Jain community in the first century A.D into two major divisions viz. the Digambara and Śvetāmbara. Digambara is a Jain sect whose ascetics practise nudity, while Śvetāmbara counterparts, as the name suggests wear white clothes. These sects were further divided into sub-sects. Śthānakvāsi, Murtipujaka and Terapanth have been important sub-sects of Śvetāmbara division. The Murtipujakas put emphasis on the worship of idols. The Śthānakvāsis don't follow the worship of idols, while Terapanth believe in thirteen religious principles. In spite of these and many other sectarian divisions, the adaptability of the Jains to the diverse circumstances and challenges has remained the strength of Jainism and made the survival of Jainism throughout the century-long history possible.

The ascetics have played prominent role in the history of Jainism.

- The Digambara Acharya Kundakunda is known for his exposition of transcendental standpoint.
- Umaswati's Sanskrit text 'Tattvartha Sutra' synthesizes the entire Jain doctrine into mere 350 Sutras.
- Haribhadra who flourished in eighth century wrote as many as 1444 books. In order to debate with Buddhists, he even mastered Buddhist literature. He contributed immensely to the development of Jain Yoga.
- Acharya Hemachandra also played important role in the propagation of Jainism. He has written on so many subjects that he could be called a grammarian, philosopher, thinker, religious leader and historian. Under the influence of Hemachandra King Kumarapala prohibited animal sacrifices, drinking and gambling in Gujarat. In fact, Gujarat witnessed nonviolent revolution during this period.
- Acharya Jindattasuri of Śvetāmbara sub-sect Kharatara earned the title of 'Yuga Pradhana' for his social, religious and literary activities. As a tribute to his work, his followers have established dadawadis throughout India.
- The simplicity, austerity and the learning of the Śvetāmbara monk Hiravijaya impressed the Mughal Emperor Akbar to such an extent that he prohibited the killing of animals on Jain festival days.
- In a similar way, Shrimada Rajchandra during the nineteenth century influenced Mahatma Gandhi and is considered to be the spiritual mentor of Gandhi.
- In recent times, Terapanth Acharya Tulsi received Indira Gandhi National Award for promoting well being through the minor vows (Anuvrata movement).

On the whole, though small in size, historically the Jain community has been in the forefront of making important contribution to the nation.

CHIEF GUEST

SHRI SHRIPAD NAIK

MINISTER OF STATE (INDEPENDENT CHARGE), MINISTRY OF AYUSH, GOI



Shri Shripad Yasso Naik, the Member of Parliament from North Goa constituency represents the BJP. He is the Minister of State (I/C) for AYUSH and Health and Family Welfare.

He has graduated from the University of Mumbai and is an all-rounder in the field of sports. He is a state-level Kabadi player and also a swimming champion who has won the gold medal in racing and a silver medal in shooting.

He has occupied many important positions in the government being a member of the consultative committee in Ministry of Tourism and Ministry of Urban Poverty Alleviation and has also served as the State Union Minister of Agriculture, Shipping, Civil Aviation, Road Transport & Highways and Finance.

He is the Founder General Secretary of Sai Prathan Mandir Trust Ribandar, Goa, Akhil Bhartiya Vidharthi Parishad, Member of Mandovi Education Society, Betim, Member of Central Advisory Board of Archaeology and National Shipping Board.

He was also the President of Vidyarthi Nidhi, Goa, Chairman of Shikshan Prassarak Sangh, Dhurbat, Sharda English High School, Goa and Sumangal Urban Credit Cooperative Society, Goa, Ratnagiri Education Society, Ratnagiri.

An avid traveller, he has visited many countries like Brazil, UK, France, Thailand and the US. He is associated with many cultural organisations and was a member of various Committees like that of Urban Development, Energy etc.

GUEST OF HONOUR

ADVOCATE ASHISH SHELAR

BJP PRESIDENT, MUMBAI



MLA and President, BJP, Mumbai, Advocate Ashish Shelar is a dynamic leader. After taking charge as the Mumbai BJP president, he tackled the problems of the railway passengers in Mumbai, raising the issues in New Delhi. He marched to the legislator to protest against the Local Body Tax. He also organized a morcha to MMRDA protesting against the rise in Metro railway fares. Shelar is now known as a leader who raises the issue of masses, is ready to take up cudgels on behalf of people belonging to all castes and religions, a studious orator, a mass leader who fights for peoples' problems sometimes in legislative council and on occasions as an activist on street.

Adopting an all-inclusive approach, he began raising issues of various sections of society. He is inclined to solve the problems through discussions and is also ready to come to streets whenever needed.

Constant study, diligence, extensive reading and good oratory have given Mr. Shelar recognition as a studious orator. That is why literary, social, cultural, legal, industry and business organizations prefer to invite him in their programmes with an aim to listen to his thoughts. He is also known as a person who forges bonds of friendship beyond political boundaries.

On the International Fora, Advocate Shelar (the only municipal corporator from India), was selected by US State Dept under International Visitors Leadership Program. As part of this programme, he travelled across USA over 45 days engaging with 82 NGO's for leadership development, laying the foundation for life long bonds which continue to enrich his administrative perspective.

INAUGURATION BY JUSTICE DALVEER BHANDARI

MEMBER, INTERNATIONAL COURT OF JUSTICE



Dr. Justice Bhandari, B.A., LL.B, LL.M, LL.D, the recipient of the prestigious "Padma Bhushan Award" from H.E. The President of India, was a judge in the higher Indian judiciary for more than 21 years, a senior judge in the Supreme Court of India, an Executive Member of the International Law Association, India Chapter, since 1994. He was unanimously elected as President of the Indian International Law Foundation in 2007. Dr. Bhandari had a very distinguished and successful career as an attorney at law for 23 years before becoming a judge in the Indian higher judiciary in March 1991.

Justice Dalveer Bhandari is known for delivering landmarks and innovative judgments in many branches of law. He is recognized for his judgments in relation to providing food grains for population below poverty lines, night shelters for homeless people, right to free and compulsory education for children, larger allocation of funds for malnourished children and protection of ecology and environment, amongst others. The superior quality of his judgments is well recognized both in India and abroad. Dr. Justice Dalveer Bhandari is a shining example of legal acumen with a human touch.

Justice Bhandari gave various orders in the food grains matter led to the release of a higher quantum of supply of food grains to the population living below the poverty line, number of orders in the night shelter matter which led to state governments making provision for night shelters for homeless people all over the country, as also in the matter of the right to free and compulsory education for children led to the availability of basic infrastructural amenities in primary and secondary schools all over the country.

He has been invited to deliver Convocation addresses, keynote addresses at several International conferences organized by various International Institutions. Justice Bhandari took special interest in mediation and conciliation. He was Instrumental in setting up mediation and conciliation centres all over the states of Maharashtra and Goa. He also organized an International Conference on Mediation and Conciliation In Mumbai to ensure better infrastructural facilities, particularly for the subordinate judiciary in the states of Maharashtra and Goa. He also took keen interest in computerization, videoconferencing facilities, legal aid and legal literacy programmes. He was instrumental in setting up the Information Centre for Litigants in the Bombay High Court.

KEYNOTE ADDRESS

SHRI MR. A. S. KIRAN KUMAR

CHAIRMAN ISRO



Padma Shri Mr. A S Kiran Kumar, M.Sc., M.Tech., is the Secretary of Department of Space, Chairman of Space Commission and Chairman of ISRO. He is a highly accomplished space scientist and engineer with a distinguished career spanning over four decades in ISRO. He has made immense contributions to the design and development of Electro-Optical Imaging Sensors for Airborne, Low Earth Orbit and Geostationary Orbit satellites starting from Bhaskara TV payload to the latest Mars Colour Camera, Thermal Infrared Imaging Spectrometer and Methane Sensor for Mars instruments of India's Mars Orbiter Spacecraft, which has successfully completed one hundred days in Mars Orbit recently.

Mr. Kiran Kumar was instrumental in evolving the successful strategy for steering the Mars Orbiter Spacecraft towards planet Mars as well as its Mars Orbit Insertion. He has also made significant contributions for evolving the observation strategy encompassing land, ocean, atmospheric and planetary studies.

Mr. Kiran Kumar is a recipient of many national and international laurels/awards including International Academy of Astronautics' Laurels for Team Achievement Award for Cartosat and for Chandrayaan-1, Indian Society of Remote Sensing (ISRS) Award, VASVIK Award, Astronautical Society of India Award, ISRO individual Service Award, Bhaskara Award of ISRS and ISRO Performance Excellence Award.

He is a Fellow of professional institutions like Indian National Academy of Engineering, Indian Society of Remote Sensing, Institution of Electronics & Telecommunication Engineer, and Indian Meteorological Society. Besides, he is a member of the International Academy of Astronautics.

Mr Kiran Kumar has represented ISRO in international forums like World Meteorological Organisation (WMO), Committee on Earth Observation Satellites (CEOS) and Indo-US Joint Working Group on Civil Space Cooperation.

GUEST OF HONOUR VALEDICTORY FUNCTION

JUSTICE JASRAJ CHOPRA

FORMER CHIEF JUSTICE OF RAJASTHAN



Justice Jasraj Chopra , M.Com., (Prev.). L.L.B., worked as an administrative Judge and an acting Chief Justice of Rajasthan. As a student, he was the president of Student Union of Kushalashram High School, Jodhpur. He was also an Executive Director of Commerce Association. In 1956, he was selected to Rajasthan Administrative services. He was awarded with President of India's Silver Medal for outstanding census work in 1961.

As a Judge of Rajasthan High Court, he presided over Civil, Criminal, Taxation, Election petitions, Company law and many benches pertaining to constitutional matters in all its branches. He has rendered number of reportable judgments which included full bench references. He is a renowned speaker of repute on subjects like ethical values and service to humanity and law.

After his retirement he was a Founder President & Chief Trustee of Sardar High School, Ex-Student Union Trust, Ex-President of Balmandir High School, Jodhpur and also the President of Bhartiya Sanskriti Samanvay Sansthan, Rajasthan, Jodhpur.

GUEST OF HONOUR VALEDICTORY FUNCTION

PROF. PANDIT B. VIDSYASAGAR

VICE CHANCELLOR OF SWAMI RAMANAND TEERTH MARATHWADA



Dr. Pandit Bhalchandra Vidyasagar, M.Sc., Ph. D Physics, Biophysics, is the Vice Chancellor of Swami Ramanand Teerth Marathwada. Formerly, he was Professor and Head, Department of Physics, University of Pune, and Director, Board of College and University Development, University of Pune. He has been a Visiting Professor of Chubu University, Japan. Dr. Vidyasagar has designed, modified and taught courses at undergraduate and post graduate level related to physics, biophysics and medical instrumentation. He has also been instrumental in establishing degree courses such as B.Sc. (Applied Optometry) and B.Sc. (Applied Biomedical Techniques).

He has conducted refresher courses for college teachers on a national basis. Interactive software tools that have been developed by his research team can be used for applications in the hospital as well as for medical education. Dr Vidyasagar has himself participated in the Curriculum Development Program of University Grants Commission and helped in introducing an interdisciplinary component in Physics curriculum. He has participated in a UNESCO project on Physics education and edited a book on Foundation Course in Physics. He has worked as an assistant editor of Physics Education Journal, published by the UGC, New Delhi and brought out special issues on Biophysics. He has worked as an associate director for the National Talent Search Program and Kishor Vaigyanik Protsahan Yojana, Govt. of India, and as a coordinator, National Eligibility Test for college teachers by UGC, New Delhi. at present he is working as a convener of the Board of Studies. He has 30 years of teaching experience and has written 16 books which include biography of C V Raman, Albert Einstein, two science fictions - Superclone and Antarali, more than 250 articles, 30 radio talks, 40 films and lectures at various places in rural, urban, semi urban and tribal areas.

GUEST OF HONOUR VALEDICTORY FUNCTION

MR. ANNURAG BATRA

CHAIRMAN, BW BUSINESS WORLD



Mr. Annurag Batra, B.Tech., is the Chairman of Businessworld, a serial entrepreneur, media mogul, a journalist and an eternal optimist rolled into one. Since taking over BW Businessworld Mr. Batra has expanded it into digital, events and BW communities and has taken into its fold www.digitalmarket.asia, a leading website on digital marketing, www.everythingexperiential.com, India's leading experiential marketing website and launch BW hotelier in partnership with hotelier international. BW smart cities an editorial platform in a 360 degree format is to be launched in mid February Mr. Batra is building the BW Business-world business aggressively.

Mr. Batra founded the exchange4media group and is its Chairman and Editor-in-Chief. Mr. Batra is also appointed by Government of India as the Chairman of an industry committee formed to come up with a vocational training framework for the media, communication and entertainment industry. He mentors many budding entrepreneurs and enjoys the process of reverse mentoring as in what he learns from these young entrepreneurs. At BW Businessworld BW Accelerate is an initiative to provide a structured platform to entrepreneurs for mentorship and growth.

He is a regular speaker on National and International Conferences on Media, Internet, Television, Media policy and Entrepreneurship.

He is on the Executive Committee of the Association of Indian Magazines (AIM).

In 2006, the prestigious Management Development Institute (MDI) and Mr. Batra's Alma mater awarded him the "Most Distinguished Alumni of the Decade Award".

Mr. Batra believes if you make your hobby your profession, you don't have to work and life is a blessing.

EMINENT SPEAKERS

(In alphabetical order)



Dr Muni Abhijit Kumar

The Jain ascetic, Dr Muni Abhijit Kumar, Ph.D., M.A., B.A., has visited more than 200 villages, towns and cities to impart value education and moral upliftment to the masses. He has many articles published in reputed national and International journals and has delivered talks on crucial issues of science, philosophy, culture & society in several National and International Conferences. He believes that practical means need to be rediscovered in order to overcome chaos, disparity, violence, aggression, pollution and intolerance that has had influence on the human mind and re-establish a peaceful world order with the wider application of principles of Ahimsa (Non-Violence) Anekanta (Multi-perspectivism) and Aparigraha (non-possessiveness). He has been an anchor/comperer in many great events that include the Book Release event held at Dr A P J Abdul Kalam's Residence in 2010 at New Delhi.

Dr. Anand Jayaprakash Vaidya

Dr. Anand Jayaprakash Vaidya, Ph.D. has specialized in Philosophy of Mind, Epistemology, Critical Thinking, Philosophy of Economics, Comparative Philosophy. He is a Professor of Philosophy and is the Director of the Center for Comparative Philosophy, San Jose State University. He has 15 years of experience in research and teaching. 10 papers of his have been published and he is Editorial Board Member in 4 Journals.



Dr. Anupam Jain

Dr. Anupam Jain, Ph.D. (Jain Mathematics), is a Professor and Principal-Incharge of Government College, Sanwer (Indore). He has experience in Research and Teaching of 35 years. About 115 papers have been published and 15 books have been written by him. He has edited 20 books. He has received 16 awards. He is Executive Member, Indian Society for History of Mathematics, Executive Director & Secretary, Kundakunda Jnanapitha, Indore, President, Research Promoting and Communication Society, Indore, Working President, GyanSagar Science Foundation, New Delhi and General Secretary, Tirthankar Rishbha Deo Jain Vidvat Mahasangh, Indore. He is the Editor of Arhat Vacana and Gyan Deshna and is a member of the editorial board of Veer Nikalank, Sanmati Vani, Aditya Adesh, Sarak Sopan, etc. He is the Executive Editor of Indian Research Communication.

Arun Zaveri

Arun Zaveri is a graduate from Munich University, Germany, in Electrical Engineering who learned Jain philosophy from his elder brother, Muni Mahendra Kumarji and Meditation from Acharya Mahapragyaji. He has been teaching Preksha Meditation, is a visiting faculty at JVBI, has conducted Workshops and Seminars for stress management, operational efficiency, and has authored three books, studying the elements of Jain Philosophy. He was a director of Jain Center of Leicester, United Kingdom. He is an elected member of Education Committee Jain Academies International Federation, Oxford University.





Dr. Arvind Kumar Jain

Dr. Arvind Kumar Jain, M.D. is senior professor in Dr. S. N. Medical College Jodhpur. He has specialized in Internal Medicine & Geriatrics. He has 25 years of Experience in Research and Teaching. He has authored one book and 17 of his papers have been published. He has won the Best Physician Veer Durga Das Award. He holds membership in Association of Physician of India, RSSDI, Indian Association of Geriatrics, and International Association of Infectious Diseases. He is on the Editorial Board of Indian Journal of Geriatrics.

Prof. Ashok K. Jain

Prof. Ashok K. Jain, M.Sc.; Ph.D.; LLB; FLS; FBS; FES; FIASc, is a Professor of Botany & Director, Institute of Ethnobiology, Jiwaji University, Gwalior, MP. His main fields of research are Ethnobiology, Aerobiology, Floristics, Biodiversity and Conservation. He is also interested in some scientific aspects of Jainism and has published good number of papers in this field.

About 125 papers have been published and 5 books have been written by him. He has received the G. Panigrahi Memorial Award, Harshberger Medal, V. Puri Gold Medal, Best Teacher Award and P. H. Gregory Award. He is a Fellow of Linnean Society, London, Indian Botanical Society, Society of Ethnobotanists, Society of Bionaturalists, Indian Aerobiological Society and International Society of Reproductive Biology. He is also a member of Indian Botanical Society and International Society of Ethnobiology. He is on the editorial board of 6 journals.



Padma Shri Dr. Ashok Panagariya

Padma Shri Dr. Ashok Panagariya, D.M. (Neurology), M.D. (Medicine), M.B.B.S., is one of the Leading Clinicians in Neurology. He is a Professor Emeritus (Neurology) at SMS Medical College, Jaipur and an Honorary Neurologist at Armed Forces of India. He is the Chairman of DISHA and President of Neurology Care and Research Society. He was the Vice Chancellor of Rajasthan University of Health Sciences. He has published around 100 research papers. He has been the only Indian editor in the prestigious "Year Book of Neurology and Neurosurgery" published from Miami (USA). He has been awarded Life Time Achievement Award by TOI and UNESCO Award for Contribution to Society.

Dr Bipin Doshi

Dr Bipin Doshi is a physician and Jain scholar teaching Jain philosophy at the University of Mumbai and all over the world. He is the National Vice president of JITO and Veerayatan, Trustee of C U Shah Medical College, President of Borivali Sanskrutik Kendra and Trustee of Borivali Medical Association. He has authored the book "Gandhi before Gandhi" and given to us three popular Jain historic dramas viz. 1) Gandhi before Gandhi, 2) Bhamasha and 3) Motisha.





Dr. C. Devakumar

Dr. C. Devakumar, Ph.D., has specialized in Jain Philosophy and Practice, Research and Higher Education Management practiced in the area of Agriculture and Chemistry of bioactive compounds. Now retired, he was formerly Assistant Director General in Indian Council of Agricultural Research, New Delhi. He has over 37 years of experience in Research and Teaching. About 130 research papers have been published and 5 books have been written by him. He has 17 patents. He has 4 International and 16 national awards and recognitions. He has been associated with 9 journals and newsletters either as the Editor or a member of the Editorial Boards. He is currently a FAO TCDC International Consultant to Sri Lanka and has been a consultant to World Bank and Honorary Editor of the National Academy of Agricultural Sciences.

Dr. Dipak Jadhav

Dr. Dipak Jadhav is Lecturer in Mathematics at Govt. School of Excellence, Barwani (M. P.) India. His field of research is history of ancient and medieval Indian mathematics. His special interest lies in the history of the Jaina school of Indian mathematics. He is a recipient of many awards including National Award conferred for the year 2006 by Government of India and Kundakunda Jñānapī ha Award conferred for the year 2014 by Kundakunda Jñānapī ha, Indore. His doctoral thesis is on "Mensuration in India from Jaina Sources".



Prof. Samani Chaitanya Prajna

Prof. Samani Chaitanya Prajna is a senior disciple of Acharya Mahashraman. She is a Professor and Head of the Deptt of Jainology and Comparative Religion & Philosophy of Jain Vishva Bharati Institute, Ladnun. She is also an Executive Director of Bhagawan Mahavira International Research Center, JVBI, Ladnun. She has been the Visiting Professor of Florida International University Miami, USA since 2010-2013. She got her Ph.D and M.A from JVBI, Ladnun. She has organized several national and international workshops, seminars, and conferences. She has been a delegate at two of World Congress of Philosophy (WCP) in 2008 and 2013. She is an international public speaker and has conducted several Lecture Circuit Tours, Paryushanas, Workshops, presented papers at various Conferences, Conventions and Seminars in India and in UK, USA, Korea, Greece, Hongkong, Bangkok, China, Indonesia and Nepal. She has been the editor of the journals JERF Newsletter and BMIRC Newsletter. She is author and editor of several papers and three books. She is the Regional Co-ordinator of ISJS, a member of Jain World of Academia, London and Jain Education and Research Foundation, Miami. Her aim is to disseminate Jain teachings and culture for the well-being of society and work for higher studies and research in the field of science and Jain philosophy.

Dr. Dharamchand Jain

Dr. Dharamchand Jain is Professor of Sanskrit at Jai Narain Vyas University, Jodhpur. He also has stronghold in Prakrit language. His area of interest is Jainism and Buddhism. He has done extensive research work on epistemology and logic in Jainism and Buddhism. He also takes active interest in other schools of Indian philosophy and Sanskrit literature. He has served as the HOD, Sanskrit and as founding director of Buddhist Studies Center, J N Vyas University. He is a Chief Editor of Jinvani monthly Jaina Journal/ magazine since October 1994. He has edited more than 25 books on Jainism and Buddhism. He has chaired sessions in various national and international seminars, symposia, workshops and conferences.





Dr J. J. Rawal

Dr. J. J. Rawal, Ph.D. (Astrophysics), M.Sc. (Applied Mathematics), M.Sc. (Pure Mathematics), M.Phil, was the former Director of Nehru Planetarium, Worli, Mumbai. He is the Founder President of The Indian Planetary Society. He is also a Visiting Professor at University of Mumbai. In the 70s and 80s, he predicted the existence of the outermost rings around Saturn and Uranus, full ring system around Neptune and new satellites going around giant planets which were later confirmed by Pioneer and Voyager space probes. He has published 40 research papers. He is a prolific writer having written over 2,000 articles on Science and Astronomy, and is currently writing the Weekly Science Column in Janmabhoomi Pravasi, Mumbai Samachar and Gujarat Guardian. He has written 8 fiction stories and his series of radio talks in Gujarati on the life and work of Einstein, ran for 80 talks in 2005. He has received a number of awards and honours including the UGC School of Einstein Theory of Relativity Award and National Award.

Prof. J.P.N Mishra

Prof. J.P.N Mishra, PhD. Has specializes in Human Physiology, Neurobiology, Yoga and Meditation. He is Professor and Dean, School of Life Science, Central University of Gujarat, Gandhinagar. He has 37 years of experience in Research and 32 years in Teaching. He has received 5 national and one international award. He has written/edited 8 books and 103 of his papers have been published. He is a Distinguished Scientist in the field of Physiology and Yogic Sciences. He is on the Editorial Board of 2 Journals - International Journal of Yoga and Allied Sciences and Tulsi Prajna. He is Life Member of International Federation of Sleep Research Societies, Indian Science Congress, Society of Biological Chemists of India, International Yoga Federation and Association of Physiologists and Pharmacologist of India.



Jeffery D. Long

Jeffery D. Long holds Ph.D. in Philosophy of Religions along with MA and BA in Religious Studies and Program of Liberal Studies and Theology respectively. He is the Professor of Religion and Asian Studies Elizabethtown College Elizabethtown, Pennsylvania, USA. He has written couple of books such as Historical Dictionary of Hinduism (Lanham, MD: Scarecrow Press, 2011), Jainism: an Introduction (London: IB Tauris, 2009), A Vision for Hinduism: beyond Hindu Nationalism (London: IB Tauris, 2007), "Jainism: Key Themes" (In Religion Compass, 2011)

Dr. Jeoraj Jain

Dr. Jeoraj Jain holds the highest degree in Doctor of Engineering specialized in Welding Engineering. He has won National Award for Fabrication. Has an experience in Research and Teaching for 20 years. More than 60 papers have been published. He holds Two Fellowship of Academies along with Positions/Membership of Three Professional bodies. He has received Special achievement in the field of -"Theory of Living-beings without DNA and RNA". He also discovered that "Loka" is described in scriptures in statistical language.





Prof. Kazuyuki Akasaka

Prof. Kazuyuki Akasaka, Ph.D. is the pioneer of high-pressure nuclear magnetic resonance study of proteins. He is a specially appointed professor in Kyoto Prefectural University and has 50 years of Experience in Research and Teaching in universities [Kyoto U., Kobe U., Kinki U., Kyoto Pref. U. and Institution (RIKEN)]. 150 of his papers have been published and about 10 books have been written/edited by him. He has received Humboldt Research Award, Commendation for Science and Technology (by the Minister of Education, Culture, Sports, Science and Technology of Japan), and Society Award (from High Pressure Society of Japan). He is Honorable Member of Magnetic Resonance Society of India and Nuclear Magnetic Resonance Society of Japan and Member of Biophysical Society of Japan. He is on the Editorial Board of "High Pressure Research", a Journal from Taylor and Francis and a Subject Editor of "Food and Bioscience".

Dr. Kim Skoog

Dr. Kim Skoog is a scholar who believes that teaching should be on the field by conducting travel study courses. He takes his students to Thailand, Sri Lanka, India, Mongolia, Nepal, China and Tibet for his field teaching. An invited lecturer, presenter of over 75 papers in Europe, United States and Asia at institutions like MIT, Harvard etc., he has published over 25 articles in journals and books throughout the world. For the past 20 years, Dr. Kim Skoog has turned his attention to Jain philosophy and religion. He has introduced a course on Jain philosophy at his university and added sections on Jainism in several of his other courses. He regularly volunteers to teach college classes for the University of Maryland on U.S. military bases around the world and includes sections on Jainism in his course on Asian philosophy and religion. He has been teaching Jainism and Ahimsa to US soldiers stationed in Iraq and Afghanistan for about 8 years.



Prof. Krishnaswamy Natesan

Prof. Krishnaswamy Natesan, former professor of English, Central Institute of English and Foreign Languages, Hyderabad, and currently Emeritus Professor, JVB, Ladnun, Rajasthan, is the doyen of English teaching in India. Presently, he is working as an educational consultant in Bangalore. He is a teacher and teacher-educator, linguist and grammarian, researcher and research-guide, academic and educational administrator. He is considered one of India's leading experts on language teaching and English education with a special interest in communication skills, English grammar and usage, post-colonial approaches to English teaching, critical sociology, language philosophy, communication skills in English and literary theories. He has presented papers and delivered keynote addresses in many national and international conferences. He has authored many highly acclaimed scholarly books and course books for teaching English, linguistics and literary theories. Creativity coupled with practicality is the hallmark of his books.

Dr. L.C. Jain

Dr. L. C. Jain, Ph.D. has specialized in Electronics & Solid State Physics. He is retired Professor of Physics, Govt. Engineering college, Jabalpur, Madhya Pradesh. He has 35 years' experience in teaching & 10 years' experience in research. About 40 of his papers have been published and 4 books have been written/edited by him. He has received many awards and is a Fellow of All India Physics Teachers Association.





Dr. Luitgard Soni

Dr. Luitgard Soni has a PhD in Philosophy from the University of Salzburg, Austria, and studied Sanskrit, Indian Philosophy and Hindi at the Banaras Hindu University. Her specialization is in Indian Literature. She has 42 years' experience in research and teaching and was affiliated to the Department of Indology at the University of Marburg, Germany, from 1992 to 2012. She is now retired and lives in Innsbruck, Austria, continuing her research mainly on Jaina literature. She has published 16 papers and has written/edited 6 books. She is a Member of International Association of Sanskrit Studies and Associate Member of Centre of Jaina Studies (SOAS, London).

Prof. Muni Mahendra Kumar

Prof. Muni Mahendra Kumar graduated from the University of Bombay in 1957, and was initiated as a Jain monk by Acharya Shri Tulsi in the same year. He is a scholar of diverse disciplines like Physics, Mathematics, Bio-science, Philosophy (Indian as well as Western), Psychology, Parapsychology, Ancient History and Meditation, and is conversant with 17 languages. He is a prolific writer, a competent translator and a critical editor of more than 60 books. His significant contribution to research in Jain Canonical Literature has earned him the title of "Agama Manishi". He has been awarded the honor of epithets—"Preksha Pradhyapak", "Bahushrut" and "Human Computer" as well.



Prof. (Dr.) Mahendra Kumar Bhandari

Prof. (Dr.) Mahendra Kumar Bhandari, Ph.D. (Law), L.L.M, L.L.B, B.Sc. is Dean, Faculty of Law and Director, Amity Law School, Amity University Mumbai. He has over 36 years' professional and academic experience in Teaching, Research, Administration, Exploration of Innovative teaching skills and curriculum design. He has published 6 books on Constitutional Law and around 80 Research Papers in reputed International and National Journals. He has participated/presented research papers at 70 International and National Conferences and has organized 15 National Seminars, MOOT Courts, Symposia and Workshops. He is associated with 12 academic institutions and is also the Honorary Consulting Editor of Criminal Law Reporter and Gujarat Current Decisions.

Dr. Narayan Lal Kachhara

Dr. Narayan Lal Kachhara is a Ph.D., M. E. A retired Principal of Motilal Nehru Regional Engineering College, Allahabad, he has experience in Research and Teaching for over 35 years. He has 70 papers published and 11 books written/edited by him. He is the recipient of two awards and is an Adviser to BMIRC, JVBI, Ladnun.





