

**ABSTRACTS**

# CONSCIOUSNESS

IN MODERN SCIENCE AND JAIN PHILOSOPHY

**Second International  
Conference on Science  
and Jain Philosophy (ICSJP)**

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Steven J. Green School of International & Public Affairs  
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## EDITORIAL NOTE

The chasm between religion and science is quite deep: those with a scientific mindset do not like to accept anything that cannot be experimentally proved, whereas the religiously minded need no proof for anything laid down in the sacred scriptures. This gap has, unfortunately, hindered mutual interaction, preventing those from each camp benefiting by a constructive study of the other. Consciousness is a topic that may bridge this chasm, because it is the subject of deep discussions and deliberations in both the field of philosophy and the world of science. The papers on consciousness presented at the Second International Conference on Science and Jain Philosophy (ICSJP2021) represent a humble attempt to bring religion and science together in the hope that “new, interesting and the most fruitful developments will take place,” as advocated by Werner Heisenberg in his book *Physics and Philosophy* (1958).

Many renowned scientists have come to the conclusion that every phenomenon in the universe cannot be explained only by physical processes involving matter, and thus there is a need to think beyond the material. Some Nobel laureates also hold this view, including the following:

- Erwin Schrodinger (Nobel laureate in physics, 1933): “Mind has erected the objective outside world of the natural philosopher out of its own stuff.”
- Eugene Wigner (Nobel Laureate in physics, 1963): “We are not machines. If man were a machine, then it should be possible to describe him in terms of atoms and molecules, and I don't think that is possible.” Wigner also characterizes consciousness as a nonphysical entity.
- Brian Josephson (Nobel laureate in physics, 1973): “Thus, Bohm views quantum mechanics as providing an indication that there is unobserved order in nature. This now connects back to what I was saying much earlier..., i.e., that if we want to put God into science, then we have to say there is an intelligence behind the scenes which is creating order or at least leaving things less ordered than they would have been without the intelligence being present.”
- George Wald (Nobel laureate in medicine, 1967): “Each of us has a share in Brahman, the Ātman, the essential Self, ageless, imperishable. *Tat tvamasi*—Thou art That! That is the stuff of the universe.”
- Albert Einstein (Nobel laureate in physics, 1921): “I believe in Spinoza's God.”

An analysis by Tihomir Dimitrov found that at least twenty-seven Nobel laureates in the field of science (physics, chemistry, and medicine) believe in the existence of some entity (entities) beyond matter and energy, as covered in physics. Thus, material science alone is not sufficient, and there are indications regarding the possibility of some *real stuff* (soul or consciousness) that have