Acharya Shri Nandighoshhsuri

Acharya Shri Nandighoshhsuri is a Jain ascetic since 42 years and was initiated at the age of 18. He is an expert in science and maths since childhood and is doing comparative, critical and innovative studies in Science and Jain Philosophy since 1980. He is a chief Mentor of Research Institute of Scientific Secrets from Indian Oriental Scriptures-RISSIOS. Has written six books and four books await publication.

Professor Narendra Bhandari

Professor Narendra Bhandari M.Sc.,Ph.D. has carried out research in Planetary, Earth and space sciences in India and abroad. He has made pioneering contributions to India's first Mission to the Moon, Chandrayaan-1. He was amongst the first group of scientists to study the moon samples brought by Apollo and Luna missions of NASA and USSR. He served as President, International Lunar Exploration Working Group and several National and International academic bodies. He has been conferred the title of "Space Visionary" from the International Society of Space Visionaries (California). He has received the Iyengar-Sahni Prize, The Outstanding Achievements Award of ISRO, Vikram Sarabhai award in Planetary and Space Sciences, National Mineral Award, GOI, Special Certificate by NASA, Shree Vijay Nemisuri Award for Jain physics. Professor Bhandari has served as member of the Senate of Jain Vishva Bharti University and Advisor to BMIRC, JVBI. He has authored several books and published over 250 research papers.



Dr Pankaj S. Joshi

Dr Pankaj S. Joshi works as a Senior Professor with the Tata Institute of Fundamental Research, Mumbai. His research is in the fields of gravitation and cosmology and he has published more than 150 research papers as well as monographs and books on the subject. He has held visiting faculty positions in several countries doing research and lecturing on these topics and has won several awards as well as Fellowships to scientific academies. Professor Joshi has made fundamental contributions in black hole physics and gravitation theory. His extensive analysis of general relativistic gravitational collapse has been widely recognized as providing significant insights into the final fate of massive collapsing stars in the universe, formation of space-time singularities, and cosmic censorship. He has also contributed a large number of books and articles towards science outreach and has given many public lectures.

Dr. Paras Mal Agrawal

Dr. Paras Mal Agrawal, M. Sc. (Physics), Ph. D., served as lecturer, reader, and Professor in India and as visiting Professor and Research Professional(16years)inUSA.Hehaspublished4books,adozenbookchapters,70 research papers in the international top-notch research journals and 150 plus papers in India. He is a popular speaker and is associated with various Jain organizations. Recently, GyanSagar Science Foundation awarded him the title of "Jain Laureate". His research work with a team of five scientists on the demilitarization of mines was nominated for best research work of year 1998 by the United States Army Research Laboratory and Uttar Pradesh Hindi Sansthan, Lucknow awarded him for his manuscript on Einstein and Relativity.



Dr. Pratap Sanchetee

Dr. Pratap Sanchetee, D. M. (Neurology), is a Consultant Neurologist at Sanchetee Neurology Research Center, Jodhpur. He is Professor, Department of Science of Living and Advisor & Incharge, Experimental Research, Bhagawan Mahavira International Research Centre, JVBI, Ladnun. He has 41 years' experience in research and teaching 102 of his papers have been published. He has written/edited 2 books. He has served Armed Forces India in 1974-1998 and organized a number of National and Local conferences. He has received an award of Chief of Army Staff's Commendation in 1980. He is a Fellow and Member of various esteemed bodies in India. He is on the Editorial Boards of Neurology India, Journal of Indian Academy of Geriatrics, Journal of Associations of Physicians of India (JAPI), The Indian Practitioner (TIP) and Journal of Indian Academy of Clinical medicine.

Ratnakumar Shiulal Shah

Ratnakumar Shiulal Shah did his M.A. in Applied Mathematics from University of Pune. He retired as Executive Director, Life Insurance Corporation of India in 1995. He has been involved in research since approximately 10 years. 13 of his papers have been published and 6 books have been written by him. Currently he is editing 3 books.



Rajesh Kumar Jain

Rajesh Kumar Jain, B.E., is a Scientific Officer/Fin Electronics Division, BARC, Mumbai and Head, Biomedical Instrumentation Group, BARC, Mumbai. His areas of expertise are Man-Machine Interface, Databases, Image Processing, Artificial Intelligence, Web based systems and E-Learning Modules. He has designed and developed Software systems for Man-Machine Interface, Databases, Scientific Computing, Web based softwares, Simputer Based Embedded Systems, Software for Medical Instruments, Ultrasonic instruments etc. He takes lectures at BARC Training School and ECIL-ECIT, Matunga Centre. 36 of his his papers have been published.

Dr. Raksha Shah

Dr. Raksha Shah is a Jain Scholar and a visiting lecturer at the University of Mumbai and Somaiya Institute. She got her Ph.D, M.A, B.Sc, LL.B, DIP.IN YOGA and N.D from the University of Mumbai. She has been a delegate at three of the Parliament of World Religions in 2004, 2007 and 2009. She is an international public speaker and has conducted several Lecture Circuit Tours, Paryushanas, Workshops, presented papers at various Conferences, Conventions and Seminars in India, various centers in the USA, Belgium and Spain- Europe and Melbourne, Brisbane- Australia. A freelance journalist, a spiritual columnist and a writer, having authored a book and received three 'Best Journalist' awards. Dr. Shah is also a compere on Mumbai Television, a cooking expert and a consultant. Her aim is to spread the word of Non violence and non possessiveness as also to educate on Holistic Wellness.



Prof. Dr. Robert J. Zydenbos

Prof. Dr. Robert J. Zydenbos, D.Litt, specializes in Indian philosophy and religion. He is a University Professor at Ludwig-Maximilians-Universität München, Munich, Germany and has 18 years' experience in Research and Teaching. Approximately 60 Research papers of his have been published and 5 books have been written /edited by him. He has received the honorary title of 'Vidyasagara' at World Sanskrit Conference in 1997. He is on the editorial board of International Journal of Jaina Studies (London, UK).



Sir Roger Penrose

Sir Roger Penrose, Ph.D. (Algebraic Geometry) is a British mathematician and relativist. He is Rouse-Ball Chair of Mathematics at the University of Oxford. In 1969, with Stephen Hawking, Penrose proved that all matter within a black hole collapses to a singularity. He developed the "Penrose diagram" which allows one to visualize the effects of gravitation upon an entity approaching a black hole. He also discovered "Penrose tiling", in which a set of shapes can be used to cover a plane without using a repeating pattern. Penrose became interested in the problem of defining consciousness and wrote two books in which he argued that quantum mechanics is needed to explain the conscious mind. He has also written 1 book on mathematics and physics and another in which he posited his theory of conformal cyclic cosmology, formulating the Big Bang as an endlessly recurring event.



Dr. Rudi Jansma

Dr. Rudi Jansma, Ph.D, is a noted scholar in consciousness and religion. He has studied neotropical ecology in The Netherlands and South America, but later specialized in intercultural philosophy relating to the attitude towards nature and views on ecology and evolution with several non-western cultures. He now resides in India and is the Director of Theosophical Study Center, Jaipur. Dr. Jansma. lectures internationally and has numerous publications on Jainism, Ecology, and Evolution. In addition, Dr. Jansma is a member of the Board of Governors and a Resource Scholar for IOUF.



Dr. S. B. Nimse

Dr. S. B. Nimse, Ph. D., has specialized in General Topology in Mathematics. He is the Vice Chancellor of Swami Ramanand Teerth Marathwada University. He has been Principal of New Arts, Commerce & Science College, Ahmednagar, Director of Institute of Management, Research and Rural Development, Ahmednagar, Director, MBA Center, IBMRD, Ahmednagar, Dean, Faculty of Science, University of Pune, Chairman, Board of Studies in Mathematics, University of Pune and is Member of Management Council, University of Pune. His research papers have been published in 21 International Journals and in 11 National Journals.

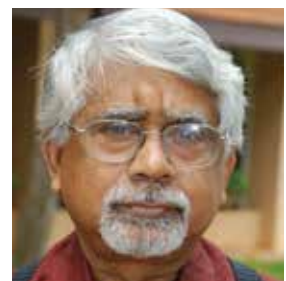


Dr. Shailesh Mehta

Dr. Shailesh Mehta, M.B.B.S.D.O is an Eye Surgeon and Director of Netradeep Eye Hospital. He is a visiting faculty of Holistic Science Research Center, USA and is a Trustee in Shri Aptaputra Trust. He has written/edited four books. He is a member of All India Ophthalmological Society, All India Ophthalmic Plastic and Reconstructive society, Indian Medical association and All Gujarat Ophthalmic Society

Prof. Sisir Roy

Prof. Sisir Roy, Ph.D. has specialized in Quantum Physics, Cosmology, Brain Function and Consciousness. He is the T.V. Raman Pai Chair Visiting Professor at National Institute of Advanced Studies, IISC Campus, Bangalore. He has been a Professor at the Indian Statistical Institute, Kolkata and has served as Distinguished Visiting Professor in various American and European Universities. He has 35 years' experience in Research and Training. More than 150 of his papers have been published in peer reviewed International Journals and 11 books have been written / edited by him. He is an Editorial Board Member in three journals. He has been a member of the organizing committee of various international conferences in India as well as in Europe and USA.



Prof. Subhash C. Jain

Prof. Subhash C. Jain is Professor Emeritus in the Department of Civil and Environmental Engineering at the University of Iowa, Iowa City, Iowa, USA. He is currently enrolled as a Ph.D. student in the Department of Jainology at the University of Madras, Chennai and is writing his dissertation on the Jain Karma Doctrine and Rebirth. He is keenly interested in delving into the nature of reality.

Dr. Subhash Chandra

Dr. Subhash Chandra holds a Ph.D. in Peace Education & Human Development Management from IOU, Opeinde, NL. He is the founder trustee of Global Peace Foundation, New Delhi. Has more than 15 years of Research and Teaching experience in Human Resources Development, Spirituality in Management & Leadership and Peace & Environment Education in India & in Bhutan as Training Specialist in UNDP –ILO Environment Education Projects in Bhutan. More than 25 parts of his research papers have been published in National and International Journals. He has received “World Human Rights Educators Award” and “Ambassador for Peace Award”.



Padma Shri Prof. Subhash Chand Manchanda

Padma Shri Prof. Subhash Chand Manchanda, M.D. (General Medicine), D.M. (Cardiology), FIMSA is a Senior Consultant, Department of Cardiology, Sir Ganga Ram Hospital, New Delhi. He was formerly Professor and Head, Department of Cardiology, AIIMS, New Delhi. His area of interest is Preventive and Clinical Cardiology. He has done original research work in the field of high altitude problems and lifestyle modification including Yoga/Meditation. He has authored over 400 scientific papers in various National and International Medical Journals, including 50 Chapters in Standard Medical Books and has authored 4 books. He is the Editor in Chief, Journal of Preventive Cardiology and Chairman of World Academy of Spiritual Science and Diya India Foundation. He is the recipient of the life time achievement award by Cardiological Society of India, Delhi.

Dr. Sudhir R. Jain

Dr. Sudhir R. Jain, Ph. D. is Scientific Officer (H) in Bhabha Atomic Research Centre, Mumbai, a Professor at Homi Bhabha National Institute, Department of Atomic Energy and Adjunct Professor at UM-DAE Centre for excellence in Basic Sciences, Mumbai. He has specialized in Theoretical Physics (Classical and quantum mechanics, Quantum chaos, statistical mechanics, Nuclear theory) and has 27 years' experience in research and training. He is a visiting professor at University of Maryland at College Park, U.S.A., University of Utrecht, Netherlands and Feza Gursev Institute, Istanbul, Turkey. He is a Life member of Indian Physics Association. 115 of his papers have been published and 4 books have been written/edited by him.



Dr. Sudhir Vadilal Shah

Dr. Sudhir Vadilal Shah is one of the most renowned and senior neurologists of Gujarat and pioneer in starting academic D.M. neurology course. He has established stroke unit and started stroke thrombolysis program. He has played a strategic role in starting Deep Brain Stimulation for Parkinson disease. He has several national and international scientific papers and publications and has contributed few book chapters and has written 4 books on “Health Education”. Has received many awards; including that from international bodies like UNO for “Excellence in Neurology and Future medicine”.

Dr Vimla Vyas

Dr Vimla Vyas, M.Sc., D.Phil., D.Sc., is Assistant Director, University of Allahabad. She has specialized in Physical Chemistry (Thermodynamics & Sono-Chemistry of Biomolecules), Human Resource Development & Higher Education Management. She has 35 years' experience Teaching, Research and Academic Administration. More than 100 of her papers have been published and she has edited 2 scholarly books and written 7 Chapters in edited books. She has won some prestigious awards such as Seva Ratna Award, "Scientific Achievement Award", Awarded Post-Doctoral Fellowship by Durban University of Technology, Durban, South Africa (2007) and her name has figured in a Biographical Reference Book entitled "500 Leaders of Science" published by American Biographical Institute, USA (2002).



Samani Vinay Pragya

Samani Vinay Pragya has completed M.A and M.Phil from Jain Vishva Bharti Institute. She has specialized in Jain Philosophy and Preksha Meditation. She has 10 years' experience in teaching. She has published 15 papers and written a book "I choose, I live" and edited a book, "Acharya Tulsi: A Legend of Humanity". She is the co-editor of a research journal "Tulsi Prajna".



Dr. Viney Jain

A biophysicist and radiation biologist, Dr. Viney Jain, Professor Emeritus at JVBI, Ladnun and Advisor, International School of Jain Studies, New Delhi received his postgraduate and post-doctoral training from the universities in Goettingen, Kiel and Frankfurt/M, Germany. Author of more than 100 original research publications in peer-reviewed scientific journals, Prof. Jain served on the faculties of the Physical Research Laboratory, Ahmedabad, All-India Institute of Medical Sciences, New Delhi; National Institute of Mental Health and Neurosciences, Bengaluru, Delhi University, Delhi. He superannuated in 1998 from the post of Director, Institute of Nuclear Medicine and Allied Sciences, Delhi. He has been a visiting professor/scientist at several universities in India, Germany, U.K., France, Netherlands and USA. Prof. Jain's present interests include philosophy of science and integration of science and spirituality. His current studies are focused on Leshya, Meditation, Forgiveness and Behavior Modification.



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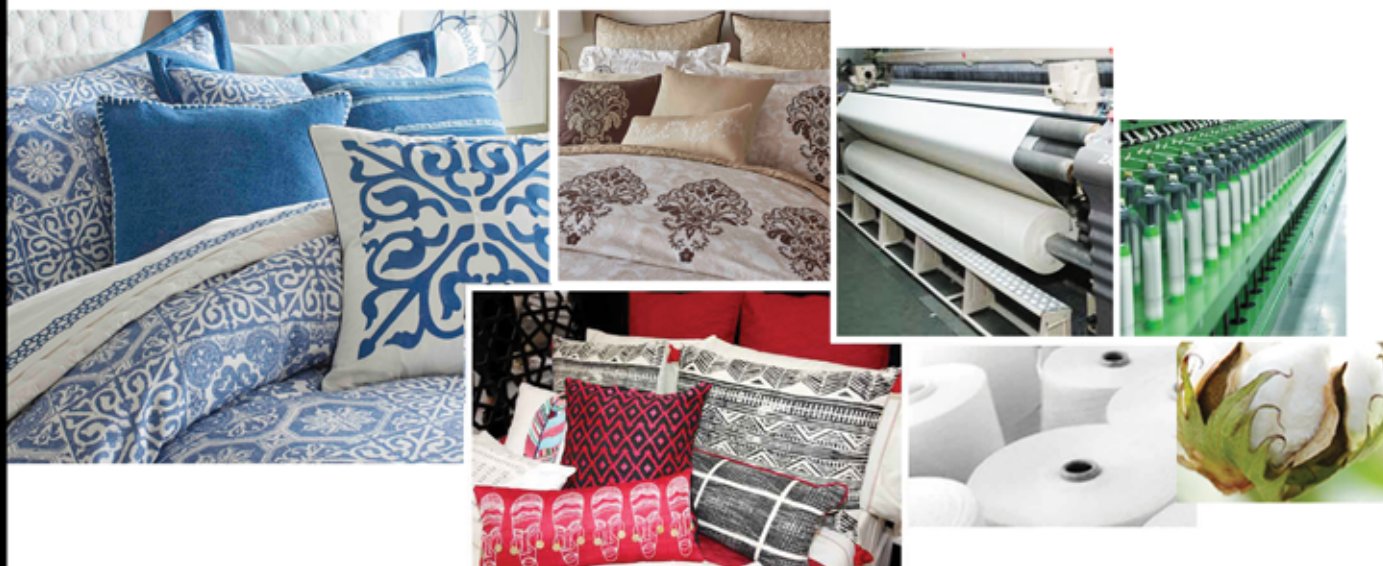
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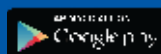


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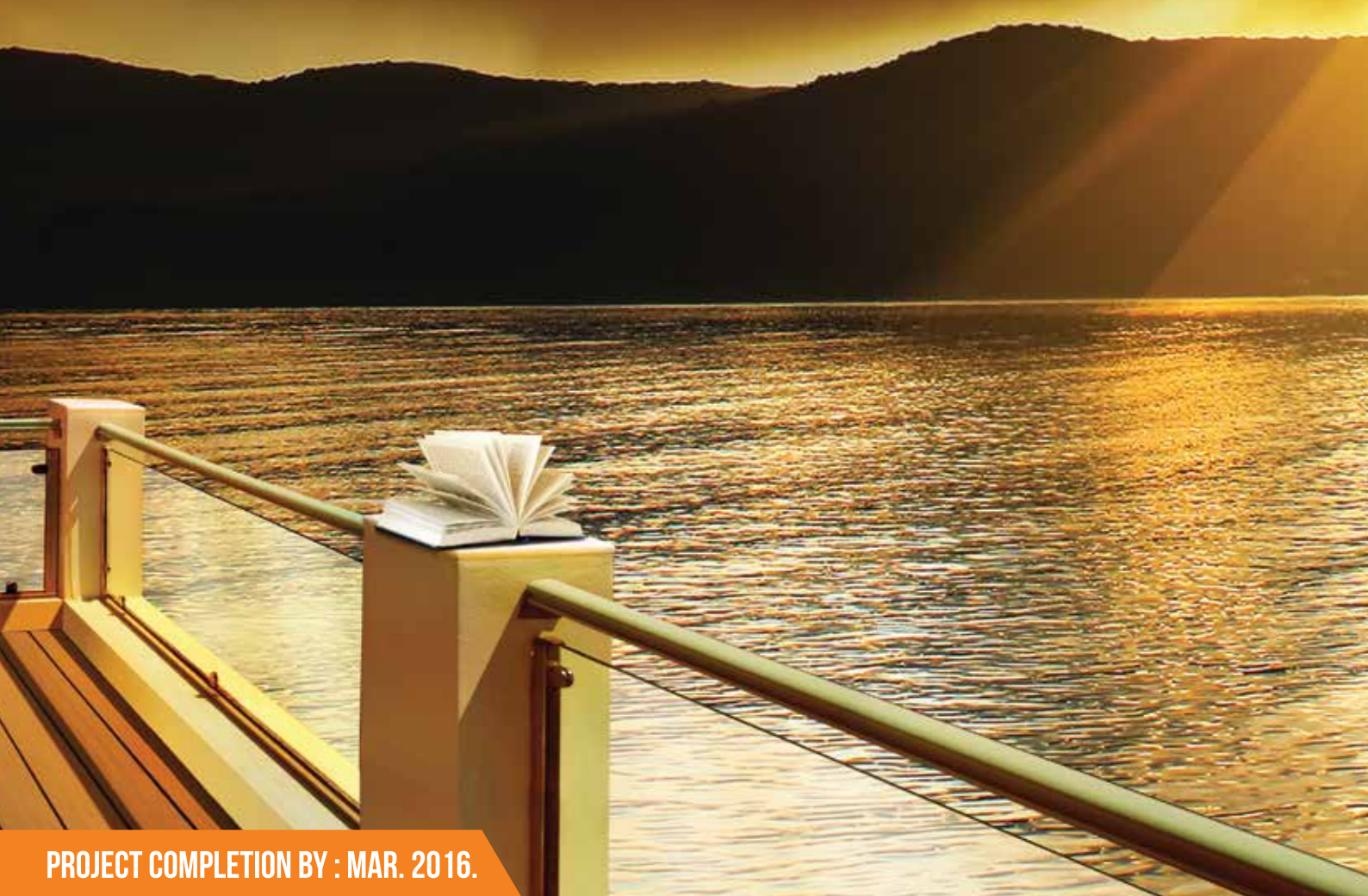


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णमो अरिहंताणं
णमो सिद्धाणं
णमो आचरियाणं
णमो उवज्झायाणं
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मंगलाणं च सव्वेसिं
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[Namo Arihantanam](#)

I bow in reverence to the Arihantas

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I bow in reverence to the Siddhas

[Namo Ayariyanam](#)

I bow in reverence to the Acharyas

[Namo Uvajjhayanam](#)

I bow in reverence to the Upadhyayas

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I bow in reverence to all the Sadhus

[Eso Panch Namokaro](#)

This five-fold salutation

[Savva Pavappanasano](#)

Destroys all sins

[Mangalanam Cha Savvesim](#)

And amongst all auspicious thing

[Padhamam Havai Mangalam](#)

It is the most auspicious one



THE NEED FOR AMALGAMATION OF SCIENCE AND SPIRITUALITY FOR PEACE AND BLISS

It was 7a.m. and as per my usual practice, I gave a click to the you tube link to listen to the Bhaktamar Stotra after finishing my meditation. My son walked up to me with his mobile phone showing me the video of a German lady who is said to heal cancer patients, reciting the Bhaktamar Stotra with clear pronunciations. “Mom! do you believe that such recitations can help heal cancer patients”? You and grandmother recite it daily, what benefits do you get? I told him that we both have faith in what the Tirthankaras, the Enlightened souls, have pronounced, and my son, today science has proved that such auspicious recitations have power to keep you relaxed, reduce the heart beats, brain waves and respiration. Such mantras help release the hormone melatonin which not only helps the healing process but even has the power to help shrinkage of tumors. The scientific explanation convinced him!

In the yester years it was the ‘Faith’ factor that worked in the acceptance of the verdict of the all knowing Omniscient Tirthankaras. As Dravya (substance), Kshetra (place), and Kaal (time) change there is bound to be a change in the ‘bhaav’, (modes/emotions) and the thought process and to accept the change and walk with it is the need of all times.

Today’s youth do not take things at face value, they want logical and empirical scientific reasoning to believe in religious precepts. The generation that embraced age-old teachings based on mere faith and respect is now replaced by a more critically thinking population which takes informed decisions on all fronts.

This instance got me thinking about how wonderful and easily palatable it would be, to our future generations, if each of our Jain tenets were backed by proof and scientific evidence.

Two months back, when I first received the invitation for the ICSJP Conference from Samani Chaitanya Prajna, and was briefed about the purpose of BMIRC, I was thrilled to see that our community is truly taking a step in the right direction. The Jain religion is unique in a way that all of its concepts and principles are not dependent on any supreme authority or any single power. It professes that every single individual including you and I have the ability to attain Moksha, just like the Tirthankaras did. It believes in equal respect for all living beings, be they advanced humans or primitive single-celled species. In many ways, these tenets draw parallels to the scientific principles of fostering stability and balance in the ecosystem and aim towards promoting equitable treatment to all living beings.

Scientific research thus far has mainly been focused on tangible and more material-driven outcomes. The benefits of this type of research are no secret. The technological advances we have made with the help of science in today’s day and age, have truly made the world come closer than ever before. It can only be imagined therefore, how tremendous the power of scientific research in the intangible fields of prayer, meditation, penance, compassion and forgiveness can be. Several believers swear by these practices and the positive blissful impact of their observance, not only on the self, but also on others around them.

The Jain Tirthankaras are called 'Kevalgyani' or the omniscients. They have grasped and imbibed the realities of the world and the true path to enlightenment. They have navigated through the extremely complex web of all the realms, understood it to the minutest detail and worked hard towards propounding these truths to the laities, as they wanted all jivas to benefit and walk towards the path of peace and bliss. It is now in our hands to re-invigorate these teachings by fortifying them with the endorsement of scientific research and experimentation in order to help fight today's burning problems like terrorism, violence, intolerance and materialism.

If science and spirituality join hands and we put our heads and hearts or direct our energies, wealth, intelligence and dedication into unraveling the true scientific and empirical evidences for the Jain principles like Ahimsa, truthfulness, compassion for peaceful coexistence, there is little doubt, that the supportive research will help these principles be received with open arms by the future generations thereby making your world and my world - our world - a better place to live in peace and bliss!

Let me take this opportunity to thank all of the Presenters, the Contributors, who have come from far and wide and all those who have been a part of the event. My special thanks to Samani Chaitanya Prajnaji who was the guiding force, Dr. K.P. Mishra for his support, Muni Abhijitji for his complete co operation and dear Pooja who has put in hard work and was at our beck and call all of the time. We are grateful to all others whose mention is not made here due to space constraint but who have been directly or indirectly instrumental in extending their support in the completion of the SOUVENIR.

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CONFERENCE SCHEDULE

Time	Particulars	Parallel sessions
08-01-2016 FRIDAY		
8:00-9:30	Registration and Breakfast	
10:00-11:30	Inauguration	
11:30-12:15	Convocation – Tea	
12:15-13:55	Technical Session I : Relativism and Jain Logic (Sponsored by ICPR)	Young Researchers' Session 1
13:55-14:45	Lunch	
14:45-16:35	Technical Session II: Soul and Consciousness	Young Researchers' Session 2
16:35-17:05	Tea / Supper*	
17:05-19:00	Experimental Workshop 1: Impact of Lifestyle Intervention, <i>Preksha</i> Meditation, Yoga in Achieving Holistic Health	Technical Session III : Relevance of Jainism in Modern Times
19:00-20:30	Panel Discussion 1: International and National Collaboration for Integrating Jainism and Science	
20:30 onwards	Documentary & Dinner	
09-01-2016 SATURDAY		
8:30-9:30	Registration and Breakfast	
9:30-11:10	Technical Session IV: Science, Society and Ethics	Experimental Workshop 2: Impact of Lifestyle Intervention, <i>Preksha</i> Meditation, Yoga in Achieving Holistic health
11:10-11:40	Tea and Poster Presentation (I)	
11:40-13:10	Technical Session V: Laws of Nature and <i>Karma</i> Theory	
13:10-14:10	Lunch	
14:10-15:40	Technical Session VI: Environment and Ecology	
15:40-17:20	Technical Session VII A: Science and Spirituality	Technical Session VII B: Macrocosmology: Universe, Cosmography, Cosmogony
17:20 - 17:50	Tea / Supper*	
17:50-19:20	Panel Discussion 2: Research Problems and Academic Curriculum in Science and Jain Philosophy	
19:20 -20:50	Cultural Programme	
20:50 Onwards	Dinner	
10-01-2016 SUNDAY		
8:30 - 9:30	Registration/Breakfast	
9:30 - 11:40	Round Table: Developing Scientific-cum-Spiritual Technique for Incultation of Moral Values and Development of EQ in Global Education	Technical Session VIII : Jain Mathematics and its Importance
11:40 - 12:10	Tea and Poster Presentation (II)	
12:10 - 14:00	Technical Session IX A: Microcosmology: <i>Paramanu</i> and Atom	Technical Session IX B: Jain Culture, Literature and Science
14:00-15:00	Lunch	
15:00-17:00	Valedictory Function	
17:00-17:30	High Tea	
17:30	Close	
* Facility of food before sunset will also be available.		

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अहम्

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BLESSINGS



The world needs both– Spirituality as well as Science. There are some similarities as well as some differences among them. As far as the quest of truth is concerned, both of them, in my view, resemble each other. However, they differ in their objectives; whereas the former aims at self-realization, the latter, probably, concerns mainly for the physical world. In other words, the ultimate object of spirituality is liberation, i.e., emancipation from all kinds of sufferings, whereas that of Science is to discover the truths of the physical world and to provide more and more comforts to humans. According to my view, the reconciliation of both– Spirituality and Science, can pave the way for the holistic development of humankind.

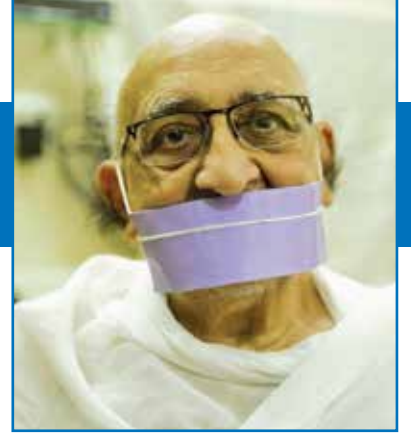
Some of the Jain doctrines are acceptable to Science, whereas there are some, which transcend the domain of science till the present time. In the modern age, if the Jain doctrines are comprehended and explained through the scientific views, it would become easier.

I hope that the International Conference on Science and Jain Philosophy organized by Bhagwan Mahavir International Research Center, Jain Vishva Bharati Institute would be fruitful in drawing concrete conclusions. My best wishes for its grand success.

Biratnagar (Nepal)

Acharya Mahashraman

PROF. MUNI MAHENDRA KUMAR



Every year the number of conferences on Science taking place in the world may be more than 100; similarly, the number of such conferences on spirituality/philosophy/religion may also be not less than 100. But the International Conference on Science and Jain Philosophy of this type is rare, perhaps unique one.

As a matter of fact, the number of such scientists who have interest in Jain Philosophy is also not a great one; on the other hand, the number of scholars who are interested in Jain Philosophy and also in Science, is also not a big one. Generally, both in the field of Science and Jain Philosophy, there is the belief that these two subjects are poles asunder. But, according to a few scholars who have thoroughly studied both, there is striking resemblances between them, and hence, if comparative studies in them are rare undertaken, some fruitful findings would come out, which would be very valuable for both.

The ICSJP is being organized by Bhagwan Mahavira International Research Centre, which is established in 2014 as a Research Institute in the Department of Jainology and Comparative Religion & Philosophy, which again is the part and parcel of the Jain Vishwa Bharti Institute (Deemed University) at Ladnun, Rajasthan, India. This University is the only Jain University in the world, dedicated to higher studies and research in the fields of Jainology, Meditation and Yoga, Non-Violence and Peace, Oriental Languages (like Prakrit, Sanskrit, Pali, etc.) and so on.

The main objective of establishing the Jain University is to blend the Ancient Wisdom with the Modern Knowledge obtained through Science, Technology, etc. The BMIRC has taken upon itself the task of bringing the Jain scholars and the scientists on the same platform in order to achieve this noble objective, and thus, serve humanity through innovative techniques based on both Science and Spirituality.

It is hoped that the sincere deliberations that will take place in this historical event would go a long way in finding out the clues to the baffling issues, and thus fulfill the noble mission, which the BMIRC is dedicated to.



Ch. Vidyasagar Rao
GOVERNOR OF MAHARASHTRA



RAJ BHAVAN
Malabar Hill
Mumbai 400 035
Tel. : 022-2363 2660
Fax : 022-2368 0505

10 December 2015

MESSAGE

I am pleased to know that the Bhagwan Mahavira International Research Centre of the Jain Vishva Bharati Institute, Ladnun, Rajasthan is organizing an International Conference on Science and Jain Philosophy in collaboration with IIT Bombay and the University of Mumbai during January 8 - 10, 2015.

It is gratifying to note that the Conference will be exploring intersection of science and Jain traditions and philosophy. I wish and hope that the deliberations will bring to light various less known aspects of science referred in Jain religious literature and scriptures.

I congratulate the organizers for their efforts in organizing an International Conference on this important subject and wish the participants fruitful deliberations.


(Ch. Vidyasagar Rao)

DR. HARSH VARDHAN



डॉ. हर्ष वर्धन
DR. HARSH VARDHAN



मंत्री
विज्ञान और प्रौद्योगिकी एवं पृथ्वी विज्ञान
भारत सरकार
नई दिल्ली-110001
MINISTER
SCIENCE & TECHNOLOGY AND EARTH SCIENCES
GOVERNMENT OF INDIA
NEW DELHI - 110001

MESSAGE

I am happy to know that Bhagawan Mahavira International Research Centre, Jain Vishva Bharati Institute, Deemed University, Rajasthan in collaboration with Indian Institute of Technology Bombay & University of Mumbai is organizing an International Conference on "Science & Jain Philosophy" from 8th-10th January, 2016 at Indian Institute of Technology Bombay Powai, Mumbai.

I have been informed that the main objective of the conference is to provide a forum to discuss scientific basis of teachings and thoughts of Jain religious thinkers and preachers. The main focus of the conference is to explore intersection of science and Jain traditions and philosophy. Almost 500-700 members including accomplished scientists, reputed academicians and philosophers from India and abroad will participate and share their views for a progressive, non-violent and a poverty-free society.

I extend my greetings to participants, members of managing committee and organizers for this International Conference for its grand success and in all its future endeavors.


(Dr. Harsh Vardhan)

SHRI DEVENDRA FADNAVIS



मुख्य मंत्री
महाराष्ट्र



Chief Minister
Maharashtra

31st December 2015

MESSAGE

I am happy to learn that Bhagwan Mahavira International Research Centre (BMIRC) of Jain Vishva Bharati Institute is organising International Conference on science and Jain Philosophy on 8th to 10th January 2016 at Mumbai.

It is heartening to know that the conference is held in collaboration with IIT Bombay and University of Mumbai and will be attended by around 700 people across the globe.

I hope that this conference will provide a forum to discuss scientific basis of teachings and thoughts of Jain regions, thinkers and preachers. The conference will help to explore intersection of Science & Jain tradition and philosophy.

I wish all the best for the success of the conference and for the souvenir.

(Devendra Fadnavis)



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DL 09-12-2015

MESSAGE

Science and Technology have made unprecedented impacts in shaping our society enhancing our understanding of subtle phenomena of life. Whereas the ancient lore of philosophical literature not only contains a rich source of knowledge regarding the secrets of nature but also furnishes us with the logic needed to bring a balance in our perception of looking at the world.

It appears prudent to correlate Jain Principles with the laws of modern science such as physics, chemistry, biology, medical and health science. The scientific and mathematical data found in the Jain canonical text is a rich source for researches engaged in understanding the mysteries of life and the world. It is essential to establish a continuing healthy dialogue between scholars of ancient wisdom and modern science.

It is heartening to know that “**Bhagawan Mahavira International Reserch Centre, JVBI, Rajasthan** is organizing an **International Conference on Science and Jain Philosophy** in collaboration with **Indian Institute of Technology, Mumbai** and **University of Mumbai** on **8-10 January 2016**. I extend my warm wishes to the event and wish this conference be an excellent success.

With best compliments.

Anandiben Patel
(Anandiben Patel)



Vinod Tawde

Minister

School Education & Sports, Higher & Technical Education, Medical Education,
Marathi Bhasha, Cultural Affairs
Maharashtra State

Date: 17.10.2015

MESSAGE

I was pleased to hear about The International Conference on Science and Jain Philosophy-2015. The key focus of the conference being on providing a platform for the exploration of the scientific basis for teaching and thoughts of Jain Philosophy. This reflects the ingenuity and dedication of the members of this association towards the unification of modern sciences with our age old knowledge of religious philosophy, thus reflecting the thoughts of a progressive society.

The hard work and determination shown by your association towards the discussion of scientific basis of our religious tenets is applause worthy. It is interesting that all the members of your association are taking active interest in reaching out and spreading the knowledge that aid the betterment of our society.

I wish you my very best for the noble work initiated by your association and pray you continue to put in the good work.

All the best for the conference and all future endeavours!

Yours,

(Vinod Tawde)

(Vinod Tawde)

108, First Floor, Annex Building, Mantralaya, Mumbai - 400032.

Tel: 22027174 / 22028742 • E-mail : ministervinodtawde@gmail.com • www.vinodtawde.com

BASANT RAJ BHANDARI



Jain Vishva Bharati Institute (Deemed University - JVBI) is one of the premier and prominent seminaries in India established on the pattern of Gurukul traditions. It promotes, propagates and permeates moral, spiritual and value based education; its foundation being ethics, erudition and eternity.

The establishment of Bhagawan Mahavira International Research Center in 2014 by JVBI aims to integrate, perpetuate pious principles and practices designed and developed through Agams (scriptures) and other sources preached and perfected by Bhagawan Mahavira more than 2600 years ago.

Since its inception Jain philosophy has established close connectivity and linkages of those principles and practices with modern science. Mr. Karl Sogan, a 14th century astronomer, has declared that science is not only compatible with spirituality but it is also a profound source of spirituality.

The international conference on science and Jain philosophy being held in IIT Bombay from January 8-10, 2016 will further expand, express and enrich spiritual domain with tools and techniques of modern science. It will, hopefully, inject and identify areas for further investigations and research to strengthen fusion between science and spirituality.

I wish conference a grand success in its deliberations, dialogue and debate to further concretization of this formidable corridor between spiritual world and scientific wisdom.

Basant Raj Bhandari
Chancellor
Jain Vishva Bharati Institute

SAMANI CHARITRA PRAJNA



It's commonly accepted that science and spirituality are not compatible. Science is considered our reliable way forward, while spirituality is often regarded as a sentimental relic of our past we can't quite let go of. For centuries, science has led our progress, while spirituality is the subjective pursuit of value, reality, and understanding through individual experience or consciousness. However, the drive to find external solutions to global problems that have value to our interior world is more powerful than ever. In this special time of human history, Science and Spirituality are converging into a grand new vision. Quantum science has demonstrated unequivocally that our physical reality can't be separated from our conscious awareness of it. The scale of our planet's problems is too great to be solved without an integrated approach of science and spirituality. The power of spirituality needs the systemization of the scientific method, and the tools of science depend on the wisdom and creativity of individual consciousness to guide it in a meaningful direction.

With this vision, scientists and spiritualists have to meet and discuss solutions to global issues of health, hunger, conflict resolution, climate change, economic injustice, war and violence, ethics and values, sustainable development from a perspective that preserves bio-diversity and co-existence of humanity.

Bhagawan Mahavir International Research Center in Jain Vishva Bharati Institute has been established to ideate, innovate and implement philosophical principles into applied way of life by synthesizing science and spirituality for the betterment of quality of life and explore best solutions of global challenges and crucial crisis. The objective of this center is to explore scientifically new avenues of remedies for individual, familial, societal, economical, political, environmental and ethnical challenges based on the heritage of incredible Indian culture, tradition, values, and ethos and specifically in terms of Jain Philosophy and spirituality, one of the prominent and ancient religions of the world. This motive will bring together not only eminent scientists but also leading lights in spirituality providing a platform to carry forward the quest for truth and finding way out from chaotic problems and create foundation for the next evolutionary leap in human potential.

At the onset of the International Conference on Science and Jain Philosophy to be held on 8th to 10th January, 2016, wishing a grand success with a great hope that it will pave the way for emerging new trends of explication in all walks of life to preserve, promote and propagate peace and happiness.

Samani Charitra Prajna
Vice - Chancellor
Jain Vishva Bharati Institute

PROF. SAMANI CHAITANYA PRAJNA



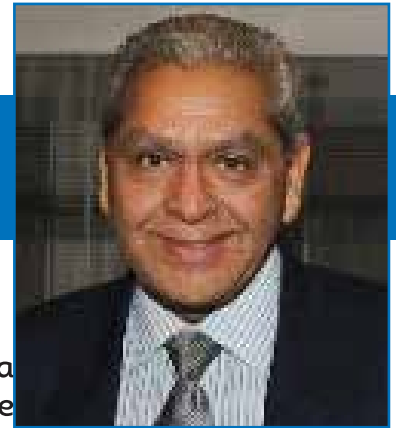
I am very glad that the Souvenir edited by Dr. Raksha Shah has been successfully published and it is in the hands of delegates of the International Conference on Science and Jain Philosophy. I have desired that a Souvenir containing views, opinions and thoughts of enlightened scientists, philosophers and spiritualists should be brought out for the benefit of general readers. Looking at the contents of the Souvenir I am feeling very happy that the objective of gathering fresh views has been meticulously achieved. I hope the goal of connecting methodology of science with the practice of spirituality would be adequately met by this volume. I find the contributors have made sincere efforts to provide deep insight on the topic of their article. The diversity of contributors from different specialties makes the Souvenir interesting for Experts as well as beginners. I hope the readers will benefit in expanding the horizon of their knowledge after going through the articles contained in this compilation.

I have an ambition that future of society should be appropriately guided and steered based on ethics and morality commonly practiced in Jain traditions and teachings. I would like to record my appreciation to all who have contributed their articles at short notice of invitation and have done justice to their topic by putting time and efforts for benefit of society.

I would like to appreciate particularly the sincere efforts put in by Dr. Raksha Shah and the members of the Editorial Board. I specially appreciate the efforts and devotion of staff of Secretariat who have worked tirelessly in planning and execution of the conference for the past several months. I would like to emphasize that the Souvenir and the conference are the beginning of the bigger plans of BMIRC. I would like to exhort all intellectuals, spiritual masters to come together with a sense of purpose and to discuss the prospect of bringing synergy by combining methods of science and spirituality especially following the doctrines of Jainism. I do hope that readers would enjoy absorbing the materials presented in the Souvenir.

Welcoming you to the beginning of new knowledge world of Science and Jain philosophy.

PROF. K. P. MISHRA



I feel tremendously joyful to find that a Souvenir is being published on the occasion of International Conference on Science and Jain Philosophy organized by Bhagawan Mahavira International Research Centre of Jain Vishva Bharati Institute in collaboration with IIT Bombay and Mumbai University.

From the initial stages of planning of the conference I was keen to publish a souvenir on this occasion consisting of articles by renowned scientists, distinguished philosophers and esteemed spiritual leaders despite short time available. Dr Samani Chaitanya Prajna ji was strongly supportive and was in sync with my views on the merit of this proposal.

Following discussions with a few prospective persons, I met Dr Raksha Shah who showed interest and inclination to accept the responsibility of this important publication. We discussed, at length, the framework of the Souvenir, nature of articles and choice of contributors to write for the souvenir. Dr Raksha Shah very readily agreed to become the Editor. I am glad to recognize that she did a good job.

I have been amazed to read the contributions of Bhagawan Mahavira more than 2500 years ago to guide and advise people for their conduct in life. The message given by Bhagawan Mahavira is immensely powerful and even today it is relevant to our society. I foresee an evolution of entirely new world in 21st century with the fusion of science and spirituality. There seems to exist a vast potential to explore secrets of universe by seeking the hitherto hidden power of spirituality

I would like to recall the providence of my meeting with Acharya Mahapragyaji sometime back in 2005 in Mumbai. I was inspired by his scientific approach and logical description of complex issues like death, rebirth and soul. I felt humbled when Acharyashri ji blessed me and advised to meet him again which unfortunately, never happened. Therefore, my association with the conference organized by BMIRC is to a large extent because of the divine motivation. I feel privileged to organize ICSJP and to catalyze publication of this souvenir.

Authors were requested to write on a chosen topic within the broad theme of blending science and spirituality. I am sure the articles chosen by Dr Shah and the editorial team would engage your attention and enable obtaining greater awareness to understand relevance of Jainism in modern time. The growing tendency of people to resort to violence for resolving conflicts is rather frightening and deeply worrisome. Therefore, I feel, embracing the attributes of spirituality to improve quality of life guided by ethics and morality opens door to make the world a better place in the future. I am convinced that non-violence, tolerance and compassion would help achieve happiness and build a peaceful world. It is necessary to continue our firm resolve to promote human qualities for improvement of mankind.

Wish you a better time and a grand success.

ABOUT - BMIRC

Bhagawan Mahavira International Research Centre (BMIRC)

With a view to integrate spirituality and science by evolving a scientific approach to the understanding of Jain traditions, BMIRC has recently been established at Jain Vishva Bharati Institute (Deemed University), Ladnun, Rajasthan. The Centre has an ambitious plan of promoting research in science and spiritualism and looks forward to collaborate with universities and institutes which would help in realizing the goal of integrating science with principles and practices of Jain philosophy. The Centre is in its infancy but has vast potential for advancing scientific knowledge in spiritual practices.

Jain Vishva Bharati Institute (Deemed University) (JVBI)

The institute, established at Ladnun, Rajasthan (India) 25 years ago, is devoted to holistic education and training. JVBI provides higher education to students together with inculcation of spiritual and moral values into them through various courses of two types - the regular course and the distant education course. There are 7 Departments with defined goals of academics. Besides teaching courses, the University provides quality research facilities to Ph. D students. The recent evaluations has categorized it as an 'A' grade university by the Ministry of Human Resource Development, Government of India and re-accredited with an 'A' grade by National Assessment and Accreditation Council (NAAC).



VISION AND MISSION OF BMIRC

The main aim of this International Conference on Science and Jain philosophy 2016 is to have long-term planning for happy blending of science and spirituality. In its post-conference action plan BMIRC at JVBI will focus on following three areas:

Research Problems and Academic Curriculum in Science and Jain Philosophy

The scientific ideas in Jain philosophy extend to the whole range of human knowledge from metaphysics to cosmology, micro and macro, epistemology, physical and biological sciences, ecology and environment, psychology and meditation, and other spiritual practices. Also mathematics in Jain philosophy is of great significance not only for the historian of mathematics, but for comprehensive view of Jainism. Besides Jain philosophy modern science has also made great advancements in many of these fields. A study of these two streams of knowledge shows that though they have been developed in different ways and have many specialties peculiar to them they also have many ideas in common. Further, there is a great scope for ideas of one stream being useful to understand the view points of the other. It is also found that the ideas expressed in Jain philosophy are more comprehensive and refer to much wider domain as compared to modern science in some respect. So, a comparative study can lead to many research areas where a study would be very useful for development of science on one hand and bringing full understanding of the universe and its components on the other.

One problem in studying scientific ideas in Jain philosophy is that the traditional Jain scholars generally are not familiar with science and the scientists have no background of Jain philosophy. The best way to overcome this problem is to teach the basic principles of Jainism to scientists and arranging interaction between Jain scholars and scientists so that the scientists can express the Jain ideas in a scientific way. This would require induction of scientists in a different field of study but this is not difficult as many of the scientists have an open mind and are willing, or rather eager, to learn the ancient traditions.

In order that we have a fruitful activity in the field of study and research in science and Jain philosophy the following agenda would be useful:

1. To facilitate the scientists to study the basic principles of Jainism and their scientific significance.
2. To develop P.G. courses in Jain philosophy and science together with academic curriculum for the same.
3. Identification of areas of scientific research in Jain philosophy.
4. Developing online courses for the benefit of Indian and International students interested in the basic principles of Jainism and their scientific interpretation.

It is also proposed that the Institution such as BMIRC at JVBI, be made the nodal center for organizing activities on above areas and other interested Institutions may collaborate and coordinate with BMIRC so that the work is accomplished fast.

Developing Scientific cum - spiritual techniques for inculcation of Moral Values and Development of EQ in Global Education Curriculum

Moral values help in making the life of an individual, family and the community happy, healthy (holistically), peaceful, and pleasurable. It also cleanses the society of evils like corruption,

malpractices, scandals, violence, etc. and enables the nation to make rapid progress in the right direction. It is now seen that moral values are declining world over and this is becoming a cause of concern to educationists, politicians as well as to all members of the society. How to inculcate the moral values in students has become a challenging task. It appears that traditional ways of imparting value education need improvement and efforts must be made for developing new methods and ways to address this issue.

In this age of science and communication new techniques and technology appeal more to young minds. It is therefore imperative that full use of these new means be used to make the moral education program more effective and successful.

Spirituality has been acknowledged to inspire the individuals towards ethical behavior and boosting morality. Spirituality does not belong to any particular religion; it transcends the religious barriers and relates to the inherent goodness in all human beings. Spiritual practices can greatly benefit humanity in making the life simple, moral and ethical.

Emotions are known to heavily influence the human behavior. Emotional development of students must be a part of education system. Jain philosophy says that passions (kashayas) and quasi-passions (nokashayas), which govern the emotions, introduce perverseness in the soul and remove it away from morality and ethical behavior and obstruct the development of values in life. The attachment (raga) and aversion (dvesha) are the main cause of perversity in life and mental imbalance. Therefore, for purity of conduct and positive emotional development efforts must be made to reduce negative or destructive emotion accruing from attachment and aversion in behavior.

Everyone seeks peace in life. Violence is antidote to peace. We must strive to find non-violent ways to resolve our problems in life as well as in society. Violence is now assuming alarming proportions and posing threat to the civilized society. Recognizing the importance of non-violence the United Nations has declared 2nd October, the birth day of Mahatma Gandhi, as Non-violence Day. Scientific-cum-Spiritual techniques for "Training in Non-violence" in the main solution to mitigate violence.

BMIRC aims to address these issues and suggest ways and means for the following:

1. The information and how of the use of modern means like social media, electronic media, computers, internet, mobile, TV, etc. to inculcate the moral values in youngsters especially students.
2. How spirituality be included in the curriculum and be used to inculcate moral values?
3. How positive emotional development of students can be achieved?
4. How non-violence as a means of peace can be popularized and propagated in the world?
5. In what way Jain philosophy can help in achieving these objectives?

International and National Collaboration for Integrating Jainism and Science

Jainism is known for its scientific approach to philosophical doctrines. Not believing in any Creator God or Super power, it advocates for the universe comprising of independent and eternal existences which are governed by their own nature and laws. There is no place for super natural (or blind) beliefs and role of any external power in the conduct and performance of nature except interaction between the existences as per their natural properties. These basic rules embedded in Jain philosophy also form foundation of modern science which, of course, accepts only the physical order of existence, besides space and time. The Jain view of these scientifically accepted existences also is however very broad

and has not been yet fully explored by science. Jainism has, therefore, much to offer to science in its own domain of perception of the universe, besides describing the living world as a combination of jiva (entity having consciousness) and matter in various forms. Integration of Jainism and science, therefore, can present a comprehensive view of the world and improve our understanding of the processes and phenomena taking place both in the living and the nonliving domain.

Jainism is well known in India as it is scientific. There is therefore a need for National and International efforts to integrate Jainism and science for the benefit of the mankind. To achieve this objective the following steps are necessary:

1. To present the philosophical doctrines of Jainism in scientific terms and modern perspective.
2. Collaboration between Jain Institutions and other Institutions in the country to utilize the scientifically propounded Jain doctrines as means of peace and welfare of the individuals and society without disrespect to other faiths.
3. Collaboration with International institutions and organizations for giving due importance to the Jain studies & research and making it a part of their academic activities.
4. Interaction between Jain scholars and scholars of other philosophies and scientists for exchange of views on subjects of international and societal relevance and establishment of peace in the world.
5. Funding the activities of research and study. Research activity is generally expensive and needs regular availability of funds for unhampered progress.
6. Collaboration with scientific institutes for undertaking scientific research in Jain spiritual practices like meditation, tapa etc, Specially in the field of health & education.

We are confident that with the help of the scientists, scholars, researchers and the support of the generous people of community, the BMIRC will succeed in accomplishing its mission for the welfare of the society!

Samani Chaitanya Prajna

RELIGION AND ENVIRONMENT

ACHARYA MAHAPRAGYA



Acharya Mahapragya was the tenth head of the Svetambar Terapanth order of Jainism. He was a saint, yogi, spiritual leader, philosopher, author, orator, and poet. The well organized Preksha meditation system was formulated by him in the 1970s, and he also developed the "Science of Living" education system which is a practical approach for the balanced development of a student and his character building. He also launched the Ahimsa Yatra movement in 2001 which continued until 2009 to promote non-violence and harmony.

Laid up with flu, I was lying on the ground. It was a small house in a small village with open skies. My mind was absolutely free and unfettered. Right in front of me was a tree. Everything shone bright in the mid-day sun. I first looked at the tree and then at the sky. The former had a miniscule existence against the latter. Small but limitless. The sky is limitless both spatially and temporarily. And in terms of time the tree too is limitless. Not even an atom of the tree can ever be destroyed. It is bound by the philosophical principle that says:

*Anything existent in the present was so in the past and will be in future too.
Anything non-existent in the past can never be either now or in the future.*

The sky and the tree have absolutely no idea of their being or not being and yet their existence is unhindered and limitless. If every single atom that exists will forever be, then how can I doubt my own existence.

I see on the one hand the enormous universe and on the other hand a minuscule man. I also find that present-day thinking is inclined towards the enormous, the aggregate. All things are conceived on large and comprehensive scale. But despite it, problems have not mitigated. The problems of the gigantic universe are the same as those of the individual. What is there in the human body is there in the universe too and vice-versa. I see no reason to doubt its veracity. We become partial and one-sided by being concerned with either the individual or the group. This disease of one-sidedness is rampant everywhere. A comprehensive or many-sided viewpoint dictates that we do not forget the individual while being concerned with the group and be aware of the group while being concerned with the individual, whenever or whatever the individual or group may represent. Religion means existence. The nature of a thing is religion. He who defined religion, thus, experienced the inner reality of religion. The nature of the soul is consciousness. Experiencing consciousness is itself religion.

SCIENCE AND PHILOSOPHY IN THE PROGRESS OF SOCIETY

DR. K. KASTURIRANGAN

k.rangan@nic.in



(Dr. Krishnaswamy Kasturirangan, recipient of Padma Vibhushan and Padma Shree awards, is a past member of Rajya Sabha and Former Chairman ISRO and Secretary, Department of Space, Government of India (1994 to 2003). He is an M.Sc. (Physics), Ph.D. and has Honorary Doctorates of 16 Universities to his credit. He initiated several space missions of ISRO including Indian Remote sensing satellites, Astronomy missions and Indian Moon mission.)

Let me begin this address with a simple question, what is Science? Science is the systematic study of the structure and behavior of the physical and natural world through observations and experiments, basically aiming to find the truth of the existence of the Universe and its constituents. The second entity, religion can be defined as faith or belief and the rituals followed in worshipping God. It is interesting to note that this conference seeks to explore how science and religion should blend, keeping philosophy at the helm and aim to have a progressive society or smart society.

Is religion different from philosophy can be a question which ponders in the minds of common man. Religion and philosophy are different, but they are related. Religion is generally considered to be composed of a set of morals, rules, principles, and ethics that serve to guide one's way of living. This means practicing something with faith. Philosophy, on the other hand, is a bigger domain of discipline that tackles many concepts like metaphysics, the search for the ultimate truth, knowledge, values, reason and life itself. Aim of the philosophy is to attain wisdom. So, any philosophy whether Greek, Hindu, Christian, Buddhist or Jain will lead towards attaining wisdom, but the paths taken will differ depending on the ideologies of each one of them.

Greek Philosophy had its beginning in 6th Century BC and this is the most ancient philosophy. Greek philosophy not only included scientific thought, but it also is said to have inspired world-historical decisions with their own thinking and decided the path of modern civilization with the creation of science. Hans-Georg Gadamer, a German philosopher, in his attempt to find certain points of conflicts between ancient Greek philosophy and modern science observed 'enduring relevance' of ancient thought to modern science. He felt that, Greek philosophy gives access to a way of integrating the empirical sciences with the praxis of social life.

India has seen many schools of philosophical thought and they were formalized between 1000 BCE to the early centuries of the Common Era. Hindu philosophy, Buddhist philosophy and Jain philosophy were the important ones which are sustained and still practiced.

All of them have their root in India and branched out with little difference in their ideology. Hindu philosophy has six ways of looking at truth. They are the Nyaya, the Vaiseshika, the Sankhya, the Yoga, the Purva-Mimamsa and the Uttara-Mimamsa, or the Vedanta. These six sects of Hindu philosophy are the testimony of Vedas and Upanishad.

There is a misconception about Buddhist philosophy and Jain philosophy being same. Although, there are a few similarities between the two, such as belief in rebirth and ahimsa, they are markedly different in other aspects. Main concern of Buddhist metaphysics is to eliminate pain.

The word Jain is derived from Jina, meaning conqueror, victorious or old and wise. Jainism is one of the oldest religions practiced in India which suggest austere path to individuals who are caught in the cycle of birth and death to attain liberation, i.e. Moksha. Mahavira was the last of the Thirthankaras in the lineage of 24 Thirthankars, which suggest that Jainism originated long before Mahavira.

The core of Jain Philosophy is 'Ahimsa'. Jain philosophy deals with metaphysics, reality, cosmology, ontology, epistemology and divinity. V R Gandhi, a Jain philosopher of 19th century is of the opinion that any philosophy or religion must be studied from all standpoints, and delve into details of what it says with regard to the origin of the universe, what its idea is with regard to God, in respect of the soul and its destiny, and what it understands as the laws of the soul's life. He also feels that religion is not different from philosophy, and religion and philosophy do not differ from science.

It is interesting to note that, both Hindu philosophy and Jain philosophy had fair knowledge of existence of atoms as the building block of matter much before western civilization came up with the Quantum theory. According to Jain philosophy, matter carried an important influence in the lives of the individual jivas. Jainism advocated studying matter in its various manifestations and implications. The atomic theory of Jainism was thus a product of deep enquiry into the mysteries of the material world and to find solution to the problem of the human suffering. According to belief of Jainism, an atom is without any point, without a beginning and without an end. It is eternal, can neither be created nor destroyed. It is invisible and imperceptible. Only the adepts can perceive it through their all knowing vision.

It is interesting to know how scientists are also philosophers and their knowledge of philosophy has influenced their contribution to science. Examples to this are Pythagoras and Aristotle of ancient Greek who were first considered as philosophers and then as Scientists. Pythagoras was a mathematician well known for a theorem in Geometry named after him. He is also credited with founding a philosophical school. Aristotle is well known for his logic of deductive reasoning and elucidation of nature, psychology, ethics, politics and art. He was the first one to identify that earth is spherical in shape.

Charles Darwin, a 19th century European Naturalist's discovery of the theory of evolution by Natural selection, upheld that contemporary species have actually evolved from ancestral ones, through a process known as Natural Selection. Until then it was widely believed that the different species had been separately created by God. So persuasive was the evidence Darwin produced for his theory that by the start of the 20th century it was accepted as scientific orthodoxy, despite considerable theological opposition. His philosophy, Darwin's theory, forms the basis of the modern biological world.

Albert Einstein is regarded as the greatest theoretical physicist of the twentieth century or “possibly of all times”. His contribution to modern physics, his study of the photoelectric effect, for which he was awarded the Nobel Prize and his theory of relativity with its profound modifications of the notions of space, time and gravitation have fundamentally changed and deepened the physical and philosophical conception of the Universe. Apart from his scientific ingenuity, his courageous struggle for human rights, social Justice, and international peace has assured him a unique place in the history. Einstein’s philosophical education made a profound difference in the way he did physics. He was not religious per se but he was a philosopher. I give below a quote from Einstein, which speaks of his philosophical approach towards science and society.

“What Artistic and Scientific Experience Have in Common - Where the world ceases to be the scene of our personal hopes and wishes, where we face it as free beings admiring, asking, and observing, there we enter the realm of Art and Science. If what is seen and experienced is portrayed in the language of logic, we are engaged in science. If it is communicated through forms whose connections are not accessible to the conscious mind but are recognized intuitively as meaningful, then we are engaged in art. Common to both is the loving devotion to that which transcends personal concerns and volition.”

It is clearly evident that all forms/schools of philosophy aim to look for truth in the existence of universe. Is the universe eternal or non-eternal is another question which contemplates in the realm of philosophy. So, ‘Science’ and ‘Philosophy’ have a common goal to unravel the truth for the benefit of mankind. Any scientific discovery, no matter which is the field (Science or social science) aims towards betterment of human life. Philosophy is a binding force in achieving this in the universe.

Scientists do not simply record the results of experiments and observations in log book. They usually want to explain in terms of a general theory. This is not always easy to do, but there have been some striking successes. One of the key problems in philosophy of science is to understand how techniques such as experimentation, observation and theory construction have enabled scientists to unravel so many of nature’s secrets.

According to Philipp Frank, a physicist, mathematician and also an influential philosopher, there is a widespread belief that the rising contempt for tolerance and peace is somehow related to the rising influence of scientific thought and the declining influence of the ethics, religion and art as guides of human actions. He therefore feels that training of generations of scientists in mere science, without making them familiar with the world of human behavior, would be harmful to the cause of civilization. Whether we like it or not, scientists will participate more and more in the leadership of society in the future. Also there is hardly any doubt by now that the contribution of the scientists to our political life has been more on the side of peace and tolerance than have the contributions of the students of law or government or for that matter, of Philosophy proper.

In the twentieth century, two theoretical frameworks emerged for formulating the laws of physics. One of these frameworks was Albert Einstein’s general theory of relativity, a theory that explains the force of gravity and the structure of space and time. The other was quantum mechanics, a radically different formalism for describing physical phenomena using probability. By the late 1970s, these two frameworks had proven to be sufficient to explain most of the observed features of the universe, from elementary particles to atoms to the evolution of stars and the universe as a whole.

Here is a quote from Albert Einstein's book, "Out of My Later Years" which speaks of his approach towards humanity and I find it relevant to be mentioned here to substantiate the fact that pursuit of both science and philosophy was mainly to address and improve the quality of life on this universe. The quote is "A human being is part of a whole, called by us "universe," a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest... a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our tasks must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."

In 1998, two teams of astronomers studying distant supernovae made the remarkable discovery that the expansion of the universe is speeding up. Yet, according to Einstein's theory of General Relativity, gravity should lead to a slowing of the expansion. To explain cosmic acceleration, cosmologists are faced with two possibilities: Either 75% of the universe exists in an exotic form, now called dark energy, that exhibits a gravitational force opposite to the attractive gravity of ordinary matter, or General Relativity must be replaced by a new theory of gravity on cosmic scales. Big Bang model describes current understanding of the universe. New discoveries, such as dark matter and dark energy lead us to refine our model. Science is an ongoing process - forcing us to test our model through prediction and observation. The more tests it passes, the greater is our confidence in it.

All these efforts of both scientists and philosophers are for a better society and better tomorrow, which is healthy both physically and mentally. A path to achieve this can be through Yoga and Meditation.

Yoga and meditation is a way to develop wisdom and compassion. Meditation helps in acquiring steadiness of the mind and the ability to see deeply into the truth of our experience; meditation is a component of the practice that enables us to open our heart to others, and ourselves and to recognize our connection to all of life.

If we train our mind to meditate, we will gradually become more and more peaceful and we will experience a purer and purer form of happiness. Ultimately this will bring stability to mind and to face and handle difficult situation. By training in meditation, we create an inner space and clarity that enables us to control our mind regardless of the external circumstances. Gradually we develop mental equilibrium and experience permanent inner peace known as 'liberation' or 'nirvana', ultimate truth of Jain philosophy.

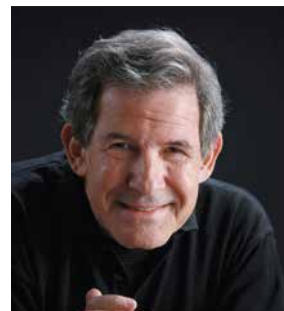
Finally, I conclude with a passage from one of the well known Kannada literary works by Dr D V Gundappa in Mankuthimmana Kagga (translated to English) which high lights the blending role of Science and Sages in uplifting the society at large.

*"New Leaves and old roots what makes a tree magnificent.
New Knowledge and old principles meld to become dharma
If wisdom of the sages can blend with the new sciences,
It would be for the benefit of the humanity." --Mankuthimma*

ISIS, LOVE AND FEAR

DR. GARY ZUKAV

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(Winner of 'American Book Award for Science', The Pathfinder Award, Einstein Award Dr. Gary Zukav is a Harvard graduate, with a degree in International Relations, one of the bestselling authors, a co-founder of the Seat of the Soul Institute, and a member of the Club of Budapest, World Business Academy, the Chair of the Government and Politics Strategy Group for the Campaign for the Earth.)

I am honored to be invited to participate in your joint exploration of science, philosophy, and spirituality. My life is dedicated to contributing the best that I can to a new human consciousness that is emerging and the new world that it can create. Here is a way of looking at our current circumstance:

We stand in two worlds. One is the world of a dying consciousness. The other is the world of an emerging consciousness. If we try to solve problems with the dying consciousness, we will fail because all the problems we face were created by the dying consciousness. This dying consciousness tells us there is a prime source which activates unbreakable causal chains, and that source is action. From actions come consequences. To change consequences, we must change our actions. The emerging consciousness tells us that the prime source of all causal chains is intention. To change consequences, we must change our intentions.

Intentions direct every deed and word, such as intentions to reverse climate change, protect the Earth, and reduce income inequality. When intentions conflict, the result is a power struggle. From the perspective of the dying consciousness, power is the ability to manipulate and control. This is external power. It is inseparable from the dying consciousness, and it now produces only violence and destruction. The West and ISIS are in a struggle for external power, as are the United States and Russia, Saudi Arabia and Iran, India and Pakistan, etc. So also are Exxon-Mobil and environmentalists, Monsanto and the organic movement, etc. Every aspect of the dying consciousness pursues external power – nations, cultures, religions, corporations, friends, and neighbors.

The emerging consciousness is perception beyond the five senses, intuition, and the understanding of power as the alignment of the personality with its immortal part – the part that intends harmony, cooperation, sharing, and reverence for Life. This is authentic power. It is inseparable from the emerging consciousness, and it is now required for our evolution. It is impossible to struggle for authentic power. Authentic power cannot be lost or found, stolen or inherited. We must create it in ourselves. We cannot change the world until we recognize that a new emerging consciousness is replacing a dying consciousness, multisensory perception is replacing five-sensory perception, and authentic power is replacing external power. That is because the world we have inherited/created is made of external power, and pursuing external power adds only more to it.

We need to be aware of this as we create our responses to each of our challenges, such as ISIS. The dying consciousness casts the issue of ISIS as good vs. evil and savage vs. civilized. The emerging consciousness sees it as a matter of love and fear. The pursuit of external power originates in fear. The creation of authentic power originates in love. Fear excludes, judges, and attacks. Love includes, accepts, and reveres.

In the emerging consciousness, love and fear are the fundamental intentions that determine the consequences of all other intentions. For example, if our ISIS strategy is containment, military action used wisely, reaching out to mainstream Islam, opening our homes and borders to refugees, etc. – it will create constructive consequences only when the intention behind it is love. The same strategy will create destructive consequences when the intention behind it is fear. Fear separates, shatters intimacy, and prevents healing. Love heals everything.

If we see ISIS as a “cancer that must be cut out” and “systemic rot in the collective consciousness” we become like ISIS. They see us the same way. Their attacks in Paris targeted symbols of Western culture – a sporting event, a rock concert, and people simply dining out – which they see as “cancer that must be cut out” and “systemic rot in the collective consciousness.”

In order to change the world, we must ask ourselves continually, “Am I doing this from love or from fear?” To be specific, changing the world requires me to ask myself continually, “Am I doing this from love or from fear?” independently of others. It requires you to ask yourself continually, “Am I doing this from love or from fear?” independently of others. We can support one another in creating authentic power, but we cannot create authentic power for one another. Creating authentic power is not a mass movement or even a small movement.

The emerging consciousness understands that world transformation begins with self transformation. The dying consciousness dismisses self transformation as irrelevant to global change, which requires participation of millions. This is the biggest chasm between the emerging consciousness and the dying consciousness, and our evolution requires me to change myself in order to cross it. It requires you to change yourself in order to cross it. If we attempt to find strength in numbers, validation in numbers, we miss the point. My creation of authentic power makes me the authority in my life. Your creation of authentic power makes you the authority in your life. Creating authentic power is an intensely personal, heroic journey. It cannot be crowd-sourced.

Like many of you, I have traveled a long way to reach where I now stand. I earned a degree in International Relations from Harvard; I attended the lectures of Henry Kissinger; I was a Green Beret officer in Vietnam; I wrote an Award-winning book on quantum physics. I did even more, but none of these things prepared me at the time to say, unequivocally as I do now, that recognizing all our adversaries, including our ISIS brothers and sisters, as our teachers and learning to respond to them with love instead of react to them with fear creates authentic power, and there is now no other way to change the world.

I am looking forward to cocreating a new, healthy, and joyful world with you.

S1 + S2 = P

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“Agama Manishi”, “Bahushrut” and “Preksha Pradhyapak”, Prof. Muni Mahendra Kumar is a Jain monk and scholar who graduated and got initiated in 1957. He is a prolific writer, a translator and a critical editor of more than 60 books

There is an old story of a blind man and a lame person. Both of them got arrested in a forest. Suddenly a fire broke out in the forest. Everyone started running away to save his/her life. What a pity! The blind man could not understand where to go and the lame man, in spite of knowing the way out, could not run because of his disability. Both of them decided to join hands. The lame man sat on the shoulder of the blind person. The blind man started running while the lame man guided him. Both safely overcame the calamity. Probably, Albert Einstein, in this context had uttered-

*“Religion without science is blind,
Science without religion is lame.”
Let us equate S1 with science
S2 with spirituality
and P with peace.*

Then $S1 + S2 = P$

The ICSJP is probably an unprecedented event both in the history of science as well as spirituality. The vision is: Science and Technology have played the prime role in bringing about an unprecedented development in the history of humankind. On the other hand, Spirituality, which, in itself, is spiritual science, has nurtured the human mind with the values like non- violence, compassion, forgiveness, self-discipline, universal love and friendliness and so on and so forth.

The major global problems that have raised their ugly heads have baffled not only the scientists but also the academicians, social scientists, psychologists, political stalwarts in International Relations and the most intellectual humans. All seem to be groping in the dark to find a way out. Probably, the situation is even worse than that faced by the blind man caught in the wildfire.

Jain philosophy, propounded by Bhagawan Mahavira, nearly 3 millennia ago, perhaps, holds the key to the solutions to the present day burning problems. Spirituality, in general, and spiritual doctrines and practices like meditation, yoga, penances etc, prescribed in Jainism, in particular, are found to affect positively the emotional brain, called the Limbic System, and as a result, it has been scientifically experimented and shown that the negative emotions like violence, cruelty, hatred, anger, fear etc, are amenable to undergo change.

If this is true, then let us allow the eminent scientists and the scholars working in research field of Jainism as well as spirituality in general to come on the same platform to deliberate over the topics such as

- Science and Spirituality
- Science, Society and Ethics
- Soul and consciousness
- Ecology and Environment
- Laws of Science & Laws of Karma etc.

Also, in spite of tremendous efforts made by the theoretical science including Microcosmology, Macrocosmology, Mathematics etc., the ultimate breakthrough is still to be made to define precisely the subtle aspects of the physical world, the psychical world, space, time, relatively etc. Hence, it is advisable to compare, contrast and correlate the doctrines, enunciated by Bhagawan Mahavira through his extra-sensory perception, with the hypothesis and probable models given by the modern scientists, and try to find out experimentally (both through sensory perception as well as by developing extra-sensory perception) the solutions to the most intricate problems concerning the ultimate nature of reality.

Above all, the threatening challenges like terrorism, global warming (or climate change), the chronic form of domestic violence, specially the one amongst the teenagers and the youngsters, the social, economic and racial disparity and so on and so forth, are to be addressed gallantly through blending Ancient Wisdom with Modern Science and Technology. This is what can be expressed as $S1 + S2 = P$.

UNIFIED MODERN TREATMENT OF THE EIGHT KARMIC COMPONENTS: MULA-KARMAPRAKRITI

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1. Introduction

One of the fundamental concepts of Jain Science of Life is 'The soul exists in contamination with karmic matter and it longs to be purified'. Further, the karmic matter gets differentiated into eight karmic components/karmas (Mula Karmaprakriti). The eight types in standard sequence ordering are shown in Table 1 and divided into two groups: the first four Ghatiyas (negatively influencing the soul quality) and the next four Aghatiyas (their presence does not interfere with Keval Gyan and are connected with embodiment). The major systematic treatment includes that of Davendra Suri's "Karmagranthas" and Nemichandra's "Gommatasara" (Karma-Kanda, NS1 = the first stanza below); we refer below to Gommatasara.

2. New Modern Treatment

There have been many different literal English translations of the above key words, leading to several variations. For example, Ghatiya and Aghatiya Karma are translated as Destructive and Non-destructive Karma (P. S. Jaini's Book), and as Harmful and Non-harmful (Dunda's Book). These do not capture their functional essence in terms of modern scientific and psychology thinking. Kachhara (2014, Scientific Explorations of Jain Doctrines) seems to have taken the first step towards projecting them into modern thinking and thus taken an out-of-the-box approach, namely, he uses Psychical for Ghatiya, and Biological and Physiological for Aghatiya.

However, we start differently; first, we start translating Ghatiyas and Aghatiyas in a functional way, so their intrinsic properties are brought closer to their action as Ghatiyas is more active and observable than Aghatiyas (which is passive/latent) in a particular life-span. Thus, we equate the Ghatiyas as some form of quotient-blocking karma, whereas Aghatiya as coding karma. This nomenclature has the following additional advantages:

(i) that quotients are quantifiable as most of these karmas are in terms of pudgala and these are active in operation, whereas Codings are mostly collecting information for the next incarnation and are otherwise passive in one's life-time.

(ii) Further, we extend the idea and translate eight of these karmas as in Table 1.

1. Emotional Quotient blocking (EQB); 2. Executive Quotient blocking (XQB); 3. Intelligence Quotient blocking (IQB); 4. Spiritual Quotient blocking (SQB);
5. Psyche coding (PC); 6. Bio coding (BC); 7. Actuarial coding (AC); 8. Environmental coding (EC).

These differ from Kachhara's nomenclature of these eight karmas but the aim is similar. Our system tries to unify the concept of the types of the eight karmas as well as describing their functional properties in a broad sense. For example, we can measure emotions, knowledge, executive ability and spiritual strength, but in contrast we don't know what the four embodiment factors are coded for the next life.

In a way Quotients reflects qualities of the Soul (Mardia's Book) as given in Table 1; the higher the life quotients, lower the karmic matter. In contrast, the first four karmic components reduce the Quotients by defiling, obstructing or obscuring the inherent elements of the Soul. The Codings are rules that define an individual,.

The abbreviations EQ and IQ are well-known, XQ and SQ are not. XQ is also known as virya, or the quality of energy, and the generator of the vibrations of body, mind and speech. SQ is controlled perception, and measures a person's spiritual level. It is high in a person with divine qualities, for example, it is the highest in Tirthankars. SQ increases as this karmic matter is at zero level.

The Genetic Coding is well-known, but not Bio Coding. The Jain interpretation of Bio Coding, however, goes well beyond mere DNA – it includes codes for heavenly beings and beings from hell, in addition to codes for earthly beings, both human and animal. . The Psyche Coding is a major part of "personality". The Environmental Coding is related to what is conducive or non-conducive for a Jiva. The Actuarial Coding is deemed to be the length of life span of a Jiva.

3. *Nemichandra's examples of the eight Karmas and our model*

Here now we give the traditional sequence ordering in Table 2 (using Roman numerals) and the mapping (NS21) between this and the standard sequence.

Table 3 gives examples used by Nemichandra to illustrate each of the eight karmas. We now demonstrate that they fit closely with our terminology, capturing the essential features and functions sequentially.

As one cannot get true knowledge of a deity on obscuring the sight by covering the face of the deity, in the same way the IQ is blocked. As the guard on duty prevents sight of the king, in the same way the perception of the SQ is blocked. Licking a sword coated with honey, first one gets a pleasant taste, but then the sword's edge cuts the tongue and causes pain. In the same way the psyche coding karma causes fluctuation between pleasure and pain. Just as one gets careless under the influence of alcohol, in the same way the emotional quotient blocking karma reduces the value/level of the EQ. In the way a chained person cannot move, so the actuarial coding karma restricts one to a particular existence. As the painter can paint/portray various pictures, in the same way bio coding karma gives a jiva the form of a human or hellish being. In the way the potter is able to make pots of different size and glaze (for different uses), the environmental coding karma creates a conducive or non-conducive environment for jiva. As the treasurer does not allow the king to execute his desire to give to charity, so the executive bonding karma prevents the execution of positive activity.

NS18-20 give explanation of this sequential order of their operation. For example, this gives blocking karma IQ the main role, followed by blocking karma SQ, Psyche Coding and blocking karma EQ; thus the Psyche Coding plays a role at a higher level than the blocking karma XQ. This follows common empirical observation, though blocking karma EQ is regarded as the leader of all karmas.

4. Concluding Remarks

As far as I know not much has happened on these lines, and we quote from the thesis of Wiley (2000) for some possible reasons:

“However, in spite of the importance of karma theory.... There seems to have been a reluctance to examine critically this vast and highly technical body of material, which most would characterize as one of the more tedious parts of what has been viewed historically to be a lackluster corpus of literature. “

On the other hand, modern thinkers have been trying to understand consciousness and we give the following quote of Gallen Strawson (Economist, 3-10-15).

‘It is beyond serious doubt that conscious experience is wholly a matter of brain activity, but this doesn’t show us that we don’t know what consciousness is. It shows us that we don’t know what matter is. The hard problem is the problem of matter. Matter is even more extraordinary than we thought, as physicists have been demonstrating for a long time.’

In this the search for matter alludes to something with properties akin to karmic matter though the field is still wide opens as far as scientists are concerned. Our new model gives some insight but further research is needed.

Acknowledgement: I wish to express my thanks to Kristi Wiley for her help.

Table 1: The eight karmic components (Mula karma-prakriti)

		Negative forces/karmic components		New nomenclature	Quotients / Elements of the Soul
Primary components (destructive or Ghatiya in this cycle) = Four Quotients	1	Bliss-defiling 1a = insight-deluding, 1b = conduct-deluding (with four Kashayas and nine subsidiary Kashayas)	Mohaniya	EQ blocking karma	Bliss
	2	Energy-obstructing	Antaraya	XQ blocking karma	Energy
	3	Knowledge-obscuring	Jnana-avaraniya	IQ blocking karma	Knowledge
	4	Perception-obscuring	Darsana-avaraniya	SQ blocking karma	Perception
Secondary components (non-destructive or aghatiya in this cycle) = Four Codes	5	Feeling-producing 5a = generator of pleasant feelings 5b = generator of unpleasant feelings)	Vedaniya	Psyche coding karma	
	6	Body-producing	Nama	Bio coding karma	
	7	Longevity-determining	Ayu	Actuarial coding karma	
	8	Environment-determining	Gotra	Environmental coding karma	

Table 2: Operational order of karmic components

G or Ghatiya = Primary and destructive. A or Aghatiya = Secondary and non-destructive. Roman numerals show traditional sequence; Hindu numerals in brackets show corresponding standard sequence

I (3)	Knowledge-obscuring (G)	Jnana-avaraniya	IQ blocking karma
II (4)	Perception-obscuring (G)	Darsana-avaraniya	SQ blocking karma
III (5)	Feeling-producing (A)	Vedaniya	Psyche coding karma
IV (1)	Bliss-defiling (G)	Mohaniya	EQ blocking karma
V (7)	Longevity-determining (A)	Ayu	Actuarial coding karma
VI (6)	Body-producing (A)	Nama	Bio coding karma
VII (8)	Environmental-determining (A)	Gotra	Environmental coding karma
VIII (2)	Energy-obstructing (G)	Antaraya	XQ blocking karma

Table 3 – The traditional order of the eight karmas and their examples

(Nemichandra's Stanza 21, Gommatasara, Karam-Kanda, Translation: J.L. Jaini)

I	IQ blocking karma	Jnana-avaraniya	The veil (which obscures the sight of the face)
II	SQ blocking karma	Darsana-avaraniya	The guard on duty (who prevents sight of the King)
III	Psyche coding karma	Vedaniya	The sword (coated with honey; licking it, the tongue is cut, 1 so that the pain is more than the pleasure)
IV	EQ blocking karma	Mohaniya	Wine (which intoxicates and deludes)
V	Actuarial coding karma	Ayu	The stocks (which confine one to a certain condition)
VI	Bio coding karma	Nama	The painter (who makes different kinds of portraits)
VII	Environmental coding karma	Gotra	The potter (who turns out tall and low pitchers)
VIII	XQ blocking karma	Antaraya	The treasurer (who obstructs the king in giving money in charity)

SHEDDING OF KARMA THROUGH MEDITATION: SCIENTIFIC EXPLANATION

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Modern science and technology have brought high standards of material comfort and welfare to people, particularly in the 'developed' countries. However, these material gains have not brought satisfaction or contentment. On the contrary, they seem to have created more greed, conflict, insecurity, unhappiness, anxiety, stress and illness. In the face of the failure of wealth and material comforts to deliver contentment, many are turning to yoga and meditation, an age-old Indian tradition, to regain their physical and mental health.

Yoga is a spiritual activity of mind, body, or speech aimed at achieving spiritual liberation or self-realisation. The Tattvartha Sutra defines meditation (dhyana) as concentration on a particular object, Jain scriptures describe four forms of meditation: 'sorrowful' (aarta) 'cruel' (raudra), 'virtuous' (dharma), and 'pure' (sukla). The first two are inauspicious, to be avoided and the last two auspicious ones are worth observing.

Auspicious meditation helps to promote both physical and spiritual health. For the benefit of the Jain Community, Jain Seers have interwoven the virtuous meditation into their daily activities. Rare persons are capable to practise pure meditation.

The living organism consists of the physical body: material constituents such as the sensory organs, brain, mind, sub-conscious mind (chitta), subtle luminous body, more subtle karmic body, and non-material conscious element: the soul. Jainism believes the universe consists of six substances; 'non-material thing' the soul and five 'material' things: the matter, medium of motion, medium of rest, space and time. It emphasises the knowledge of these six substances (sad draavyas) or Realities necessary to progress towards the path of spiritual liberation.

Substances change their forms (paryaayas), states or modifications, but basically they are permanent and unchangeable. They can combine together without losing their separate identities or natures. Substances are endowed with 'coming into existence' (utpaada), when they change their forms, decay or 'cease to exist' (vyaya), and permanence or 'continuous existence' (dhrauvya). All six substances are continuously active. To be active, the substance has to undergo modifications at every moment. It has to have a new mode, simultaneous disappearance of the old mode and at the same time permanency. These phenomena happens at every moment by the inherent, momentary, imperceptible and continuous wave motion found in the constituents of the substance itself, similar to the waves of the ocean.

There are two forms of stationary wave motion: common stationary wave motion found in all the substances: existence, functionability, knowability, individuality, spatiality and special stationary wave motion with a process of integration and disintegration, found only in the soul and in matter.

The pure soul and pure matter have special attributes(guna). Special attributes of the soul are: infinite faith, knowledge, bliss and energy; perfect conduct, eternality, non-materiality and the absence of lightness or heaviness. The special stationary wave motion of the soul provides it with consciousness, which remains invisible. Special attributes of matter are: touch, taste, colour and smell. The special stationary wave motion of matter provides it with sensibility, which makes it visible.

Stationary wave motion cycles occur in the substance countless times per moment, they establish vibrations in the parts (pradesas or paramaanus) of the substance, and cause disturbance when combined with other substance to produce differing modes. The modes are termed dravyavyanjanaparyaaya. The disturbance-carrying energy waves precipitate the attribute (guna) of the substance.

In all omniscient souls (embodied or disembodied) these two types of dravya and gunavyanjanaparyaaya function normally, as such pure souls are free from obscuring karma. They function abnormally in all worldly souls because of their karmic bondage. Likewise they function normally in elementary particles of matter and abnormally in all elementary particles within the molecules.

From the onset the relationship between soul and matter has been responsible for worldly existence. Apart from the gross organic body there is a subtle body which serves as a link between the soul and the material body, and which is only discarded at liberation. The disintegrating matter particles of this subtle body are replenished in a continuous succession, and thus the subtle body remains intact. It is the subtle body, which includes the karmic body that keeps the soul in worldly cycles.

The soul itself, a conscious entity, forms the nucleus of the organism. A contaminating field producing malevolence (the passions), derived from the karmic body, envelops it; this field not only circumscribes but also governs psychic activity. Transcendentally, the soul is the supreme 'ruler' but, in actuality, the influence of the passions is so powerful that the ruler is unable to act independently. The soul radiates pure psychic energy, but as the radiations have to pass through the domain of the karmic body and passions, they get distorted. During their passage, they interact with the passions and form a new field; in Jain scriptures this is the 'domain of the primal drive' (adhyavasaaya) i.e. the primal psychic expression. While the mental states due to cerebral activity are found only in vertebrates; the primal drive is present in every living organism including plants. Further, the radiation intermingles with the other subtle bodies, luminous and karmic, and the consequences are biochemical and bioelectrical.

The radiations of urges and impulses move between the subtle body and the gross body. These compelling drives, derived from the subtle body, activate the endocrine system when they reach the physical body, stimulating the latter to secrete and distribute chemical messengers (hormones) corresponding to the nature and intensity of the impulse. These hormones become the agents for executing the primal drives in the physical body.

The chemical messengers secreted by the endocrine glands are carried by the bloodstream and interact with the brain and the nervous system; together they constitute an integral co-ordinating system, which modern medicine calls the neuro-endocrine system. The primal drives depend upon the karmic components and create the psychic mind with appropriate knowledge and perception to radiate image across the field of liaison between the subtle and the gross bodies. The physical mind acts as a vehicle for the flow of emotions, which stimulates the endocrine and nervous systems, creating thought, speech and bodily activities.

How meditation works

Relaxation and bodily detachment are the prerequisites of meditation. The first signs that one is benefiting from virtuous meditation are control over the senses, fine health, kindness, an auspicious aura, bliss and clarity of voice. It leads directly to heavenly pleasures and indirectly to liberation through merit, stopping the influx of karma and the shedding of previously acquired karma.

Through its continuous vibrations, the pure soul radiates its characteristics: infinite bliss, knowledge, perception and energy. The vibrations that have to pass through the cloud of karmic body become distorted and produce malevolent field of passions and primal drives. Although this distorted radiation sheds karmic particles through its natural characteristic of disintegration, it not only influences the activities of the gross body, mind and speech, but also is influenced by the process of integration of karmic particles attracted by the external environment and the passions generated by the shaded karmic particles. When all bodily activities are halted through bodily detachment and meditation, the distorted radiation of karmic body becomes ineffective. As a result one experiences mental equilibrium and blissfulness. As it is ineffective, the karmic body continues transmitting vibrations with greater speed, resulting in shedding of more karmic particles and the process of disintegration or shedding karmic particles carries on till all karmic particles are shed..

When one gets rid of karmic body, spiritual liberation of the soul is attained to manifest its true characteristics. Thus the meditation aids the soul in shedding the karmic body and achieving self-realisation and also in early stages to promote both physical and spiritual health.

Meditational practices and their beneficial effects have been well known in India for thousands of years. Recently these practices have become widely popular in the West. In India many institutions employ meditation to assist the cure of illnesses and work to establish the scientific basis of meditation.

JAINISM, BUSINESS ETHICS AND ENLIGHTENED LEADERSHIP

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In the past decade, the world has experienced dramatic economic upheaval. The economic “tsunami” that swept through the world’s financial markets highlighted weaknesses in the global banking system, revealing this bedrock of the modern marketplace to be more fragile than most suspected. Problems arose when widespread risk management processes failed. The crisis then spread quickly because of the very quality that otherwise lends strength to this network: the interconnectedness of these financial institutions. While the meltdown was not merely the result of personal ethical lapses – other factors also played a part, including systemic incentives and complicated, sometimes poorly understood financial tools – there were too many instances where short-term focus on material gain created an environment conducive to unsustainable, and unenlightened, leadership practices.

When reflecting on the crisis – or on business ethics overall – from a Jainist perspective, it becomes clear that a number of our spiritual tenets could have helped prevent these market excesses.

In these challenging times, the core Jain principles, such as non-violence (ahimsa), non-absolutism (anekanta), and non-possessiveness (aparigraha), can serve as a valuable framework for each of us, and for our leaders whose actions touch millions of lives. Indeed, the world seeks enlightened leadership to address a range of global issues: economic, environmental, political and others. Because the stakes are so high, it is crucial that we each do our part to help cultivate an enlightened mind through the “three jewels” (ratnatraya) of proper faith (samyag-darsan), proper knowledge (samyak-jnan) and proper conduct (samyag-caritra).

Our challenges are many, but rather than regard these problems as evils to be ignored or avoided, we can view them as opportunities to make the right choices and contribute our talent and goodwill to create solutions. It is by courageously meeting these challenges that we progress as individuals, while also offering a significant gift to the world. For political leaders, this perspective is essential since it can result in an honest engagement with social problems. From this engagement can come beneficial policy and governance that helps others achieve their full potential. For leaders in business or education, this engagement can create material and intellectual prosperity, as well as innovations in science and technology that have broad implications for well-being. And for each of us, working in whatever way our path directs, our efforts to make a positive difference lets us cultivate merit that transforms us as human beings so that we can be our best.

When we consider the problems facing us, usually the causes have their roots in ignorance. When we reduce the obvious “sparks” of anger, greed, fear, small-mindedness to their source, we find that ignorance is the fuel for these impulses. And ignorance, then, is an inability to understand the true nature of reality and our responsibility to ourselves, to our neighbors and to the world. It’s bad enough when an everyday citizen displays this ignorance, but much worse when we encounter leaders who, in caring more for their own narrow interests or for the interests of a few stakeholders, use their power to betray the needs of the larger society.

Jainism, however, offers the resources and the path to reflect on what matters most and then to renew ourselves as we set upon the journey of making ourselves, and the world, better.

One helpful core Jain principle to guide leaders is *anekanta*, or respect for diverse views. While yesterday’s “command-and-control” leadership model used authoritarian tactics to manage people, the best leaders today understand the importance of seeking a multiplicity of perspectives in a world moving ever faster and growing more complex. Because each person operates with limited knowledge, we all see the world with less-than-perfect insight. By benefiting from others’ counsel, leaders not only increase the odds of making wise, holistic decisions, but they also create environments founded upon compassion and tolerance, since *anekanta* encourages us to see the world through the eyes of others too. In a way, this principle is the very soul of leadership. Great leaders are those who can connect with others and who inspire caring, inclusive cultures where people thrive in collaborative pursuit of organizational goals. Jainism helps a leader achieve this objective, creating value for everyone throughout the organization and beyond, into the broader community.

Clearly, this respect for diversity holds promise for many areas of modern life, and even could help resolve issues of political or religious strife. Before uttering a harsh word, even in the face of an adversary, we have the choice to pause and reflect and to imagine how that other person sees things. This may provide a platform for fruitful dialogue. On the other hand, the poorly chosen phrase, spoken in anger, can result in a lifetime of regret. Through its emphasis on “right thought,” “right speech” and “right action,” Jainism encourages leaders to look beyond the immediate or the material for ways to make an enduring, significant contribution. Of course, Jain mendicants take a more austere path, but for the layperson (*shravaka*), the challenge is to remain engaged with the world even while seeing past the mundane illusions that can hinder our spiritual progress.

If one follows the Jain faith, it would seem crucial to conduct one’s business affairs scrupulously, being as careful as some monks and nuns are, when walking, to sweep the ground before them to avoid crushing insects on the path.

Taking an even broader view, Jainism offers us a transcendent perspective on the very nature of value. While the market concerns itself with transactional value and unvarnished materialism, Jain tradition reminds us to continue our more important, long-term journey to attain *moksha*. Our ethical practice should support this ultimate goal, rather than ensnare us in mundane commerce. The Jain’s relationship to the market, it seems, should be to regard the accumulation of material wealth as being spiritually helpful so long as this wealth is deployed in ways that create widespread social benefit.

Business, like all human relationships, has the potential to create material and spiritual prosperity, but only if we pursue our work with a compassionate heart, the wellspring of all ethics.

RELEVANCE OF JAIN ETHICS IN PROMOTING PEACE

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Principle of Jaina Ethics

Ethical discipline is an important aspect of Jainism. It has a twofold objective i.e. spiritual purification and making an individual a worthy social being. The ethical discipline is well graded in Jainism to suit an individual. It is prescribed according to his will to carry it out sincerely, without any negligence either in its understanding or in its practice. *Jaina ethics is based neither on oneness of life as in Vedanta, nor on momentary nature of soul as in Buddhism. It is based on equality of life. Basically all souls are equal.* The social organizations as anticipated by Jaina ethics, do not make any distinction on the basis of caste, creed or colour.

The metaphysical Reality or Truth of logical coherence will remain merely a theoretical possibility unless it is translated into good of life through right-living. In fact, the Reality or Truth is supra-logical and can be better realized by living it practically than by speculating on it intellectually. Indian philosophy in general and Jainism in particular, therefore, ascribes the supreme place of all the branches of philosophy to ethics. The foundation of the ethical discipline is the doctrine of Ahimsa. If we correctly comprehend it, it will be seen that it is the recognition of the inherent right of an individual to live, and is generally expressed that every one wants to live and no body likes to die. No one has any right to destroy or harm any other living being. Viewed as such Ahimsa is the fundamental law of civilized life and rational living, and thus forms the basis of all moral instructions in Jainism.

Jaina Ethics for Present Day Problems of Global Civilization.

Syādvāda, which has become almost a synonym for Jainism, teaches us that the same truth could be differently expressed without involving us in any real contradiction.

Jainism has always kept the problems of global civilization in view, and shown the utility of Jaina ethical concepts for humanity in general. Jaina ācāryas have always stood for the dignity of man, and equality of all, advocated the birth-right of independence of all individuals and have preached the elevated ideal of non-violence. When there is realization of the true nature of the self and when one is completely absorbed in the bliss of self-realisation, the observance of all the moral rules become spontaneous, coming from within and not being imposed from out. No ethical study could be useful unless it provides an answer to the problems with which our lives are beset. The problems of global civilization arise out of various factors, which can be classified under the following broad categories:

(i) *Selfishness*

(ii) *Ignorance*

(iii) *Scarcity*

(iv) *Injustice*

(i)Selfishness–Selfishness lies at the root of all global problems. All immoral practices of global civilization arise out of selfish nature of man. Selfishness can be overcome by realizing the true nature of the soul.

According to Advaita Vedānta, the individual soul (ātmā) is identical with the universal soul (Brāhman). This broadens our outlook and lifts us above selfishness. Buddhism, on the other hand, asks us not only to destroy our ego but also to believe that the soul, for which we struggle so much, is a non-entity. Both of these views represent idealism, where as Jainism is a realistic system. It propounds that the soul is a real, permanent entity and that each soul has a distinct existence. What Jainism lays down is neither a belief in the unity of life nor in the non-entity of the soul, but a distinction between the soul (jiva) and the non-soul (ajiva) and a victory over passions, which are based on a false conception of the identity of the two.

The above ethical idea, which Jainism gave with reference to individual Sadhana, could be interpreted afresh in the context of modern day global problems to suggest that all nations of globe could also maintain their individuality, and yet live in peace and harmony if negative ideas of anger, pride, hypocrisy and greed could be renounced.

(ii) Ignorance–In spite of spread of education in modern times, the problems of life seem to multiply rather than decrease. Of what use is knowledge, which binds us rather than liberate? Jainism teaches us that all knowledge is relative and co-related. Let us be receptive to every thought. One sided attitude only complicates global problems rather than solve them. It does not give us any solution to such ethical questions as 'determinism' and 'freedom of will'. Non-absolutism shows us the path of synthesis among fate and human effort; faith, knowledge and action; and supra-moral plane of life and practical code of morality. *The answer of Jainism to the problem of knowledge is represented in its doctrine of non-absolutism.* Much of misunderstanding between one nation and the other of globe could be solved if we could adopt the attitude of non-absolutism on political problems.

(iii) Scarcity–*"The greater the possessions, the greater the happiness" is the motto of many. Jainism and yoga teach us quite the opposite : "the lesser the possessions, the greater the happiness".* Happiness comes from what we are and not from what we possess. We should realize the blissful nature of the soul, becomes free and be not the slaves of worldly objects. This puts an end to the struggle for wealth and other possessions *The answer of Jainism to the problem of scarcity is : Be not attached to the worldly objects; be not their slaves; turn to the self within ; from within comes the happiness.* It is a state of inner peace and harmony. This does not imply a life of inertia, but a state of dynamic equilibrium of contentment and action.

(iv) Injustice–The bigger fish swallows the smaller ones. The mighty and the aggressive prosper; the humble and the meek suffer. The result is the rule of jungle. In the sphere of

politics we kill and crush in the name of caste, creed and colour. The result is war and bloodshed. Jainism brings us hope of justice in the form of doctrine of karma. *As we sow, so shall we reap*. All lives are equal and the stronger have no right to do any injustice to the weaker and if they do, they don't harm anybody but themselves. We should meet on injustice not with force but with forbearance. *Violence begets violence, enmity leads to enmity : but if we don't retaliate it, subsides*. In fact, the haves should spare more and more for others rather than becoming greedy and increase their possessions. This principle of cast system in our society that the Brahmins should live a life of simplicity, austerity, less and less for themselves and more and more for others, sharing with love are all brought to practice in Jainism. Jainism has also opposed from the beginning to any social injustice arising out of wrong notions of casteism or racialism. The creed of non-violence, if applied to the global problems, has the potentiality of wiping out the institution of war from the surface of global civilization. *Thus, the answer of Jainism to the problem of injustice is fourfold : doctrine of karma, equality of life, non-violence and equanimity*.

Non-violence and its Role in Peace and Harmony of Global Civilization

It is a very well known fact that the man of today is living in a world which is much more complex than that of an ancient or mediaeval man. Independence among nations has increased and this has brought an ever widening and deepening impact on the economic, intellectual and social conditions of our existence. Jain ethics has both the eyes of the individual as well as the social betterment. Social dependence cannot rob individual freedom to achieve spiritual individuality. Thus, the individual and society influence each other. The individual moulds and is molded by society.

Ahimsa with the Jain doctrine of nayavada can very well serve as the supreme principle of morality. *Hence there is nothing in the world or even out of it that can be called good except the principle of Ahimsa of all beings as the manifestation of divine love for all creation*. The establishment of international organization and the tendency towards disarmament are the symptoms of the inefficacy of force, war and violence to act as arbiters among international disputes. "Thus the principle of non-violence really implies that life should be elevated altogether from the plane of force to that of reason, persuasion, accommodation, tolerance and mutual service." The virtues of non-violence and Aparigraha are capable of establishing universal peace. Jain ethics believe, *Ahimsa means universal love*. Non-violence cannot be materialized in the life of the country without extirpating the passion of greed. The *root cause of violence is material goods*. If the importance of the virtue of Aparigraha is understood at the international level, the attitude of non-violence will synchronize.

Moral Ideals of Jain Ethics

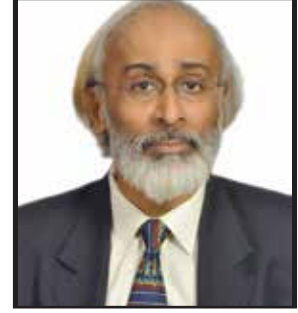
The attainment of bliss is the objective of Jain ethics to be aimed at. Brahma is the delight of life, mind, the fullness of peace and eternity. The Taittiriyaopaniad compares Brahmanic bliss with other types of physical blisses and after enumerating a number of blisses enjoyed by men, gods etc. It may be pointed out here that the spiritual bliss is the highest bliss and no physical bliss can stand comparison with it. Jain ethical ideal may be expressed in terms of action. The Isopanisad tells us that "a man should try to spend his life span of a hundred years only in the constant performance of actions, but in detachment. It is, thus, only that we can hope not to get contaminated by actions.

According to Bhagavad Gita, karma-yoga or the life of activism constitutes the supreme end to be aimed at. It is, no doubt, true that we can find passages in the Gita where Jnana is superior to karma, where karma is superior to Jnana and where they are at par. But the law of body, the law of society and the law of universe indicate and even vindicate activism. The Gita tells us that the actions should be performed after brushing aside all attachment to and the desire for the fruit Jain asceticism embraces social goodness within its fold along with individual goodness. The Jain concept of Anuvratas is a means between asceticism and sensualism. It completely makes possible the achievement of social goodness and brings about individual goodness at social level. Jainism looks at distorted casteism featured by selfishness with an eye of contempt. The show of superiority of one caste over the other due to wrong notions of selfishness, ignorance, lack of love for one another, non recognition of divinity in every one, is foreign to Jain ethics. So the present deterioration of Casteism is an evil and is based on the passions of hatred and pride. *There is only one caste, namely manhood.* Merit of selflessness is the basis of caste and the arrogant pride of caste destroys right living. If the modern democratic set up is to be made successful, the wrong notions of casteism must be abolished.

MANY, ONE AND NONE – REFLECTIONS ON SCIENCE AND JAINA PHILOSOPHY IN THE INDIAN TRADITIONS

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It is indeed a great honour for CPFS to be associated with the International Conference on Science and Jaina Philosophy, as the knowledge partner.

In the echo chamber that the traditions of learning in India represented, there were from the very beginning a number of voices in perpetual contention. The big questions concerning the nature of reality, the fundamental constituents of reality, the knowledge of reality accessible to sentient beings, the nature of sentience, the valid means that lead to knowledge of the real, the destiny of human and other beings, the nature of right conduct that led to the fulfillment of our destiny, were relentlessly debated over millennia. The traditions ranged over the whole philosophical spectrum encompassing ontology, epistemology, logic, ethics and soteriology.

If Plato could locate the origins of Greek philosophy in the questioning of the gods of Homer who displayed an all-too-human capriciousness, the origins of philosophy in India must be located as I have long maintained, in the open and unconstrained debate that took place between rival viewpoints from the very beginning. The so-called 'orthodox' traditions which owed allegiance to the Vedas were challenged by 'heterodox' traditions, creating a public sphere in which rival contenders debated questions and the canons of argument were developed to distinguish between valid arguments and fallacies. The freedom to speculate and argue with one another led traditions to ramify endlessly, both internally and externally, leading to a rich shared vocabulary and treasure trove of ideas which remain, in several areas, fecund to this day.

While Jaina philosophy became the standard-bearer of a thorough-going pluralism (anekāntavāda) with a dualism of *ajva* and *jva*, Vedānta was noted for its emphasis on monism with just one ātman which was the same as Brahman the essence of reality (advaita), the Bauddha schools maintained that there was no atman (anātman). It is in the incessant jousts between philosophers of such varied persuasions that philosophy in India became a highly professional undertaking, requiring the study of opposing views which had to be stated fairly and accurately as the *pūrvapakṣa* before it was methodically taken apart in debate. Philosophical writing in India was not required to have literary merit and when it did, no special virtue was attributed on that account. The format followed was to state the problem, then the solutions suggested by the *pūrvapakṣins*, followed by a rebuttal, all in the most economical prose, much like modern scientific texts in which an impersonal style is adopted to suggest an objectivity in which the author's individuality is effaced. The *apauruṣeyatva* (impersonality) claimed for the Vedas was perhaps a forerunner of this trope. In the light of the counterposition of reason and revelation that characterizes Western thought and which resulted in the persecution of the pioneers of the scientific revolution, it is perhaps worth noting that the Vedas were regarded as *śruti* which refers to what is heard by the novitiate directly from the

preceptor, thus making it the original and unvarnished narrative, unmediated by commentaries.

The Jaina and Bauddha canons followed much the same demarcation between what was originally imparted by preceptors to their pupils, which subsequently became the object of commentaries, elucidations and glosses. The intensification of debates occurred when the Vaidikas, Jainas, Bauddhas, Ājivikas and Bārhaspatyas vied to establish their positions as valid based on argument (tarka), not the ipse dixit of preceptors. Remarkably these schools also taught astronomy, mathematics, medicine and even statecraft, all of which benefited from the rules of tarka-sāstra which commanded universal acceptance. From antiquity down to recent times, the great centres of civilization had a flourishing trade in ideas as much as it did in commercial goods. The ground was prepared for the sixteenth century scientific revolution by Indian mathematics with its use of zero and the decimal place value system which made arithmetic child's play. The geometrical framework of the Greeks was leavened by the arithmetic, algebra and trigonometry that were carried by the Arabs from India to the West. A similar claim can be plausibly made for the 20th century scientific revolutions.

Few civilizations have shown the ability to exchange ideas freely and not feel threatened by scientific advances. In the Indian case, this feature was reinforced by the distinction between parā vidya and aparā vidya, transcendent knowledge and its everyday counterpart, adumbrated in the Mundāka Upaniṣad. The latter realm included even the four Vedas and six Vedāngas, which were regarded as propaedeutic, stepping stones to the knowledge of reality, which was virtually on par with advances in worldly knowledge in that it did not threaten transcendent knowledge that had sanctity and was linked both to theory and to meditative practices. The other-worldly and the this-worldly – the latter including the canonical texts as well – were placed in distinct realms. Modern science thus posed no threat and was eagerly embraced by our thinkers.

The power and prestige of modern science is such that even the most hallowed of ancient traditions seek to engage with it and even to enlist its support which is a sure sign that the victory of science is complete. From scientific studies of meditative states which commenced half a century ago, to ideas that overlap with modern science, the traditions of transcendence choose science as the universal yardstick of knowledge. This raises a plethora of questions. Science is notoriously fickle, yesterday's heresy could become today's dogma. It is knowledge based on the human senses and its amplification via instruments, which allows us to probe microscopic as well as macroscopic scales. It is irreverent and the community of seekers recognizes no rank or authority. A distinction between supersensory and sensory knowledge holds in science as homologues of instrumentally enhanced and unaided human cognition, which is not, however, adequate for traditions of transcendence, though I must confess I did at times find the temptation to hold such a view irresistible. Even more telling is the fact that the idea of alternatives to modern science sought in ancient traditions is also in thrall to science as we know it today. That is not meant to be a criticism of the traditions nor of modern science.

The presiding genius of the 17th century scientific revolution, the incomparable Isaac Newton, was characterized by Keynes as the 'last of the great Magi'. Newton spent more time and energy on biblical prophecy, Judaeo-Christian theology and alchemy than in mathematical physics, making him a transitional figure between the old and the new philosophies of nature. Indeed Newton was an arcadian who thought that the ancients knew everything and that discoveries such as his must be in the Biblical

texts if only they could be properly deciphered, a task he felt compelled to do himself. To engage in dialogue with modern science, ancient wisdom must come to terms with this prominent tendency.

Even as our hallowed traditions have perforce to adapt to the modern world, it is not a one-way street. I recall an anecdote which an Indian student of Wittgenstein at Cambridge, K.J. Shah (whose Wittgenstein lecture notes have been published) narrated to me. Once as they were on a walk together, Wittgenstein stopped and turned round to ask Shah whether he was Muslim, which Shah denied. Wittgenstein then asked if he was Hindu, to which too his student gave the same answer. A perplexed Wittgenstein went on to ask him what his faith was, upon which he said he was Jain. Wittgenstein asked Shah what the Jain religion was about and the latter gave a somewhat distanced account of Jain beliefs, to which Wittgenstein reacted: "so you think you are cleverer than your ancestors, do you?" This conversation had a salutary effect on Shah who became one of India's leading philosophers in his time, as he began to explore our philosophical legacy on returning to India.

What can science learn from Jaina thought? One might plausibly argue that science as a body of organized reasoning that forever questions itself is the polar opposite of spiritual schools which exalt their scriptures to the level of unquestionable truth. Let me side-step the question of meditative practices and their effects on the human mind as that is a field that has been ploughed for quite a long time, indeed for at least half a century. My concern is with ideas and I ask whether modern science makes sense when viewed through the prism of Jaina philosophy. It is generally agreed that within Western philosophy, quantum theory is highly unconventional. Indeed, physicists like Bohr maintained that quantum theory makes great demands on human understanding and sought parallels in Eastern philosophy.

The Jaina concept of 'avaktauya' or 'inexpressible' which applies to statements in addition to the standard truth values, true and false, has parallels in quantum theory. In a double-slit experiment conducted with a weak beam of light that emits one photon at a time, one can either observe interference or establish through which slit the photon arrived at the screen. The concepts of a discrete quantum particle and that of an extended wave are distinctly at odds with one another. When wave-like properties are manifested, we are unable to say anything about the slit through which the photon passed. One is then led to the conclusion that it is avaktauya.

The dualism of aj va and j va mirrors the Cartesian divide which was essential for the scientific revolution which was able to treat the former as a closed causal system subject to natural law. The aj va consisted of pudgala (matter), dharma (dynamics) and adharma (statics), ākāśa (space) and kāla (time). Here, instead of translating dharma as the 'principle of motion' and adharma as the 'principle of rest' as many scholars do, I have substituted 'dynamics' and 'statics' respectively, which, while being accurate, resonate with the ideas of modern physics formulated in the scientific revolution. What is striking in this context is that j va or soul is an entity to which none of the qualifiers of ajiva apply. Hence j va is not a spatiotemporal entity nor is it subject to the causal order of dynamics or statics.

If the realms of the aj va and j va are so sharply differentiated, how do the two interact? This is a problem which all dualist ontologies, the Cartesian included, are confronted with. Descartes speculated on the possible locus of the interaction which he thought was the

pineal gland, without clarifying how such an interaction is possible at all. It was necessary in the Cartesian account for there to be such a connection in order to explain free will, which contrasted with the clockwork universe of matter. In the Jaina case, soteriology depends on removing through renunciation, defilements that obscure the j u a, raising the parallel problem of how two entirely distinct orders of reality could impact one another. In view of the non-spatiotemporal and acausal character of the j u a, the Advaitin could argue that the ātman (which is the equivalent of j u a) is in fact one. The Nyāya school suggests that the unity is in the genus or jāti, much as the Jainas suggest that the unity lies in all constituents sharing the property of existence. Bauddha schools avidly filled the gap left by the Buddha's silence about matters metaphysical. Mādhyamika philosophers like Nāgārjuna suggested that all conceptions are bedeviled by contradictions and the anātman doctrine stemmed from the apparent impossibility of describing the concept of the ātman consistently. The śūnyavāda was not nihilism, but an assertion that taken in isolation, the component entities posited by the theory were not in themselves part of reality, they partook of reality in a relational sense.

The shared set of concepts thus permitted a range of ontologies, from those populated by many entities, to one and to none. All three traditions began with a set of works accepted as the source of revelation, usually in groups of three. Alongside a logic of debate, tarka, philosophers employed the pramāna framework in which the sources of knowledge were laid out. While the sceptical Lokāyata philosophers accepted perception and disdained inference, the Jainas looked upon perception itself as a species of inferential knowledge. There was resistance to the use solely of tarka without authoritative starting points, such as the āgamas. The argument was the apratitiṣṭhatvam or instability of tarka. This epistemological practice is akin to accepting a set of axioms from which truths are deduced through the rules of tarka. This is true of science as well, with the exception that the instability induced by reason is accepted as a legitimate route to overthrowing old theories in the light of new evidence and theory, not always without resistance.

At the end of the 20th century, the first quarter of which saw the twin revolutions of relativity and quantum theory, a new revolution arose in cosmology, with the discovery that the expansion of the universe, far from slowing down as expected, had in fact gone into overdrive some 5 billion years ago, suggesting the existence of dark energy . Studies of galactic rotation curves showed that there had to be dark matter which interacted gravitationally. The matter of which the visible universe is made, turned out to be some 5% of the energy content of the universe, which is dominated by dark energy at 75%. No cosmological theory had anticipated such a profound revision in the understanding of our universe, if it had, it would have been dismissed as fanciful. Physicists in the 21st century have a huge challenge ahead of them and prima facie it is not clear what traditional philosophies can do to mitigate their plight. The epistemological tolerance of the Jaina schools could be an asset, were it to discourage physicists from holding excessively rigid views. As J.B.S. Haldane remarked, "the universe is not only queerer than we suppose, it is queerer than we can suppose."

SCIENCE AND SPIRITUALITY: COMPLIMENTARY PARTNERS

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Are science and spirituality distinct realms? The answer to this debate rests on two broad questions, our perception of reality and the world view based on this perception. The perception of reality is either subjective or objective depending on the individual capacity to perceive the world and the belief system one holds. It is the subjectivity of perception that introduces diversity and doubts about the reality and gives rise to different belief systems.

The cognitions are of two kinds direct and indirect. The indirect cognitions are made through senses and mind and the direct cognitions are made by the soul (consciousness) by passing the mind and senses. Normal individuals make indirect cognitions, the direct cognitions are possible only when the mind has been silenced and noise (by the mind) has been reduced to a level so as to enable one to perceive his intuition. In indirect cognitions the perceptions are made with respect to the frame of mind and are subjective. The subjective perceptions realize the relative truth and the absolute truths are not revealed. The direct perceptions are also subject to purity of consciousness; it is only the pure soul that perceives the absolute truth. For a pure soul there are no options, no decisions to be made, the absolute truth is experienced without application of logic, intellect and scientific theories.

A reality is supposed to have infinite aspects of its existence and the knowledge of all aspects is essential to know the truth. Indirect cognitions suffering the limitations of mind perceive only a few aspects and therefore such knowledge may reveal some true aspects of the reality but it is essentially incomplete. It may so happen that we discover different aspects of the same reality at different times that are contradictory but true in their own ways, for instance the classical and quantum views of matter. Such fragmented views though correct do not describe complete truth and are likely to introduce some kind of differences regarding the nature of reality.

All principles in Jainism are based on the teachings of the Omniscient Mahavira. Mahavira said that both matter and soul (consciousness) are fundamental and distinct substances in nature, one cannot convert into another. Consciousness is the exclusive property of soul; matter in no case can have or produce consciousness. The consciousness of soul manifests chiefly as power of knowing and perceiving. Cognitions are made by the soul and not by the body or brain. No process of brain at any level, micro or macro, can produce consciousness, all processes in the body are the requirement of the body functions.

Science has done a commendable job in exploring the body functions but in the absence of insight into the reality the brain processes are sometimes mistaken to belong to the realm of consciousness. Many scientists, psychologists and philosophers have rightly questioned this supposition which does not have a sound scientific and logical support. Consciousness can never be explored by scientific means, it can only be experienced. Our experiences are generally subjective, and therefore uncertain, as said before, which prompts the investigators to deny the existence of consciousness as a distinct entity.

All organisms, small and big, possess soul; no life is possible without soul. The consciousness of organisms is not a part of a universal consciousness, as supposed by some philosophies; each individual consciousness follows the law of causality, which is not possible if universal consciousness is assumed. The law of causality is a universal law that applies equally well to all existences animate or inanimate. The soul has existed since the beginning less past and has not been created by any super power. Since soul, and also paramanu, the smallest indivisible constituent of matter, is neither created nor destroyed. The total number of souls, and paramanus, in the cosmos is a fixed quantity that runs in infinity. The form of souls changes according to the law of causality; all organisms are in a different state of development of consciousness. There exists no super power like God the creator, the cosmos is governed by the laws, known or unknown, which are applicable to animate and inanimate objects. Modern science has been able to discover the laws for the physical order of existence at macro and micro level. But this enquiry is not yet complete and there are many more aspects of nature still unknown to science. For example, matter also exists in subtle form, much smaller than the particles known today, and the laws for this kind of matter are likely to be different from the known laws, such as super luminal speed, anti-gravity property, etc. Study of such matter may need a radically different approach from that employed now.

Our existence is at three levels soul, subtle and gross bodies. The gross body is being studied by science but the subtle body is still unknown to it. The functions of the gross body cannot be understood fully without knowing the subtle body and its interactions with the gross body. The mind is a part of the subtle body and is different from the brain. The subtle mind is yet unknown to present day science and needs a different approach for its study that may involve a mix of scientific methods and conscious experiences. The subtle body is likely to have the property of coherence that enables storage of vast amount of information and very fast processing of information typical of life processes. The mind is intimately linked to the brain and the two are supposed to interact through radiations. It means that the brain must also have the capability to receive and transmit signals from the mind. The study of mind-brain connection is likely to reveal many secrets of nature and also lead to the recognition of soul as distinct entity by science. I feel that there is a great scope for scientists, psychologists and philosophers to work together and put up a joint effort to uncover the mysteries of nature, particularly relating to life.

The spiritual leaders like Mahavira knew the reality, subtle, micro and macro, in all its aspects by their spiritual powers. They did not need any scientific instrument; it was the power of their soul that enabled them to perceive all details of nature in its true and objective form. Their teachings and the description of the cosmos available today is qualitative but is sufficient for us to realize the distinct features, the diversity and the qualities of the constituents of nature, particularly at subtle level. The science has explored the micro and macro states of physical nature, and therefore the spiritual science and modern science together provide us means for knowing the nature to its fullest extent. Spirituality and science are complimentary, and not opposing, partners. Science explores a part of reality experimentally, theoretically and quantitatively and spirituality knows the whole range of reality intuitively.

JAINISM: LOOKING BEYOND SCIENTIFIC TECHNIQUES

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When we look at religious scriptures, a question which always comes to mind is whether they represent mental deductions based on observations of nature and logic, made by some wise men and women? Those men and women, who pondered over fundamental questions related to life and universe. Or do they represent, as claimed by their staunch followers, some revelations or Extra-Sensory realizations or the 'word of the Lord'. This is true of all the holy books of various religions, Christianity, Islam, Hinduism, Buddhism and Jainism. They contain many statements which are controversial and contradictory to scientific observations and defy logic so that a rational mind would favour the first alternative.

But, in case they represent the 'Ultimate Truth', beyond mind and logic, which science has not yet been able to explore, some proof must exist to support such a belief. It is said that Jain scriptures are compilations of the teachings of the Enlightened, Omniscient Tirthankaras and wherever they contradict science, the faithfuls take recourse to the argument that science is always improving upon its theories, as more observations are made, and one day would come to the same conclusion. This to be true, the first evidence would be that one should find many truths in the scriptures, written millennia ago, when scientific techniques were not developed and which science has discovered only recently. A survey through the scriptures show many such examples. The most outstanding case is the statement in Jaina scriptures that plants are endowed with life and consciousness; they feel pleasure and pain in the same way as other living beings do. This is clearly stated in Gomattisar, Bhagawati sutra, Acharangasutra and many other texts, compiled over 1500 years ago and attributed to pre-Mahavira era, before 2600 years ago. This evidence that plants are living entities, was discovered by Jagadish Chandra Bose only during the past century. Biologists and physicists are still trying to quantify the fine points of the sensitivity of plants to music, sound, affection and cruelty. Certainly, to realise that plants feel pain and pleasure, without any experimental facility, requires some supernatural insight. This fact is deeply imbibed in the conduct of all the Jain followers. Another glaring example is existence of microscopic life in air, water and earth etc. propounded in ancient Jain texts written millennia ago which was only recently realised by scientists, after the advent of a compound optical microscope by Zacharias Jansen in 1590.

On theoretical side, Law of conservation was well documented in Jaina texts where it is clearly stated that the basic 'substances' (dravyas) can neither be created nor destroyed, only their modes can be, which are in a continuous state of flux, origination, persistence and destruction. This has also led to the concept of symmetry in Jain philosophy.

Causality, i.e. cause and effect relationship, is the foundation of all processes in nature, according to Jainism as well as science. Whereas causality is applied only to matter in scientific theories, the scope of causality extends to the living beings in the famous Jaina principle of Karmavad and there its scope is much wider. These theories could be attributed to mental deductions except for the fact that they are discussed in such minute details in Karma granthas that mental deductions can not arrive at, but they require some supra-mental faculties. For example, it is clearly stated that karmas do not bind when emotions (like greed, attachment, anger, pride etc. termed kashayas) are absent. The brain scientists have found evidence for secretion or inhibition of chemicals due to emotions; chemicals like Serotonin, Epinephrine, Adrenaline, Testosterone; Cortisol, Oxytocin etc., which affect the DNA, are involved in various emotions, it has been only recently found. Neurologists have recently also identified parts of brain involved in emotions, active during meditation, for example, and happy and unhappy chemicals which are produced during different states of mind which are now being used as medicines. In absence of emotions, these secretions are inhibited, proving the Kashaya theory of Jainism.

Much has been said about the microcosm, the subtle particles of which all matter is made up of. The modes of vibrations and motion of the ultimate atom, the Paramanu, is clearly stated in Agamas, in which the concept of quantum physics is ingrained, which was only conceived recently after it was developed during the last century. It is amazing that Mahavira correctly and clearly described the properties of paramanu, which is only possible, not by mental deductions but by a divine vision by which one can see these processes operating. There is also mention of mass less particles about which scientists learnt only during the past century. True, that everything is not stated in modern scientific terminology but the concepts are profound and relevant. Take for example the property of paramanu, by which one to innumerable or infinite paramanus occupy only one space unit, defined as pradesha. This behaviour is the same as those of bosons, discovered by Satyendra Nath Bose during the last century. We can quote many such examples, which preempt the concepts of modern physics.

A very profound concept of Jainism is Syadvad, propounded by Mahavira, which defines limitation of sensory knowledge and the indescribability of certain states included in the 'Seven modes of predication (Saptabhengi)'. Limitation of knowledge has been debated by mathematicians after Godel proposed his Incompleteness theorems during the last century. The principle of determinism in physics is the same as Krambaddha paryaya of Jainism; only that this law extends to the living, besides the material universe.

Concepts of various types of infinities were developed by Jaina mathematicians over a thousand years ago. The concept of Sunyavad developed by Buddhist scholars over 1500 years ago maybe akin to Quantum vacuum from which, according to Modern science, even the Universe can emerge. Mutual interaction of the six basic dravyas i.e. time with space, time with soul, time with matter, time with dharmastikaya etc. is mentioned in the Agamas which can be conceived as space-time continuum, Transmigration and Becoming of Jiva; origination, persistence and destruction of matter; origin of motion etc. respectively.

In astronomy, Krishnaraya (black body) and Tamaskaya (dark body) and their many varieties are mentioned in Jaina texts which may be likened to blackholes, conceived and studied only during the past few decades; There is a mention of stars brighter than a million suns in Hindu texts, documented only recently. It is hard to attribute these

profound concepts simply to mental abstractions, in absence of experimental or theoretical framework, available in the ancient times. but they point towards some kind of divine vision, attained by techniques such as meditation and Samadhi, by which one can connect to the omnipresent Bodhi (conscious) field of the Universe.

In spite of numerous insights into wide range of topics such as working of microcosm, brain, mind and the laws governing the universe etc., some of which have been mentioned above, the texts do contain statements, related to geography and astronomy which are definitely inconsistent with scientific observations. Some scholars have argued that this may be a case of erroneous interpretation, but surely such anomalies raise much doubt. It is also difficult to justify that many scientific concepts, like forces in nature, which govern all the processes in the universe do not find any mention in the scriptures.

A clinching evidence in favour of divine revelations would be some new insight not established by scientific theories so far. Numerous such concepts exist in scriptures, but for them to be true, they need to be scientifically established, by experimentation or by logic, within the scientific framework. A case in point is the origin of life. Scientists are working on the materialistic model of life, in which life originated from matter, whereas some faiths believe in biocentric origin of the universe in which soul (Brahma) is the cause of the material universe. Jainism, in contrast, propounds that soul is eternal, without origination and destruction. Considering the tremendous efforts currently being made, this problem may be resolved during the present century. Some of these aspects may be discussed during this Conference on Science and Jain philosophy, which assumes a great importance in this context. Hopefully Jainism and science can be amalgamated and deliberations during this conference would lead to further advancement of scientific theories by incorporating some of the Jaina concepts, which are very appealing.

PHILOSOPHY BEHIND SPIRITUALITY IN JAINISM

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Your journey starts with your own self.

Who am I, where am I?

This exploration leads to the investigation of various forms of life and cosmology.

This heads to the next level of search-what is spiritual about this science?

As you look into that, there arises a further question: why diversity?

If you explore all these questions, you know Jainism!!!

The present article is meant to explore philosophy and science behind the idea of spirituality in Jainism. Philosophy refers to intuitive and logical knowledge obtained through spiritual awakening and reasoning. Science refers to a system of acquiring knowledge. This system uses observations and experimentations to describe and explain the natural phenomena. The idea of spirituality presented in this article is based on intuitive knowledge which is also verifiable to a certain extent by the observations and experimentation of science. It would be better to clear at the outset that the article is meant to give a blue print of the Jain idea of Spirituality rather than provide a detailed study about Jainism. Further details will be explored in the subsequent articles in this series.

The idea of spirituality in Jainism is based on the concept of the soul. Spiritual awakening, perfection, enlightenment and divinity are the core components of spiritualism. Spiritual awakening is possible through self-awareness and the self-awareness is possible through knowledge of the true self. Thus, inquiry into the nature of our true self is the foundation of spiritual excellence or divine consciousness in Jainism. The philosophy and science working behind the idea of spirituality in Jainism starts with the inquiry of the true self and ends with the realization of the true self.

The inquiry of the true self starts with the queries, 'who am I?', 'Where I am coming from?', 'Where Will I go after I die?' and so on. In the view of Bhagawan Mahavir, the answers to these queries can be obtained clearly and distinctly if one is able to look into his/her past lives. The experience of the past lives opens many secrets of our existence in this world. The secrets can be seen as four watches. The four watches have taken the place of fundamental doctrines of Jain philosophy and science working behind the idea of spirituality. The four doctrines are:

Atmavad: The Doctrine of Soul

Lokavad: The Doctrine of Cosmos

Karmavad: The Doctrine of Karma

Kriyavad: The Doctrine of Action

Doctrine of Soul

In the first watch one gets insight into all of his previous lives and experiences. With the experience of the past lives one encounters his own transmigration. The experience of the past lives unfolds the secret that it is me who is transmigrating from one birth to another. It is me who is taking various forms of life. It is me who is suffering. The experience gets expression in the words—"my soul, being subject to birth, transmigrates in these cardinal directions or intermediate directions, that (soul) is 'I' myself" (Acharanga1.4). Thus, the first watch opens the secret that I am an eternal and independent soul. I am not body, speech and mind. I am something different and beyond all the material objects. With the realization of this truth starts the intense search of the true self. In the long journey of the true self one has to pass through many other experiences.

Doctrine of Cosmos

In the second watch, one witnesses the rebirths of all other beings. One realizes that like me there are other beings in the world. The word 'Loka' i.e. cosmos, stands for the existence of other living beings and non-living things existing in the world. One also watches that all other living beings are also taking birth in various forms of life just as I do. In his further search of various forms of life one perceives four realms of existence or four types of birth occurring in the world. They are: Hellish, Heavenly, Human and Non-Human- tiryanch.

Hellish and heavenly forms of life are beyond the sense-experience and therefore not easy to verify but the last two forms of life are visible and also verifiable. One cannot deny the existence of human and non-human forms of life which are in front of him.

The existence of human form of life is clear and distinct to everybody but the non-human form of life is not very much clear to the world even today in the age of science and technology. Some of the scientific studies show life in plants, stone and water but still they lack in clarity.

Jain religion has been very clear about the existence of all forms of life from its inception. It is because the foundation of spirituality is laid on the knowledge of the living and non-living world. Equality of all souls, equanimity and non-violence towards all forms of life subtle and gross have been the core concerns of spirituality in Jainism.

Doctrine of Karma

In the third watch one discerns the indelible law of karma as the principle that determines the quality of rebirths. The exploration of the self and other living beings raises a question as to why this diversity. The exploration of the answer opens up a new domain of reality of life, which is karma. The difference or diversity of the forms of life is caused by the karmic particles. The karma particles are the subtle psycho-physical energies which affect one's spiritual and psychical growth and cause birth and death, pain and pleasure etc. in one's life.

The energies are identified in eight forms affecting different spiritual qualities and physical growth of the living beings.

The eight forms of the energies are:

Jnanavaraniya Karma i.e. Knowledge-covering energy

Darsanavarniya Karma i.e. Intuition-covering energy

Mohaniya Karma i.e. Attitude and conduct deluding energy

Antaraya Karma i.e. Obstacle-creating energies

Vedaniya Karma i.e. Pain and pleasure producing energy

Ayusya Karma i.e. Life-span determining energy

Nama Karma i.e. Body-shaping energy

Gotra Karma i.e. Status-determining energy

The first four karmas cover, pollute and block qualities of the true self. The true self is endowed with four qualities: infinite knowledge, infinite intuition, infinite bliss and divine power. If the self is not covered by the karmic veil, it has direct access to know and perceive the truth of life and the world directly without any external means: sense, mind and instrument. Similarly, the self is blissful and divine. The qualities are affected in different proportion in different living beings. The difference of the karmic bondage leads to the difference of the physical, mental, emotional and spiritual development of an individual as well as that of other living beings.

Doctrine of Action

During the fourth watch one realizes another enduring principle—that of Āśrava, the mental, verbal and physical action causing inflow of the karma particles. The difference of the nature and effect of karma

particles is caused by the nature of the action performed by living beings. No living being is free from action. Where there is life there is action. Where there is no action, one can safely surmise that there

is no life. It is important to note that action in itself is not bad. It becomes good or bad by positive or negative emotions, intentions and means used to perform the act. If both the goal and means of the act are righteous then the result of the act will always be good. If either of the two the goal and means of the act are non-righteous, the result of the act will always be bad. This subtlety is important to note - if the goal is right but the means are wrong or vice-versa, the result would be bad. It is only in the condition when both goal and means or intention and action are right; the act will yield good results.

The criterion of righteousness or non-righteousness of goal and its means depends on the purpose of life. In the spiritual domain, the purpose of life is spiritual excellence. So the goal is right if it leads to spiritual purification and the means are right if they are devoid of violence, untruthfulness, stealing etc. In the social domain, the purpose of life is materialistic development of individual and society. The means for the development are right if they are moral and legal. Immoral and illegal acts cannot yield good results.

Thus, we have found that the idea of soul, cosmos, karma and action are main pillars on which the magnificent edifice of spirituality in Jainism is built. Self-inquiry leads to the acceptance of others or diversity and the acceptance of others leads to the cause of the diversity as karma and the cause of diversity leads to the cause of karma as action. So the control of body, speech and mind is the first step towards spirituality.

INTEGRATION OF SCIENCE AND SPIRITUALITY FOR FUTURE DEVELOPMENT

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Discoveries in modern Science have deeply impacted human society. There has been revolution in communication, transport, energy, medicine, agriculture with the use of science and technology. Intensive research and spirit of inquiry have transformed human life, expanded the horizon of knowledge on universe, altered the concept of time and space, and stimulated us to know the unknown in the course of time. We have witnessed generation of enormous new resources, boost in economy and rise in standards and style of life of people. Consequently, the trust of society in science and technology has tremendously increased over the years. It is heartening to note that the quest for unraveling the secrets of nature continues though much remains to be explored.

Classical Science

Both European and Eastern philosophers showed keen interest in understanding the phenomenon and events around them. The observation of order and regularities of planetary events have been engaging the attention of philosophers and scientists for centuries. It is intriguing that scriptures refer to knowledge of various subjects which is yet beyond the grasp of science. It is indeed puzzling to think if ancient seekers had methods and approaches to acquire knowledge about cosmos and governing principles. Many of the concepts and perceptions of scriptures are unverified but intense efforts continue in this direction. The questions about why universe was born, why life exists what is the purpose of life continue to in exploring minds. It however remains to be examined by methods, tools and techniques of modern science. In general, methods and approaches of science have received greater acceptability in society. The mindset of public has changed from usual believing in faiths blindly to examining them on reasons. The entire new culture of scientific approach to inquire and, tendency to reason out before accepting a viewpoint is rapidly growing in society. A rational examination of has taken over blind acceptance which to me looks promising for understanding nature and acquiring new knowledge.

It is mistakenly viewed that science and spirituality are not compatible. Science is considered reliable and repeatable, while spirituality often regarded as a sentimental relic of our past we can't quite let go of. So to say it is necessary for the two to work together may seem unrealistic. For centuries, science has led our progress; spirituality, as indicated through participation in orthodox religion has been in steady decline. But the unorganized, personal aspect of spirituality is the subjective pursuit of value, reality, and understanding through individual experience or consciousness. This aspect of spirituality has not declined. Instead, the drive to find external solutions to global problems that have value to our interior world is more powerful than ever.

The scale of our planet's problems is too great to be solved without an integrated approach of science and spirituality. The power of consciousness needs the systemization of the scientific method, and the tools of science depend on the wisdom and creativity of individual consciousness to guide it in a meaningful direction.

More and more scientists are recognizing this need, in part, because fundamental science has come to a place where the ultimate questions of matter and creation cannot be understood unless consciousness is accounted for and factored in. Consciousness may well be the common ground on which the objective and subjective worlds are derived and united. With this vision, scientists have begun to meet and discuss solutions to global issues of health, hunger, conflict resolution, climate change, and economic injustice from a perspective that joins science and spirituality

It will bring together not only eminent scientists but also leading lights in spirituality based in the development of consciousness. Spirituality is rooted in the idea that a transcendent reality exists beyond the external realm of the senses. This is pure consciousness, the source of the subjective world or the mind as well the objective world of matter. Our future depends on the concerted effort of science and spirituality working together, because separately, neither has been up to the monumental task. Science works fine in everyday affairs without dealing with spirituality. And on the other side, spirituality can continue serving people's spiritual needs as they go through their individual insights, crises and awakenings. However, unless the two views join forces, we won't be using our full human capability to solve problems. Such a comprehensive human effort is precisely what global solutions require. Beyond providing a platform for addressing humanity's problems, the joint efforts of science and spirituality promises to be the foundation for the next evolutionary leap in human potential.

Spirituality emphasizes humanistic qualities of moral values (e.g. love, compassion, patience, tolerance, forgiveness, contentment, responsibility, harmony, and care of others). These are aspects of life and human experience which go beyond a purely materialist view of the world without necessarily accepting belief in a supernatural reality or divine being. Nevertheless, many humanists such as, Bertrand Russell who greatly valued the non-material, communal and virtuous aspects of life, reject this usage of the term spirituality as being overly broad because it effectively amounts to saying "everything and anything that is good and virtuous is necessarily spiritual. Similarly, Aristotle, one of first known Western thinkers to demonstrate that morality and humanism already efficiently and succinctly describe the pro-social and civility meant to be conveyed by the term

Spirituality Unexplored

There is a school of spiritual science. The parameters of acquiring spiritual knowledge are largely unknown and, by tradition, highly subjective. The practice of spirituality is essentially a personal experience and is stated to largely depend on individual faith and belief. The practice and methods of spiritual science remain confined to enlightened seers and sages who endeavor to gain knowledge of unknown or ultimate truth of reality. These practices do not permit rigorous examination of outcome but certainly command influence on a sizeable population. In scientific era, there has been facing with skepticism and demand the testing of approaches to reasoning and rationality. Therefore, culture of inquiry and experimental verification of spiritual practices are growing in human mind. There is a declining trend of acceptability especially in younger generation of population.

The progress of philosophy and science shows the role of philosopher, Plato (427-347 BC) and in classical science by Issac Newton (1647-1723) and modern science by Renes Descartes(1596-1650) in substantially advancing knowledge. A firm scientific basis of natural events leading to discoveries of the laws of motion and law of gravitation to explain many of the curiosities of the time. However, thinkers and philosophers were struck by the observed order and precision in planetary motions. The limitations of knowledge occasionally brought in the concept of Creator? Great physicist and mathematician, Newton was believer of super power for the creation of universe. With the discovery of quantum force by Max Planck (1858-1947) and later Richard Feynman's (1918-1988) contribution to understand details of universe a new era of science commenced. In 21st century, we have begun to ask if mind and humans obey quantum laws?

Infusing science in spirituality

The spirituality has remained enigmatic and unexplored in the past decades and it managed to escape from experimentation and rigor of science. There is a need to open practices and methods of spirituality to scientific experimentation and research using modern tools. Though, spirituality has already benefited society in effective manner for inculcating the human qualities of compassion, love, morality, ethics and propagated universal peace and lasting happiness. Vedantic, Buddhist, Christianity, Jainism and other spiritual traditions have reformed society and guided for higher goals in life brought social awareness but lagged behind in modernization and research. The new trend especially from younger generation has necessitated refinement and has found no support and lacked initiative. There is an urgent need to plan and execute researches in several fields of spirituality. As a consequence, it is becoming necessary to employ tools and techniques of science in widely accepted established practices of spirituality. Spiritual leaders Ancharya Mahapragya ji sought and welcomed science Jain practices and principles and advocated the need of finding scientific basis of Jain doctrines. In recent times, it has been felt that spirituality has to invoke basics of relevant sciences such as physics, chemistry, physiology and neuro sciences for validation of traditions followed in ancient times. Philosophers and thinkers prior to modern era of science enunciated providing and practices that were enthusiastically accepted and followed by the society. However, with the rise in scientific temper and access to vast information pool, change in these practices became inevitable. The questions of existence of life and creation of universe have always been pondered ever by scientists as well as philosophers and spiritual masters.

Harnessing Power of Spirituality

Thus, the goal of science and spirituality has been to unravel the secret of nature and understand the purpose of life. Who am I and where I came from and where will I go? Have been repeatedly asked in the ancient time and these questions continue to haven't human mind even today. How to be happy and get rid of miseries, philosophers from West as well as those from East have pondered over these vexing questions. Christianity, Hinduism, Buddhism, Jainism and other religions have put forward their understanding and opinions from time to time. For example, Jain Acharyas and Hindus have known atom to be the building block of matter since long. Likewise, values of ethics and morality have been given prime importance in human development.

Life, Consciousness and Technology

The role of mind, body and consciousness in living and life has been explained in many of these philosophical and religious teachings and discourses. The existence of soul in body has been put forward by philosophers, seers and sages since ancient-times. It is unclear whether body needs soul or soul needs body. It is suggested that body without soul is dead matter, soul is said to be eternal but acceptance of such statements need experimental verification. Likewise, it is unclear what the fate of soul is after death (loss of consciousness). It is widely accepted that soul leaves a body and seeks sojourn in another body. Science needs to devise experiments to demonstrate such events. In spiritual domain, technology of practices has to be developed for the welfare of society. I find it exciting that spiritual technology has to emerge and branded for its benefit.

Is there birth after death? Jains strongly believe in re-birth. But again in modern era of science, experiments have to be designed to verify. Skepticism continues till proved otherwise.

Generally, spiritual leaders claim realization of super-soul where from soul is believed to be originated. However, Jain seers do not support this view point. It is widely accepted that universe existed in the past and will exist in future and it is eternal. No one created or put celestial bodies in place and order. Seers have frequently mulled over these questions and have explained the natural phenomenon in considerable details.

Enhancing Human Potential

Human mind is complex and our understanding is inadequate. In modern age, a happy meeting has begun between spiritualists and scientists with a clear indication of open mind to accept the mythology and practices of the other. For example, meditation and yoga have been recognized to affect human mind. The study of human mind is highly warranted to unfold human potential for positive contributions in social progress in the globe. Man is in search of and desires to acquire peace and happiness. Spiritual practices point to promotion of these virtues in human behavior (ethics, compassion, love, feelings etc). Due to scientific and technological advancements prosperity has increased but, at the same time, tension has increased in human mind leading to disturbed life. As a result, happiness is reduced. It is clear that prosperity achieved by science and technology may not necessarily give peace and happiness.

It is intuitively thought that thinking of an individual can produce physical effects on another person located far or near but research is needed to substantiate this postulate. Likewise, it is a puzzle how soul of a person leaves one body and enters another as commonly stated. I felt tempted to suggest the possibility of invisible entity of matter of soul that may hop from object to object. There are examples due to microwave that an object may not be visible to our eyes but it exists. Experiments may be designed to verify some of these intriguing problems.

Research Prospect in Spirituality (Jain spiritual context)

Nature is replenished with mysteries. We do not have answer to many fundamental questions about origin and purpose of life. Why universe is created? Is there a creator? Research is needed to conduct experiments on syad and anekant related topics. It would be interesting to examine if individual's thought process can influence physical traits of another person located near or far. Systematic research on meditation, life style, food regulation, ascetic practices will help reinforce the governing scientific basis and possible improvements.

Principles of biotechnological sciences in Jain beliefs and practices are needed to be validated. Research projects on consciousness and its scientific experimentation are needed to be pursued in the context of genome science. The scientific understanding of soul and its structure, nature, physical description, behavior and functions within body and beyond are fascinating areas of future research using modern imaging methods and high resolution microscopic techniques. I personally imagine that it may become possible to image and track departing and arriving souls in the near future. In the backdrop of rapidly growing nanoscience and technology, it may be possible to establish authentication of the concepts of micro and macro entities in Jain philosophy. To my mind biological research in spiritual domain would bring startling results revealing hitherto unknown/hidden facts to human mind and unimaginable entire new biological knowledge and create a sophisticated technological world unknown at this point of time. It looks equally exciting to embark on mathematical and conceptual research on mysteries of universe. I clearly foresee a huge possibility for conducting research for generating new knowledge within the objectives of BMIRC in years ahead.

Human Curiosities unaddressed

We often raise several questions in intellectual forum. Our questions seem too complex and generally answers are attempted in the shadow of spirituality and its peripheral borders without chances of verification or convincing conclusion.

- Why universe is born? When?
- Where did all, we see, come from?
- Does the universe need a creator? Is there a designer or controller of events.
- Mystery of being born?
- Why life exists? Do we have a specific purpose of being?
- Do we feel the purpose of our being fulfilled?
- Are we confused and ignorant or closer to reality.
- Are we proceeding in right direction in conformity with will of the nature ? do we know it ?
- Do events occur randomly or a definite order is followed?

These and many other queries are haunting in our minds and acquisition of new knowledge is the hope for the future

NEED TO MAKE A PLAN TO PROPAGATE THE CONCEPT OF NON-VIOLENCE TO ONE BILLION PEOPLE IN ONE YEAR

DR. SURENDRA SINGH POKHARNA

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Dr. S. S. Pokharna, Former Scientist, Indian Space Research Organization is a Consultant at Hitech Outsourcing Services, Ahmedabad, Gujarat, India. He is also the Advisor of Bhagawan Mahavir International Center, Ladnun, Rajasthan, India.

If we look at the state of our planet as on today then we find that half of the animals in the world have disappeared since last 40 years. It is because of uncontrollable human expansion. A report by the World Wildlife Fund (WWF) has found that populations of mammals, birds, reptiles, amphibians and fish have declined on average by 52 per cent in the last 40 years (1970-2010). And for freshwater creatures the situation is even bleaker, with population collapse of more than three quarters over the same period. Almost the entire decline is due to human activity, through habitat loss, deforestation, climate change, over-fishing and hunting (Reference 2). If this is not adequate enough to shock the human soul, there is another heart burning news, and it that every year, we are losing almost 25000 biological species (Reference 3). But this again only one side of the coin. We also observe a large increase in terrorist activities and sense less violence in daily life in many countries in the recent times, including attacks on women etc. An increase in ill feelings towards competitors and even fellow beings can be also observed these days. There is another side of the issue. It is damage done to the environment by eating non-vegetarian food. Here are some real facts which showcase that how “meat production” is affecting overall ecosystem and environment. It shows that land area required to produce non-vegetarian food and water is about 10 times and about 20 times more respectively than what is required for producing the same amount of vegetarian food. (Reference 5).

In this scenerio, the Jain concept of non-violence can play an important role in bringing about a substantial positive change in this situation, since Jainism talks to protect not only human beings but also all living beings in the world. Not only this, Jainism also talks of not to even hurt the feelings of any living beings in the world. It goes even further and say one should not involve in any action or even directly or indirectly support any activity which hurts any living being or their feelings. Hence in view of the above developments, there is a need to propagate the concept of non-violence on a large scale in the whole world and educate the people about its importance. Now the *United Nations Organization (UNO) has declared October 2, the birth day of Mahatma Gandhi as an International Non-violence Day in June 15, 2007.* There is a need to celebrate October 2 as an International non-violence day in 192 member countries of UN in particular to make the people aware of these issues and an overall improvement in world's environment.

As Gandhiji learned the concept of non-violence from Shrimad Raj Chandji, a great Jain saint and also Jainism has put maximum emphasis on non-violence, so it is responsibility of the Jain community to take a big lead in this direction.

So Jain community should play a proactive role in first celebrating this day as non-violence day on a very large scale in India along the same scale as the International Yoga day was celebrated on June 21 this year. A policy framework should be prepared for this. Various International organizations should be involved. All religious groups should be brought on the same platform for this purpose. Literature should be prepared in different languages of the world. All heads of states should be communicated about the importance of non-violence in the modern context.

In this era of globalization, where communication through satellite technology like internet, emails, wordsapp, sms, digital apps like digital language translators, tweets, Facebook, should be optimally used for this purpose. Seminars and conferences should be organized with organizations working for similar objectives like PETA, WWF and others. Televisions programs and films should be prepared. A small experiment was carried out on this day in 2015 in Ahmedabad. About 10,000 pamphlets in Hindi containing messages of all religious leaders about Ahimsa were distributed in Ahmedabad. A film on ahimsa is being prepared in Hindi which will highlight work of all religions about ahimsa. An essay competition was organized entitled "Gandhi, Ahimsa air Aaj" for sixty departments of Gujarat University. About 280 students from different religious communities actively participated in this competition. Such small examples should be amplified thousands of times. A plan should be made to educate at least one billion people by October 2016. Youths all over the world should be encouraged to join this movement.

UNLOCKING THE MYSTERIES OF LIFE THROUGH SCIENCE AND SPIRITUALITY



DR. MUNI ABHIJIT KUMAR
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Jain ascetic, Dr. Muni Abhijit Kumar, Ph. D., M.A., B.A., is a young research fellow who has mastered 12 ancient as well as modern languages. He has many articles published in reputed national and international journals and has delivered talks on crucial issues of science, philosophy, culture and society in several National and International Conferences.

Wonderful discoveries, recent inventions and technological advancements in Science have definitely improved the standard of life. Sound techniques, advanced tools, latest machinery, sophisticated systems and modern equipments have made life easier, comfortable and even more luxurious.

Today's new breed of mystics comprising of quantum physics, molecular biologists, mathematicians, cyberneticists all have largely explored the depths of frontier sciences. They have been making constant efforts in the search of truth. Global village concept is emerging. Interlinking in the whole world has resulted by the application of scientific principles in the form of information technology, electronic media, satellites, internet, mobile phone and many more.

In the last few decades, developments on the globe have fostered on both the sides positive and negative. With the advancement of technology and interconnectivity many other problems have also increased. Economic disparity, poverty, pollution, natural calamities, psycho-somatic diseases, domestic violence and political conflicts are some of the main problems.

A question arises – How is it possible?

On one hand we are proud of new developments made by human race in all branches of knowledge. But on another, the increasing tension and lack of happiness in a major part of human society have raised many questions on these developments.

The pursuit of eternal happiness must be one of the main aims and not mere possessing and developing material comforts. In most of the religions, the issue of eternal happiness is dealt in one or another form. Summum Bonum, Moksha, Salvation, Liberation, Mukti, Nirvana, beatitude of these terms relate to the same concept.

These are moments in history when a new direction has to be given to the age old process. Today, in this scientific age or in the age of modernity and technology, we have to give it a spiritual direction.

Upturning the pages of history of western philosophical tradition, we find that radical changes took place with the arrival of Socrates, Descartes, Kant, Nietzsche etc. The emergence of science especially Newtonian physics in the 16th Century brought a revolutionary change in the world history.

Has not the time for evolution of an ultra- modern personality comprising of both the scientific spirit of objective pursuit and spiritual spirit of developing intuitional insight ripened? I think it is high time that an integration of these two diverse but complementary schemes should take place to save the humanity from the ultimate doom, threatened by both the nuclear weapons waiting for devouring the whole mankind on one hand and the ecological imbalance and environmental disorder, which already have started taking their prey through global warming, on the other.

SCIENTIFIC BENEFITS OF JAINISM ON OUR HEALTH

DR. BIMAL CHHAJER

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Dr. Bimal Chhajer MBBS, MD. is the Founder and Director of SAAOL, and a specialist in Preventing and Reversing Heart Disease. The Former Consultant of AIIMS, New Delhi, Dr. Chhajer has authored five books and is the recipient of many awards like The Bhaskar Award for Bharat Nirman

Introduction:

As a medical doctor I work on Heart disease prevention and reversal. I worked initially at the All India Institute of medical Sciences (AIIMS), New Delhi for about 6 years where we carried out a trial on Reversal of heart disease by Lifestyle change. As for diet we were using very low fat (Zero Oil) for Cooking vegetarian food.

As for Yoga we were using Presksha Meditation (which derives its origin from Jain Scriptures and is popularized by Late Shree Acharya Tulsiji and Acharya Mahaprajyaji). After resigning from AIIMS we started in 1995 - a movement called "Saaol" - Science and Art of Living. In the last 20 years we have spread the concept of Lifestyle change based on non invasive therapy for heart and related diseases all over India and abroad. Many of the advices that I propagate to the patients is actually based on Jain philosophy.

Fortunately I am a Jain by birth. But till I passed my MBBS from Kolkata I never planned that I must promote Jainism to people. But afterwards in course of my lifestyle based treatment from medical science I realized that Jainism says all that I tell my patients to follow for better health. I read about the Jain principles and when I found them scientifically valid I introduced them in my therapy. Today tens of thousands of Muslim patients follow my Vegetarian diet and Preksha Meditation as a treatment of Heart disease.

What are the good things for health in Jainism ?

For writing this article I tried to collate all that may be good for health and disease prevention in Jainism and these are the major advantages of Jainism in favour of our health.

1. Vegetarianism
2. Fasting
3. Early dinner/dinner before sunset
4. Forgiveness
5. Ayambil
6. Pad Yatra
7. Avoiding Five Vigais
8. Ahimsa/Non violence
9. Meditation
10. Aparigraha/Non Possisiveness
11. Tyaag/Avoidance of Luxury
12. Upasampada
13. Pratikraman and Samayik

Let me describe at least few of them which are well accepted by the scientific community.

Vegetarianism:

Heart disease is now the biggest killer in the world and it tops the list of commonest causes of death in the almost all the countries of the world. Everybody knows about Cholesterol being the most important cause of heart disease and heart attack. You must know that the only source of Cholesterol in food is “Animal Food”. In other words, no plant based food has Cholesterol. So, all those who want to avoid heart disease have to compulsorily stop taking meats, fishes and eggs. Just shifting to vegetarianism can prevent millions of deaths.

But there are two riders in this. One is that Milk is also an animal food and hence contains Cholesterol. But if fats can be removed from milk to great extent (double toned Milk and Skimmed Milk) milk becomes safer. It is recommended that people should also stop Milk and milk products completely and become VEGAN.

The second fact is all the oils are Triglycerides and should be taken as less as possible to prevent heart disease and heart attack. So, we developed thousands of vegetarian recipes called “Zero oil Cooking”.

Otherwise vegetarian diet contains a lot of fiber and antioxidants – so, are very good for our heart and health. These also prevent cancer and keep us in good health.

Fasting and early dinner:

Fasting is another good health advice from Jain philosophy. Fasting in different ways is good for our health. It gives rest to our intestines, reduces weight and makes us develop good mental control on our life/stress.

Giving up intake of food after sunset is also another good practice and helps to keep the guts healthy. Gas -acidity improves, sleep becomes better, people can go to bed early. The body gets more time to utilize the calories and digest the food. Weight can also come down.

Stress management:

Jain philosophy has unique ways to reduce stress and tension. Preksha meditation, Forgiveness, Non possessiveness (Aparigraha), Non violence (Ahimsa) and Tyag (the art of restraining and giving up luxuries), Samayik – are all excellent ways of stress management. Meditation makes people peaceful and relaxed. Preksha meditation has been proven to control high Blood pressure, diabetes and lead to heart disease reversal. By managing stress by the above principles one can get rid of all the psychosomatic diseases. We can now see effects of violence across the world – Iraq, Syria, Afganistan, Pakistan and some part of India also. Non violence is the key to reach the goal of universal peace. The quality of life will improve.

Other health friendly ways in Jainism

Jainism has many other recommendations to its followers which are also very much health friendly. Pad Yatra or travelling by foot is an excellent way to improve fitness, burn calories, improve joints and make the heart healthy. The process of Ayambil- leads to non intake of any fats during the lunch, the only food time during the day. This is especially good for heart disease prevention. Jainism also recommends avoidance of five Vigais- ,sugar, milk, ghee, curds, and oil. This will definitely help in preventing high BP and heart disease.

HISTORY OF JAINISM- AN OVERVIEW

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Dr. Hemali Sanghavi is the Head of Department of History at K.J. Somaiya College. She is the recipient of Bharat Jyoti Award for her contribution in the field of education.

Hinduism, Jainism and Buddhism together constitute the cultural heritage of India. Jainism is both a system of philosophy and a way of life. It is one of India's most ancient Śraman religious traditions. The origins of Jainism lie far back in prehistory. Some of the relics discovered from Mohenjo-Daro and Harappa point out Jainism as a pre-Vedic religion. Rig-Veda refers to the hymns referring to the first Jain Tirthaṅkara Rishabhdev. It is said that the traditional name for India, Bharat, has been derived from that of Rishabhdev's son. The twenty-second Tirthaṅkara Neminath was contemporary and cousin of Krishna. Parsvanath the twenty-third Tirthaṅkara preached four vows in the eighth century B.C.

The period of twenty-fourth Tirthaṅkara Mahavira (599-527 B.C.) is important in the history of India because it brought about significant changes in religious, social and economic spheres. Mahavira attracted a number of people, both men and women to be his disciples. He taught his followers to observe penances and live a life of restraint in all possible ways. Rich bankers, merchants, kings, queens and ministers became the followers of Mahavira. It is from 527 B.C., the date of nirvana of Mahavira that Jains count the Vira nirvaṇa era. It is the longest continuous era in Indian history. It starts 470 years before the Vikram era.

Jainism was dominant in Magadha during the reign of the Nandas (364-324 B.C.) and the Mauryas. Chandragupta Maurya the founder of Maurya dynasty (324-300 B.C.) at the end of his reign accepted Jainism. Later Samprati, the grandson of Asoka propagated Jainism in the country. It was after 500 B.C. that Jains via Mathura begun their migration towards the Western part of India, where they settled and where they have remained concentrated to the present day.

In course of time Jainism spread to different parts of India and received royal patronage. The period from the eighth to twelfth centuries was a golden time in the history of Jainism. It attracted a large number of followers. Jain scholars enriched the different languages by their works. Dynasties such as Kadamba, Ganga, Chalukya, Western Chalukya, Rashtrakutas, Hoysalas and Kalchuris patronised Jainism in varying degrees. Jains have contributed to the development of art and architecture, sculpture and painting from very early times in the history of Indian art. Jainism made a striking progress under the rule of the Rajput rulers in Gujarat, Rajasthan and Madhya Pradesh from the eighth century onwards.

During the medieval period Jainism made contribution to the success of Vijayanagar empire. The Jain teachers impressed the Mughal teachers by their teachings. The

merchants also contributed to the growth and development of Jainism by constructing religious places. Towards the end of the medieval period the Jain community lost royal patronage. There was persecution of the Jains in different parts of the country. So during this period the Jain community suffered rapid decline. Demographically the Jains witnessed decline during the modern period. The proportion of the Jains in the total population of India was 0.48 per cent in 1881. The increase in the Jain population has been noticeable following the decade of 1950's. There has been concentration of the Jain population in the urban areas in the modern times. Statistically the Jains are at present the best educated community in India.

Various schisms took place in Jainism from time to time. Consequently, Jainism has been divided into sects and sub-sects. What constitutes total renunciation, along with disagreement over the ability of women to attain liberation, were questions that divided the Jain community in the first century A.D into two major divisions viz. the Digambara and Śvetāmbara. Digambara is a Jain sect whose ascetics practise nudity, while Śvetāmbara counterparts, as the name suggests wear white clothes. These sects were further divided into sub-sects. Śthānakvāsi, Murtipujaka and Terapanth have been important sub-sects of Śvetāmbara division. The Murtipujakas put emphasis on the worship of idols. The Śthānakvāsis don't follow the worship of idols, while Terapanth believe in thirteen religious principles. In spite of these and many other sectarian divisions, the adaptability of the Jains to the diverse circumstances and challenges has remained the strength of Jainism and made the survival of Jainism throughout the century-long history possible.

The ascetics have played prominent role in the history of Jainism.

- The Digambara Acharya Kundakunda is known for his exposition of transcendental standpoint.
- Umaswati's Sanskrit text 'Tattvartha Sutra' synthesizes the entire Jain doctrine into mere 350 Sutras.
- Haribhadra who flourished in eighth century wrote as many as 1444 books. In order to debate with Buddhists, he even mastered Buddhist literature. He contributed immensely to the development of Jain Yoga.
- Acharya Hemachandra also played important role in the propagation of Jainism. He has written on so many subjects that he could be called a grammarian, philosopher, thinker, religious leader and historian. Under the influence of Hemachandra King Kumarapala prohibited animal sacrifices, drinking and gambling in Gujarat. In fact, Gujarat witnessed nonviolent revolution during this period.
- Acharya Jindattasuri of Śvetāmbara sub-sect Kharatara earned the title of 'Yuga Pradhana' for his social, religious and literary activities. As a tribute to his work, his followers have established dadawadis throughout India.
- The simplicity, austerity and the learning of the Śvetāmbara monk Hiravijaya impressed the Mughal Emperor Akbar to such an extent that he prohibited the killing of animals on Jain festival days.
- In a similar way, Shrimada Rajchandra during the nineteenth century influenced Mahatma Gandhi and is considered to be the spiritual mentor of Gandhi.
- In recent times, Terapanth Acharya Tulsi received Indira Gandhi National Award for promoting well being through the minor vows (Anuvrata movement).

On the whole, though small in size, historically the Jain community has been in the forefront of making important contribution to the nation.

CHIEF GUEST

SHRI SHRIPAD NAIK

MINISTER OF STATE (INDEPENDENT CHARGE), MINISTRY OF AYUSH, GOI



Shri Shripad Yasso Naik, the Member of Parliament from North Goa constituency represents the BJP. He is the Minister of State (I/C) for AYUSH and Health and Family Welfare.

He has graduated from the University of Mumbai and is an all-rounder in the field of sports. He is a state-level Kabadi player and also a swimming champion who has won the gold medal in racing and a silver medal in shooting.

He has occupied many important positions in the government being a member of the consultative committee in Ministry of Tourism and Ministry of Urban Poverty Alleviation and has also served as the State Union Minister of Agriculture, Shipping, Civil Aviation, Road Transport & Highways and Finance.

He is the Founder General Secretary of Sai Prathan Mandir Trust Ribandar, Goa, Akhil Bhartiya Vidharthi Parishad, Member of Mandovi Education Society, Betim, Member of Central Advisory Board of Archaeology and National Shipping Board.

He was also the President of Vidyarthi Nidhi, Goa, Chairman of Shikshan Prassarak Sangh, Dhurbat, Sharda English High School, Goa and Sumangal Urban Credit Cooperative Society, Goa, Ratnagiri Education Society, Ratnagiri.

An avid traveller, he has visited many countries like Brazil, UK, France, Thailand and the US. He is associated with many cultural organisations and was a member of various Committees like that of Urban Development, Energy etc.

GUEST OF HONOUR

ADVOCATE ASHISH SHELAR

BJP PRESIDENT, MUMBAI



MLA and President, BJP, Mumbai, Advocate Ashish Shelar is a dynamic leader. After taking charge as the Mumbai BJP president, he tackled the problems of the railway passengers in Mumbai, raising the issues in New Delhi. He marched to the legislator to protest against the Local Body Tax. He also organized a morcha to MMRDA protesting against the rise in Metro railway fares. Shelar is now known as a leader who raises the issue of masses, is ready to take up cudgels on behalf of people belonging to all castes and religions, a studious orator, a mass leader who fights for peoples' problems sometimes in legislative council and on occasions as an activist on street.

Adopting an all-inclusive approach, he began raising issues of various sections of society. He is inclined to solve the problems through discussions and is also ready to come to streets whenever needed.

Constant study, diligence, extensive reading and good oratory have given Mr. Shelar recognition as a studious orator. That is why literary, social, cultural, legal, industry and business organizations prefer to invite him in their programmes with an aim to listen to his thoughts. He is also known as a person who forges bonds of friendship beyond political boundaries.

On the International Fora, Advocate Shelar (the only municipal corporator from India), was selected by US State Dept under International Visitors Leadership Program. As part of this programme, he travelled across USA over 45 days engaging with 82 NGO's for leadership development, laying the foundation for life long bonds which continue to enrich his administrative perspective.

INAUGURATION BY JUSTICE DALVEER BHANDARI

MEMBER, INTERNATIONAL COURT OF JUSTICE



Dr. Justice Bhandari, B.A., LL.B, LL.M, LL.D, the recipient of the prestigious "Padma Bhushan Award" from H.E. The President of India, was a judge in the higher Indian judiciary for more than 21 years, a senior judge in the Supreme Court of India, an Executive Member of the International Law Association, India Chapter, since 1994. He was unanimously elected as President of the Indian International Law Foundation in 2007. Dr. Bhandari had a very distinguished and successful career as an attorney at law for 23 years before becoming a judge in the Indian higher judiciary in March 1991.

Justice Dalveer Bhandari is known for delivering landmarks and innovative judgments in many branches of law. He is recognized for his judgments in relation to providing food grains for population below poverty lines, night shelters for homeless people, right to free and compulsory education for children, larger allocation of funds for malnourished children and protection of ecology and environment, amongst others. The superior quality of his judgments is well recognized both in India and abroad. Dr. Justice Dalveer Bhandari is a shining example of legal acumen with a human touch.

Justice Bhandari gave various orders in the food grains matter led to the release of a higher quantum of supply of food grains to the population living below the poverty line, number of orders in the night shelter matter which led to state governments making provision for night shelters for homeless people all over the country, as also in the matter of the right to free and compulsory education for children led to the availability of basic infrastructural amenities in primary and secondary schools all over the country.

He has been invited to deliver Convocation addresses, keynote addresses at several International conferences organized by various International Institutions. Justice Bhandari took special interest in mediation and conciliation. He was Instrumental in setting up mediation and conciliation centres all over the states of Maharashtra and Goa. He also organized an International Conference on Mediation and Conciliation In Mumbai to ensure better infrastructural facilities, particularly for the subordinate judiciary in the states of Maharashtra and Goa. He also took keen interest in computerization, videoconferencing facilities, legal aid and legal literacy programmes. He was instrumental in setting up the Information Centre for Litigants in the Bombay High Court.

KEYNOTE ADDRESS

SHRI MR. A. S. KIRAN KUMAR

CHAIRMAN ISRO



Padma Shri Mr. A S Kiran Kumar, M.Sc., M.Tech., is the Secretary of Department of Space, Chairman of Space Commission and Chairman of ISRO. He is a highly accomplished space scientist and engineer with a distinguished career spanning over four decades in ISRO. He has made immense contributions to the design and development of Electro-Optical Imaging Sensors for Airborne, Low Earth Orbit and Geostationary Orbit satellites starting from Bhaskara TV payload to the latest Mars Colour Camera, Thermal Infrared Imaging Spectrometer and Methane Sensor for Mars instruments of India's Mars Orbiter Spacecraft, which has successfully completed one hundred days in Mars Orbit recently.

Mr. Kiran Kumar was instrumental in evolving the successful strategy for steering the Mars Orbiter Spacecraft towards planet Mars as well as its Mars Orbit Insertion. He has also made significant contributions for evolving the observation strategy encompassing land, ocean, atmospheric and planetary studies.

Mr. Kiran Kumar is a recipient of many national and international laurels/awards including International Academy of Astronautics' Laurels for Team Achievement Award for Cartosat and for Chandrayaan-1, Indian Society of Remote Sensing (ISRS) Award, VASVIK Award, Astronautical Society of India Award, ISRO individual Service Award, Bhaskara Award of ISRS and ISRO Performance Excellence Award.

He is a Fellow of professional institutions like Indian National Academy of Engineering, Indian Society of Remote Sensing, Institution of Electronics & Telecommunication Engineer, and Indian Meteorological Society. Besides, he is a member of the International Academy of Astronautics.

Mr Kiran Kumar has represented ISRO in international forums like World Meteorological Organisation (WMO), Committee on Earth Observation Satellites (CEOS) and Indo-US Joint Working Group on Civil Space Cooperation.

GUEST OF HONOUR VALEDICTORY FUNCTION

JUSTICE JASRAJ CHOPRA

FORMER CHIEF JUSTICE OF RAJASTHAN



Justice Jasraj Chopra , M.Com., (Prev.). L.L.B., worked as an administrative Judge and an acting Chief Justice of Rajasthan. As a student, he was the president of Student Union of Kushalashram High School, Jodhpur. He was also an Executive Director of Commerce Association. In 1956, he was selected to Rajasthan Administrative services. He was awarded with President of India's Silver Medal for outstanding census work in 1961.

As a Judge of Rajasthan High Court, he presided over Civil, Criminal, Taxation, Election petitions, Company law and many benches pertaining to constitutional matters in all its branches. He has rendered number of reportable judgments which included full bench references. He is a renowned speaker of repute on subjects like ethical values and service to humanity and law.

After his retirement he was a Founder President & Chief Trustee of Sardar High School, Ex-Student Union Trust, Ex-President of Balmandir High School, Jodhpur and also the President of Bhartiya Sanskriti Samanvay Sansthan, Rajasthan, Jodhpur.

GUEST OF HONOUR VALEDICTORY FUNCTION

PROF. PANDIT B. VISDYASAGAR

VICE CHANCELLOR OF SWAMI RAMANAND TEERTH MARATHWADA



Dr. Pandit Bhalchandra Vidyasagar, M.Sc., Ph. D Physics, Biophysics, is the Vice Chancellor of Swami Ramanand Teerth Marathwada. Formerly, he was Professor and Head, Department of Physics, University of Pune, and Director, Board of College and University Development, University of Pune. He has been a Visiting Professor of Chubu University, Japan. Dr. Vidyasagar has designed, modified and taught courses at undergraduate and post graduate level related to physics, biophysics and medical instrumentation. He has also been instrumental in establishing degree courses such as B.Sc. (Applied Optometry) and B.Sc. (Applied Biomedical Techniques).

He has conducted refresher courses for college teachers on a national basis. Interactive software tools that have been developed by his research team can be used for applications in the hospital as well as for medical education. Dr Vidyasagar has himself participated in the Curriculum Development Program of University Grants Commission and helped in introducing an interdisciplinary component in Physics curriculum. He has participated in a UNESCO project on Physics education and edited a book on Foundation Course in Physics. He has worked as an assistant editor of Physics Education Journal, published by the UGC, New Delhi and brought out special issues on Biophysics. He has worked as an associate director for the National Talent Search Program and Kishor Vaigyanik Protsahan Yojana, Govt. of India, and as a coordinator, National Eligibility Test for college teachers by UGC, New Delhi. at present he is working as a convener of the Board of Studies. He has 30 years of teaching experience and has written 16 books which include biography of C V Raman, Albert Einstein, two science fictions - Superclone and Antarali, more than 250 articles, 30 radio talks, 40 films and lectures at various places in rural, urban, semi urban and tribal areas.

GUEST OF HONOUR VALEDICTORY FUNCTION

MR. ANNURAG BATRA

CHAIRMAN, BW BUSINESS WORLD



Mr. Annurag Batra, B.Tech., is the Chairman of Businessworld, a serial entrepreneur, media mogul, a journalist and an eternal optimist rolled into one. Since taking over BW Businessworld Mr. Batra has expanded it into digital, events and BW communities and has taken into its fold www.digitalmarket.asia, a leading website on digital marketing, www.everythingexperiential.com, India's leading experiential marketing website and launch BW hotelier in partnership with hotelier international. BW smart cities an editorial platform in a 360 degree format is to be launched in mid February Mr. Batra is building the BW Business-world business aggressively.

Mr. Batra founded the exchange4media group and is its Chairman and Editor-in-Chief. Mr. Batra is also appointed by Government of India as the Chairman of an industry committee formed to come up with a vocational training framework for the media, communication and entertainment industry. He mentors many budding entrepreneurs and enjoys the process of reverse mentoring as in what he learns from these young entrepreneurs. At BW Businessworld BW Accelerate is an initiative to provide a structured platform to entrepreneurs for mentorship and growth.

He is a regular speaker on National and International Conferences on Media, Internet, Television, Media policy and Entrepreneurship.

He is on the Executive Committee of the Association of Indian Magazines (AIM).

In 2006, the prestigious Management Development Institute (MDI) and Mr. Batra's Alma mater awarded him the "Most Distinguished Alumni of the Decade Award".

Mr. Batra believes if you make your hobby your profession, you don't have to work and life is a blessing.

EMINENT SPEAKERS

(In alphabetical order)



Dr Muni Abhijit Kumar

The Jain ascetic, Dr Muni Abhijit Kumar, Ph.D., M.A., B.A., has visited more than 200 villages, towns and cities to impart value education and moral upliftment to the masses. He has many articles published in reputed national and International journals and has delivered talks on crucial issues of science, philosophy, culture & society in several National and International Conferences. He believes that practical means need to be rediscovered in order to overcome chaos, disparity, violence, aggression, pollution and intolerance that has had influence on the human mind and re-establish a peaceful world order with the wider application of principles of Ahimsa (Non-Violence) Anekanta (Multi-perspectivism) and Aparigraha (non-possessiveness). He has been an anchor/comperer in many great events that include the Book Release event held at Dr A P J Abdul Kalam's Residence in 2010 at New Delhi.

Dr. Anand Jayaprakash Vaidya

Dr. Anand Jayaprakash Vaidya, Ph.D. has specialized in Philosophy of Mind, Epistemology, Critical Thinking, Philosophy of Economics, Comparative Philosophy. He is a Professor of Philosophy and is the Director of the Center for Comparative Philosophy, San Jose State University. He has 15 years of experience in research and teaching. 10 papers of his have been published and he is Editorial Board Member in 4 Journals.



Dr. Anupam Jain

Dr. Anupam Jain, Ph.D. (Jain Mathematics), is a Professor and Principal-Incharge of Government College, Sanwer (Indore). He has experience in Research and Teaching of 35 years. About 115 papers have been published and 15 books have been written by him. He has edited 20 books. He has received 16 awards. He is Executive Member, Indian Society for History of Mathematics, Executive Director & Secretary, Kundakunda Jnanapitha, Indore, President, Research Promoting and Communication Society, Indore, Working President, GyanSagar Science Foundation, New Delhi and General Secretary, Tirthankar Rishbha Deo Jain Vidvat Mahasangh, Indore. He is the Editor of Arhat Vacana and Gyan Deshna and is a member of the editorial board of Veer Nikalank, Sanmati Vani, Aditya Adesh, Sarak Sopan, etc. He is the Executive Editor of Indian Research Communication.

Arun Zaveri

Arun Zaveri is a graduate from Munich University, Germany, in Electrical Engineering who learned Jain philosophy from his elder brother, Muni Mahendra Kumarji and Meditation from Acharya Mahapragyaji. He has been teaching Preksha Meditation, is a visiting faculty at JVBI, has conducted Workshops and Seminars for stress management, operational efficiency, and has authored three books, studying the elements of Jain Philosophy. He was a director of Jain Center of Leicester, United Kingdom. He is an elected member of Education Committee Jain Academies International Federation, Oxford University.





Dr. Arvind Kumar Jain

Dr. Arvind Kumar Jain, M.D. is senior professor in Dr. S. N. Medical College Jodhpur. He has specialized in Internal Medicine & Geriatrics. He has 25 years of Experience in Research and Teaching. He has authored one book and 17 of his papers have been published. He has won the Best Physician Veer Durga Das Award. He holds membership in Association of Physician of India, RSSDI, Indian Association of Geriatrics, and International Association of Infectious Diseases. He is on the Editorial Board of Indian Journal of Geriatrics.

Prof. Ashok K. Jain

Prof. Ashok K. Jain, M.Sc.; Ph.D.; LLB; FLS; FBS; FES; FIASc, is a Professor of Botany & Director, Institute of Ethnobiology, Jiwaji University, Gwalior, MP. His main fields of research are Ethnobiology, Aerobiology, Floristics, Biodiversity and Conservation. He is also interested in some scientific aspects of Jainism and has published good number of papers in this field.

About 125 papers have been published and 5 books have been written by him. He has received the G. Panigrahi Memorial Award, Harshberger Medal, V. Puri Gold Medal, Best Teacher Award and P. H. Gregory Award. He is a Fellow of Linnean Society, London, Indian Botanical Society, Society of Ethnobotanists, Society of Bionaturalists, Indian Aerobiological Society and International Society of Reproductive Biology. He is also a member of Indian Botanical Society and International Society of Ethnobiology. He is on the editorial board of 6 journals.



Padma Shri Dr. Ashok Panagariya

Padma Shri Dr. Ashok Panagariya, D.M. (Neurology), M.D. (Medicine), M.B.B.S., is one of the Leading Clinicians in Neurology. He is a Professor Emeritus (Neurology) at SMS Medical College, Jaipur and an Honorary Neurologist at Armed Forces of India. He is the Chairman of DISHA and President of Neurology Care and Research Society. He was the Vice Chancellor of Rajasthan University of Health Sciences. He has published around 100 research papers. He has been the only Indian editor in the prestigious "Year Book of Neurology and Neurosurgery" published from Miami (USA). He has been awarded Life Time Achievement Award by TOI and UNESCO Award for Contribution to Society.

Dr Bipin Doshi

Dr Bipin Doshi is a physician and Jain scholar teaching Jain philosophy at the University of Mumbai and all over the world. He is the National Vice president of JITO and Veerayatan, Trustee of C U Shah Medical College, President of Borivali Sanskrutik Kendra and Trustee of Borivali Medical Association. He has authored the book "Gandhi before Gandhi" and given to us three popular Jain historic dramas viz. 1) Gandhi before Gandhi, 2) Bhamasha and 3) Motisha.





Dr. C. Devakumar

Dr. C. Devakumar, Ph.D., has specialized in Jain Philosophy and Practice, Research and Higher Education Management practiced in the area of Agriculture and Chemistry of bioactive compounds. Now retired, he was formerly Assistant Director General in Indian Council of Agricultural Research, New Delhi. He has over 37 years of experience in Research and Teaching. About 130 research papers have been published and 5 books have been written by him. He has 17 patents. He has 4 International and 16 national awards and recognitions. He has been associated with 9 journals and newsletters either as the Editor or a member of the Editorial Boards. He is currently a FAO TCDC International Consultant to Sri Lanka and has been a consultant to World Bank and Honorary Editor of the National Academy of Agricultural Sciences.

Dr. Dipak Jadhav

Dr. Dipak Jadhav is Lecturer in Mathematics at Govt. School of Excellence, Barwani (M. P.) India. His field of research is history of ancient and medieval Indian mathematics. His special interest lies in the history of the Jaina school of Indian mathematics. He is a recipient of many awards including National Award conferred for the year 2006 by Government of India and Kundakunda Jñānapī ha Award conferred for the year 2014 by Kundakunda Jñānapī ha, Indore. His doctoral thesis is on "Mensuration in India from Jaina Sources".



Prof. Samani Chaitanya Prajna

Prof. Samani Chaitanya Prajna is a senior disciple of Acharya Mahashraman. She is a Professor and Head of the Deptt of Jainology and Comparative Religion & Philosophy of Jain Vishva Bharati Institute, Ladnun. She is also an Executive Director of Bhagawan Mahavira International Research Center, JVBI, Ladnun. She has been the Visiting Professor of Florida International University Miami, USA since 2010-2013. She got her Ph.D and M.A from JVBI, Ladnun. She has organized several national and international workshops, seminars, and conferences. She has been a delegate at two of World Congress of Philosophy (WCP) in 2008 and 2013. She is an international public speaker and has conducted several Lecture Circuit Tours, Paryushanas, Workshops, presented papers at various Conferences, Conventions and Seminars in India and in UK, USA, Korea, Greece, Hongkong, Bankok, China, Indonesia and Nepal. She has been the editor of the journals JERF Newsletter and BMIRC Newsletter. She is author and editor of several papers and three books. She is the Regional Co-ordinator of ISJS, a member of Jain World of Academia, London and Jain Education and Research Foundation, Miami. Her aim is to disseminate Jain teachings and culture for the well-being of society and work for higher studies and research in the field of science and Jain philosophy.

Dr. Dharamchand Jain

Dr. Dharamchand Jain is Professor of Sanskrit at Jai Narain Vyas University, Jodhpur. He also has stronghold in Prakrit language. His area of interest is Jainism and Buddhism. He has done extensive research work on epistemology and logic in Jainism and Buddhism. He also takes active interest in other schools of Indian philosophy and Sanskrit literature. He has served as the HOD, Sanskrit and as founding director of Buddhist Studies Center, J N Vyas University. He is a Chief Editor of Jinvani monthly Jaina Journal/ magazine since October 1994. He has edited more than 25 books on Jainism and Buddhism. He has chaired sessions in various national and international seminars, symposia, workshops and conferences.





Dr J. J. Rawal

Dr. J. J. Rawal, Ph.D. (Astrophysics), M.Sc. (Applied Mathematics), M.Sc. (Pure Mathematics), M.Phil, was the former Director of Nehru Planetarium, Worli, Mumbai. He is the Founder President of The Indian Planetary Society. He is also a Visiting Professor at University of Mumbai. In the 70s and 80s, he predicted the existence of the outermost rings around Saturn and Uranus, full ring system around Neptune and new satellites going around giant planets which were later confirmed by Pioneer and Voyager space probes. He has published 40 research papers. He is a prolific writer having written over 2,000 articles on Science and Astronomy, and is currently writing the Weekly Science Column in Janmabhoomi Pravasi, Mumbai Samachar and Gujarat Guardian. He has written 8 fiction stories and his series of radio talks in Gujarati on the life and work of Einstein, ran for 80 talks in 2005. He has received a number of awards and honours including the UGC School of Einstein Theory of Relativity Award and National Award.

Prof. J.P.N Mishra

Prof. J.P.N Mishra, PhD. Has specializes in Human Physiology, Neurobiology, Yoga and Meditation. He is Professor and Dean, School of Life Science, Central University of Gujarat, Gandhinagar. He has 37 years of experience in Research and 32 years in Teaching. He has received 5 national and one international award. He has written/edited 8 books and 103 of his papers have been published. He is a Distinguished Scientist in the field of Physiology and Yogic Sciences. He is on the Editorial Board of 2 Journals - International Journal of Yoga and Allied Sciences and Tulsi Prajna. He is Life Member of International Federation of Sleep Research Societies, Indian Science Congress, Society of Biological Chemists of India, International Yoga Federation and Association of Physiologists and Pharmacologist of India.



Jeffery D. Long

Jeffery D. Long holds Ph.D. in Philosophy of Religions along with MA and BA in Religious Studies and Program of Liberal Studies and Theology respectively. He is the Professor of Religion and Asian Studies Elizabethtown College Elizabethtown, Pennsylvania, USA. He has written couple of books such as Historical Dictionary of Hinduism (Lanham, MD: Scarecrow Press, 2011), Jainism: an Introduction (London: IB Tauris, 2009), A Vision for Hinduism: beyond Hindu Nationalism (London: IB Tauris, 2007), "Jainism: Key Themes" (In Religion Compass, 2011)

Dr. Jeoraj Jain

Dr. Jeoraj Jain holds the highest degree in Doctor of Engineering specialized in Welding Engineering. He has won National Award for Fabrication. Has an experience in Research and Teaching for 20 years. More than 60 papers have been published. He holds Two Fellowship of Academies along with Positions/Membership of Three Professional bodies. He has received Special achievement in the field of -"Theory of Living-beings without DNA and RNA". He also discovered that "Loka" is described in scriptures in statistical language.





Prof. Kazuyuki Akasaka

Prof. Kazuyuki Akasaka, Ph.D. is the pioneer of high-pressure nuclear magnetic resonance study of proteins. He is a specially appointed professor in Kyoto Prefectural University and has 50 years of Experience in Research and Teaching in universities [Kyoto U., Kobe U., Kinki U., Kyoto Pref. U. and Institution (RIKEN)]. 150 of his papers have been published and about 10 books have been written/edited by him. He has received Humboldt Research Award, Commendation for Science and Technology (by the Minister of Education, Culture, Sports, Science and Technology of Japan), and Society Award (from High Pressure Society of Japan). He is Honorable Member of Magnetic Resonance Society of India and Nuclear Magnetic Resonance Society of Japan and Member of Biophysical Society of Japan. He is on the Editorial Board of "High Pressure Research", a Journal from Taylor and Francis and a Subject Editor of "Food and Bioscience".

Dr. Kim Skoog

Dr. Kim Skoog is a scholar who believes that teaching should be on the field by conducting travel study courses. He takes his students to Thailand, Sri Lanka, India, Mongolia, Nepal, China and Tibet for his field teaching. An invited lecturer, presenter of over 75 papers in Europe, United States and Asia at institutions like MIT, Harvard etc., he has published over 25 articles in journals and books throughout the world. For the past 20 years, Dr. Kim Skoog has turned his attention to Jain philosophy and religion. He has introduced a course on Jain philosophy at his university and added sections on Jainism in several of his other courses. He regularly volunteers to teach college classes for the University of Maryland on U.S. military bases around the world and includes sections on Jainism in his course on Asian philosophy and religion. He has been teaching Jainism and Ahimsa to US soldiers stationed in Iraq and Afghanistan for about 8 years.



Prof. Krishnaswamy Natesan

Prof. Krishnaswamy Natesan, former professor of English, Central Institute of English and Foreign Languages, Hyderabad, and currently Emeritus Professor, JVB, Ladnun, Rajasthan, is the doyen of English teaching in India. Presently, he is working as an educational consultant in Bangalore. He is a teacher and teacher-educator, linguist and grammarian, researcher and research-guide, academic and educational administrator. He is considered one of India's leading experts on language teaching and English education with a special interest in communication skills, English grammar and usage, post-colonial approaches to English teaching, critical sociology, language philosophy, communication skills in English and literary theories. He has presented papers and delivered keynote addresses in many national and international conferences. He has authored many highly acclaimed scholarly books and course books for teaching English, linguistics and literary theories. Creativity coupled with practicality is the hallmark of his books.

Dr. L.C. Jain

Dr. L. C. Jain, Ph.D. has specialized in Electronics & Solid State Physics. He is retired Professor of Physics, Govt. Engineering college, Jabalpur, Madhya Pradesh. He has 35 years' experience in teaching & 10 years' experience in research. About 40 of his papers have been published and 4 books have been written/edited by him. He has received many awards and is a Fellow of All India Physics Teachers Association.





Dr. Luitgard Soni

Dr. Luitgard Soni has a PhD in Philosophy from the University of Salzburg, Austria, and studied Sanskrit, Indian Philosophy and Hindi at the Banaras Hindu University. Her specialization is in Indian Literature. She has 42 years' experience in research and teaching and was affiliated to the Department of Indology at the University of Marburg, Germany, from 1992 to 2012. She is now retired and lives in Innsbruck, Austria, continuing her research mainly on Jaina literature. She has published 16 papers and has written/edited 6 books. She is a Member of International Association of Sanskrit Studies and Associate Member of Centre of Jaina Studies (SOAS, London).

Prof. Muni Mahendra Kumar

Prof. Muni Mahendra Kumar graduated from the University of Bombay in 1957, and was initiated as a Jain monk by Acharya Shri Tulsi in the same year. He is a scholar of diverse disciplines like Physics, Mathematics, Bio-science, Philosophy (Indian as well as Western), Psychology, Parapsychology, Ancient History and Meditation, and is conversant with 17 languages. He is a prolific writer, a competent translator and a critical editor of more than 60 books. His significant contribution to research in Jain Canonical Literature has earned him the title of "Agama Manishi". He has been awarded the honor of epithets—"Preksha Pradhyapak", "Bahushrut" and "Human Computer" as well.



Prof. (Dr.) Mahendra Kumar Bhandari

Prof. (Dr.) Mahendra Kumar Bhandari, Ph.D. (Law), L.L.M, L.L.B, B.Sc. is Dean, Faculty of Law and Director, Amity Law School, Amity University Mumbai. He has over 36 years' professional and academic experience in Teaching, Research, Administration, Exploration of Innovative teaching skills and curriculum design. He has published 6 books on Constitutional Law and around 80 Research Papers in reputed International and National Journals. He has participated/presented research papers at 70 International and National Conferences and has organized 15 National Seminars, MOOT Courts, Symposia and Workshops. He is associated with 12 academic institutions and is also the Honorary Consulting Editor of Criminal Law Reporter and Gujarat Current Decisions.

Dr. Narayan Lal Kachhara

Dr. Narayan Lal Kachhara is a Ph.D., M. E. A retired Principal of Motilal Nehru Regional Engineering College, Allahabad, he has experience in Research and Teaching for over 35 years. He has 70 papers published and 11 books written/edited by him. He is the recipient of two awards and is an Adviser to BMIRC, JVBI, Ladnun.





Acharya Shri Nandighoshisuri

Acharya Shri Nandighoshisuri is a Jain ascetic since 42 years and was initiated at the age of 18. He is an expert in science and maths since childhood and is doing comparative, critical and innovative studies in Science and Jain Philosophy since 1980. He is a chief Mentor of Research Institute of Scientific Secrets from Indian Oriental Scriptures-RISSIOS. Has written six books and four books await publication.

Professor Narendra Bhandari

Professor Narendra Bhandari M.Sc.,Ph.D. has carried out research in Planetary, Earth and space sciences in India and abroad. He has made pioneering contributions to India's first Mission to the Moon, Chandrayaan-1. He was amongst the first group of scientists to study the moon samples brought by Apollo and Luna missions of NASA and USSR. He served as President, International Lunar Exploration Working Group and several National and International academic bodies. He has been conferred the title of "Space Visionary" from the International Society of Space Visionaries (California). He has received the Iyengar-Sahni Prize, The Outstanding Achievements Award of ISRO, Vikram Sarabhai award in Planetary and Space Sciences, National Mineral Award, GOI, Special Certificate by NASA, Shree Vijay Nemisuri Award for Jain physics. Professor Bhandari has served as member of the Senate of Jain Vishva Bharti University and Advisor to BMIRC, JVBI. He has authored several books and published over 250 research papers.



Dr Pankaj S. Joshi

Dr Pankaj S. Joshi works as a Senior Professor with the Tata Institute of Fundamental Research, Mumbai. His research is in the fields of gravitation and cosmology and he has published more than 150 research papers as well as monographs and books on the subject. He has held visiting faculty positions in several countries doing research and lecturing on these topics and has won several awards as well as Fellowships to scientific academies. Professor Joshi has made fundamental contributions in black hole physics and gravitation theory. His extensive analysis of general relativistic gravitational collapse has been widely recognized as providing significant insights into the final fate of massive collapsing stars in the universe, formation of space-time singularities, and cosmic censorship. He has also contributed a large number of books and articles towards science outreach and has given many public lectures.

Dr. Paras Mal Agrawal

Dr. Paras Mal Agrawal, M. Sc. (Physics), Ph. D., served as lecturer, reader, and Professor in India and as visiting Professor and Research Professional(16years)inUSA.Hehaspublished4books,adozenbookchapters,70 research papers in the international top-notch research journals and 150 plus papers in India. He is a popular speaker and is associated with various Jain organizations. Recently, GyanSagar Science Foundation awarded him the title of "Jain Laureate". His research work with a team of five scientists on the demilitarization of mines was nominated for best research work of year 1998 by the United States Army Research Laboratory and Uttar Pradesh Hindi Sansthan, Lucknow awarded him for his manuscript on Einstein and Relativity.



Dr. Pratap Sanchetee

Dr. Pratap Sanchetee, D. M. (Neurology), is a Consultant Neurologist at Sanchetee Neurology Research Center, Jodhpur. He is Professor, Department of Science of Living and Advisor & Incharge, Experimental Research, Bhagawan Mahavira International Research Centre, JVBI, Ladnun. He has 41 years' experience in research and teaching 102 of his papers have been published. He has written/edited 2 books. He has served Armed Forces India in 1974-1998 and organized a number of National and Local conferences. He has received an award of Chief of Army Staff's Commendation in 1980. He is a Fellow and Member of various esteemed bodies in India. He is on the Editorial Boards of Neurology India, Journal of Indian Academy of Geriatrics, Journal of Associations of Physicians of India (JAPI), The Indian Practitioner (TIP) and Journal of Indian Academy of Clinical medicine.

Ratnakumar Shiulal Shah

Ratnakumar Shiulal Shah did his M.A. in Applied Mathematics from University of Pune. He retired as Executive Director, Life Insurance Corporation of India in 1995. He has been involved in research since approximately 10 years. 13 of his papers have been published and 6 books have been written by him. Currently he is editing 3 books.



Rajesh Kumar Jain

Rajesh Kumar Jain, B.E., is a Scientific Officer/Fin Electronics Division, BARC, Mumbai and Head, Biomedical Instrumentation Group, BARC, Mumbai. His areas of expertise are Man-Machine Interface, Databases, Image Processing, Artificial Intelligence, Web based systems and E-Learning Modules. He has designed and developed Software systems for Man-Machine Interface, Databases, Scientific Computing, Web based softwares, Simputer Based Embedded Systems, Software for Medical Instruments, Ultrasonic instruments etc. He takes lectures at BARC Training School and ECIL-ECIT, Matunga Centre. 36 of his his papers have been published.

Dr. Raksha Shah

Dr. Raksha Shah is a Jain Scholar and a visiting lecturer at the University of Mumbai and Somaiya Institute. She got her Ph.D, M.A, B.Sc, LL.B, DIP.IN YOGA and N.D from the University of Mumbai. She has been a delegate at three of the Parliament of World Religions in 2004, 2007 and 2009. She is an international public speaker and has conducted several Lecture Circuit Tours, Paryushanas, Workshops, presented papers at various Conferences, Conventions and Seminars in India, various centers in the USA, Belgium and Spain- Europe and Melbourne, Brisbane- Australia. A freelance journalist, a spiritual columnist and a writer, having authored a book and received three 'Best Journalist' awards. Dr. Shah is also a compere on Mumbai Television, a cooking expert and a consultant. Her aim is to spread the word of Non violence and non possessiveness as also to educate on Holistic Wellness.



Prof. Dr. Robert J. Zydenbos

Prof. Dr. Robert J. Zydenbos, D.Litt, specializes in Indian philosophy and religion. He is a University Professor at Ludwig-Maximilians-Universität München, Munich, Germany and has 18 years' experience in Research and Teaching. Approximately 60 Research papers of his have been published and 5 books have been written /edited by him. He has received the honorary title of 'Vidyasagara' at World Sanskrit Conference in 1997. He is on the editorial board of International Journal of Jaina Studies (London, UK).



Sir Roger Penrose

Sir Roger Penrose, Ph.D. (Algebraic Geometry) is a British mathematician and relativist. He is Rouse-Ball Chair of Mathematics at the University of Oxford. In 1969, with Stephen Hawking, Penrose proved that all matter within a black hole collapses to a singularity. He developed the "Penrose diagram" which allows one to visualize the effects of gravitation upon an entity approaching a black hole. He also discovered "Penrose tiling", in which a set of shapes can be used to cover a plane without using a repeating pattern. Penrose became interested in the problem of defining consciousness and wrote two books in which he argued that quantum mechanics is needed to explain the conscious mind. He has also written 1 book on mathematics and physics and another in which he posited his theory of conformal cyclic cosmology, formulating the Big Bang as an endlessly recurring event.



Dr. Rudi Jansma

Dr. Rudi Jansma, Ph.D, is a noted scholar in consciousness and religion. He has studied neotropical ecology in The Netherlands and South America, but later specialized in intercultural philosophy relating to the attitude towards nature and views on ecology and evolution with several non-western cultures. He now resides in India and is the Director of Theosophical Study Center, Jaipur. Dr. Jansma. lectures internationally and has numerous publications on Jainism, Ecology, and Evolution. In addition, Dr. Jansma is a member of the Board of Governors and a Resource Scholar for IOUF.



Dr. S. B. Nimse

Dr. S. B. Nimse, Ph. D., has specialized in General Topology in Mathematics. He is the Vice Chancellor of Swami Ramanand Teerth Marathwada University. He has been Principal of New Arts, Commerce & Science College, Ahmednagar, Director of Institute of Management, Research and Rural Development, Ahmednagar, Director, MBA Center, IBMRD, Ahmednagar, Dean, Faculty of Science, University of Pune, Chairman, Board of Studies in Mathematics, University of Pune and is Member of Management Council, University of Pune. His research papers have been published in 21 International Journals and in 11 National Journals.



Dr. Shailesh Mehta

Dr. Shailesh Mehta, M.B.B.S.D.O is an Eye Surgeon and Director of Netradeep Eye Hospital. He is a visiting faculty of Holistic Science Research Center, USA and is a Trustee in Shri Aptaputra Trust. He has written/edited four books. He is a member of All India Ophthalmological Society, All India Ophthalmic Plastic and Reconstructive society, Indian Medical association and All Gujarat Ophthalmic Society

Prof. Sisir Roy

Prof. Sisir Roy, Ph.D. has specialized in Quantum Physics, Cosmology, Brain Function and Consciousness. He is the T.V. Raman Pai Chair Visiting Professor at National Institute of Advanced Studies, IISC Campus, Bangalore. He has been a Professor at the Indian Statistical Institute, Kolkata and has served as Distinguished Visiting Professor in various American and European Universities. He has 35 years' experience in Research and Training. More than 150 of his papers have been published in peer reviewed International Journals and 11 books have been written / edited by him. He is an Editorial Board Member in three journals. He has been a member of the organizing committee of various international conferences in India as well as in Europe and USA.



Prof. Subhash C. Jain

Prof. Subhash C. Jain is Professor Emeritus in the Department of Civil and Environmental Engineering at the University of Iowa, Iowa City, Iowa, USA. He is currently enrolled as a Ph.D. student in the Department of Jainology at the University of Madras, Chennai and is writing his dissertation on the Jain Karma Doctrine and Rebirth. He is keenly interested in delving into the nature of reality.

Dr. Subhash Chandra

Dr. Subhash Chandra holds a Ph.D. in Peace Education & Human Development Management from IOU, Opeinde, NL. He is the founder trustee of Global Peace Foundation, New Delhi. Has more than 15 years of Research and Teaching experience in Human Resources Development, Spirituality in Management & Leadership and Peace & Environment Education in India & in Bhutan as Training Specialist in UNDP –ILO Environment Education Projects in Bhutan. More than 25 parts of his research papers have been published in National and International Journals. He has received “World Human Rights Educators Award” and “Ambassador for Peace Award”.



Padma Shri Prof. Subhash Chand Manchanda

Padma Shri Prof. Subhash Chand Manchanda, M.D. (General Medicine), D.M. (Cardiology), FIMSA is a Senior Consultant, Department of Cardiology, Sir Ganga Ram Hospital, New Delhi. He was formerly Professor and Head, Department of Cardiology, AIIMS, New Delhi. His area of interest is Preventive and Clinical Cardiology. He has done original research work in the field of high altitude problems and lifestyle modification including Yoga/Meditation. He has authored over 400 scientific papers in various National and International Medical Journals, including 50 Chapters in Standard Medical Books and has authored 4 books. He is the Editor in Chief, Journal of Preventive Cardiology and Chairman of World Academy of Spiritual Science and Diya India Foundation. He is the recipient of the life time achievement award by Cardiological Society of India, Delhi.

Dr. Sudhir R. Jain

Dr. Sudhir R. Jain, Ph. D. is Scientific Officer (H) in Bhabha Atomic Research Centre, Mumbai, a Professor at Homi Bhabha National Institute, Department of Atomic Energy and Adjunct Professor at UM-DAE Centre for excellence in Basic Sciences, Mumbai. He has specialized in Theoretical Physics (Classical and quantum mechanics, Quantum chaos, statistical mechanics, Nuclear theory) and has 27 years' experience in research and training. He is a visiting professor at University of Maryland at College Park, U.S.A., University of Utrecht, Netherlands and Feza Gursev Institute, Istanbul, Turkey. He is a Life member of Indian Physics Association. 115 of his papers have been published and 4 books have been written/edited by him.



Dr. Sudhir Vadilal Shah

Dr. Sudhir Vadilal Shah is one of the most renowned and senior neurologists of Gujarat and pioneer in starting academic D.M. neurology course. He has established stroke unit and started stroke thrombolysis program. He has played a strategic role in starting Deep Brain Stimulation for Parkinson disease. He has several national and international scientific papers and publications and has contributed few book chapters and has written 4 books on “Health Education”. Has received many awards; including that from international bodies like UNO for “Excellence in Neurology and Future medicine”.

Dr Vimla Vyas

Dr Vimla Vyas, M.Sc., D.Phil., D.Sc., is Assistant Director, University of Allahabad. She has specialized in Physical Chemistry (Thermodynamics & Sono-Chemistry of Biomolecules), Human Resource Development & Higher Education Management. She has 35 years' experience Teaching, Research and Academic Administration. More than 100 of her papers have been published and she has edited 2 scholarly books and written 7 Chapters in edited books. She has won some prestigious awards such as Seva Ratna Award, "Scientific Achievement Award", Awarded Post-Doctoral Fellowship by Durban University of Technology, Durban, South Africa (2007) and her name has figured in a Biographical Reference Book entitled "500 Leaders of Science" published by American Biographical Institute, USA (2002).



Samani Vinay Pragya

Samani Vinay Pragya has completed M.A and M.Phil from Jain Vishva Bharti Institute. She has specialized in Jain Philosophy and Preksha Meditation. She has 10 years' experience in teaching. She has published 15 papers and written a book "I choose, I live" and edited a book, "Acharya Tulsi: A Legend of Humanity". She is the co-editor of a research journal "Tulsi Prajna".



Dr. Viney Jain

A biophysicist and radiation biologist, Dr. Viney Jain, Professor Emeritus at JVBI, Ladnun and Advisor, International School of Jain Studies, New Delhi received his postgraduate and post-doctoral training from the universities in Goettingen, Kiel and Frankfurt/M, Germany. Author of more than 100 original research publications in peer-reviewed scientific journals, Prof. Jain served on the faculties of the Physical Research Laboratory, Ahmedabad, All-India Institute of Medical Sciences, New Delhi; National Institute of Mental Health and Neurosciences, Bengaluru, Delhi University, Delhi. He superannuated in 1998 from the post of Director, Institute of Nuclear Medicine and Allied Sciences, Delhi. He has been a visiting professor/scientist at several universities in India, Germany, U.K., France, Netherlands and USA. Prof. Jain's present interests include philosophy of science and integration of science and spirituality. His current studies are focused on Leshya, Meditation, Forgiveness and Behavior Modification.



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(Demeed University)

Ladnun - 341306, Rajasthan, India

Understanding Jainism

(Theory and Practice)

July 23 to Aug 12, 2016



Objectives

- To understand the concept and ideas of Jainism.
- To develop understanding and attitude of nonviolence.
- To familiarize the participants with the philosophy of creative non-violence in India.
- To impart training of Preksha Meditation for emotionally balanced life-style.
- To establish the importance and relevance of amity for the survival of living being.

Special Highlights of the Programme

- Visit to places of archaeological and historical importance in and around Ladnun.
- Interaction with spiritual personalities.
- Meditation / Yoga session (morning session).
- Visit to wild life sanctuary.
- Cultural interaction with local people of the town for better understanding of culture.
- Trekking

Fee Structure

For UG/PG the course fee will be US \$ 500 / EU 400 and US \$ 600 / EU 450 respectively. For details of the payments contact co-ordinators. The Fee paid will be non-refundable.

Deadline

- # Application : March 31, 2016
- # Fee : April 15, 2016

Contact Person

Co-ordinators

- Dr Samani Rohit Pragya, FIU,
rohitpragya11@gmail.com
- Prof Anil Dhar, anjvbi@gmail.com

Academic Convener

- Pooja Jain
pooja.nov04@gmail.com

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We heartily Congratulate and convey our Best Wishes for the success of International Conference on Science and Jain Philosophy organized by Bhagawan Mahavira International Research Center of Jain Vishva Bharati Institute of Ladnun (Rajasthan) for giving Scientific knowledge of Jain Principle and thoughts based on Scientific Vision, which have been spread by Jain Tirthankers for the benefit of Mankind and all the creatures. Today the world is facing Environment Crisis due to anti-environment treatment and unprecedented violence. "Live and let live should be the aim of Life".



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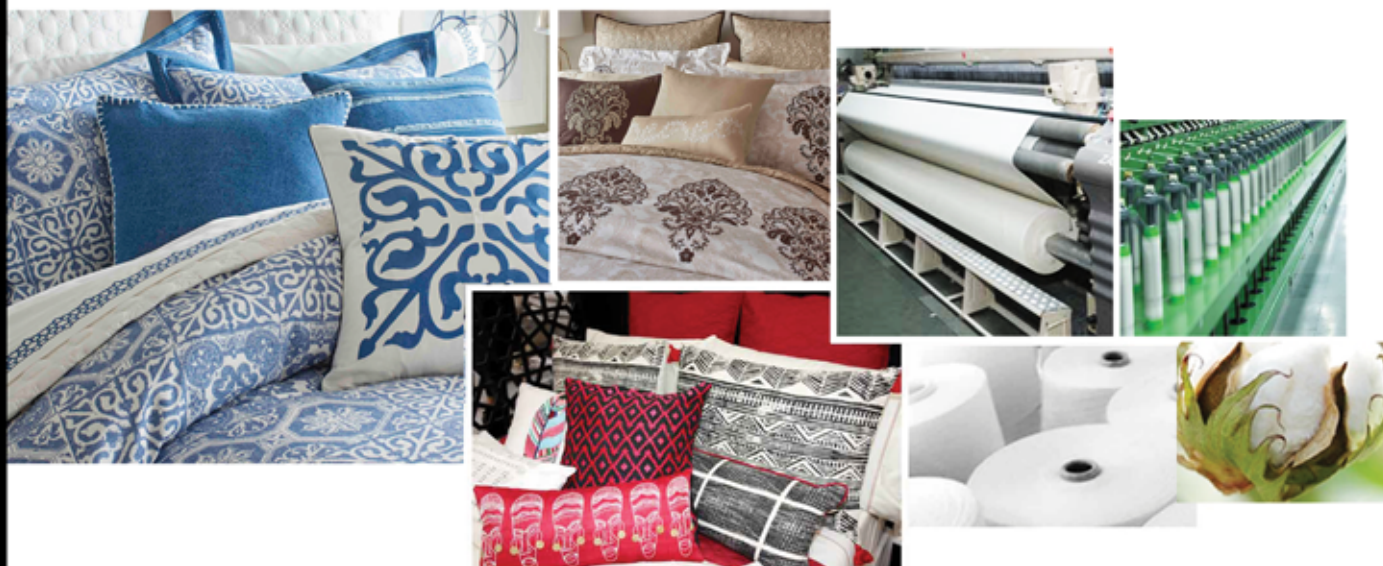
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Jayesh R. Ghughu, B.Com., IDCPA, DBM
Paras B. Doshi, B.E. Computers
Atul J. Shah, M.B.A.
Narendra B. Chhajed, B.E. (Polymers)
Dhanesh H. Shah, D.C.E. Computer Prog.
Kishor K. Oswal, B.E. Electricals

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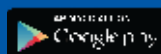


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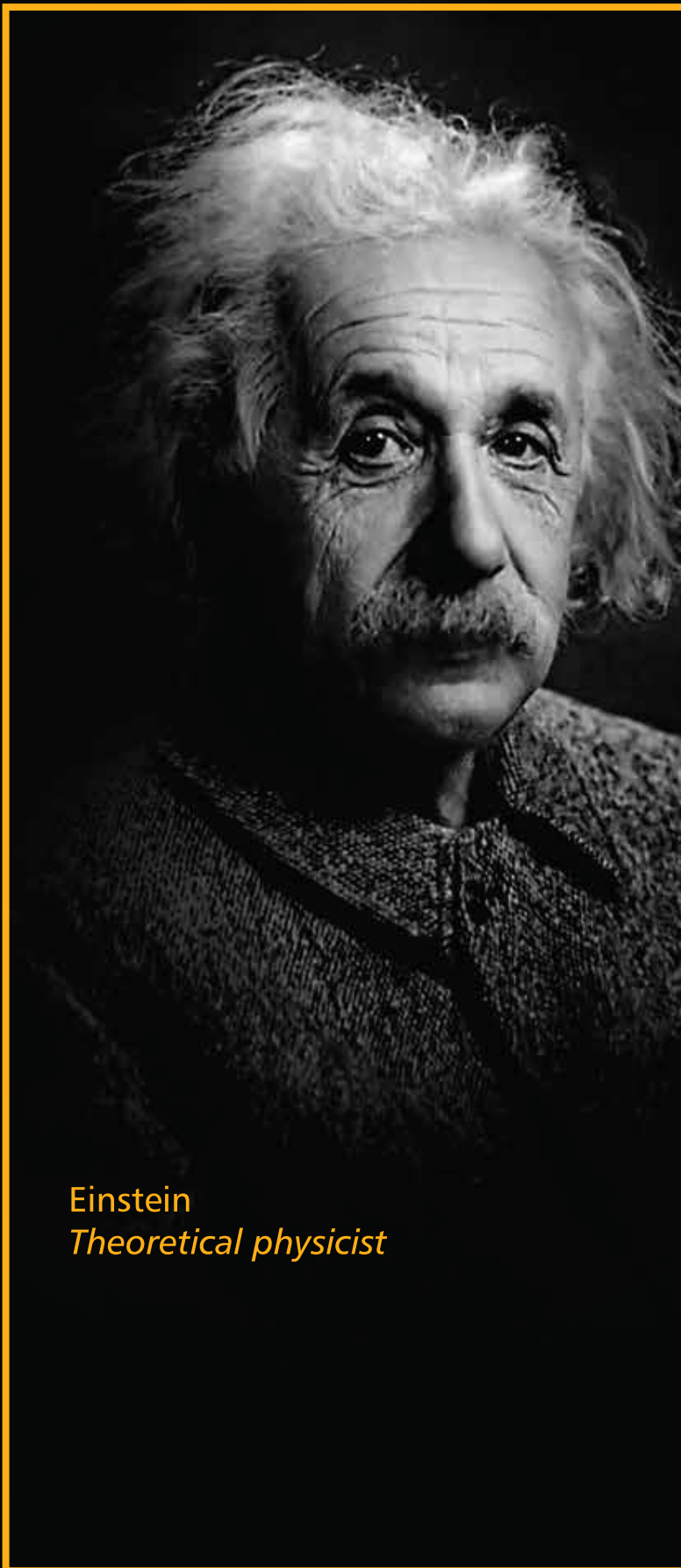
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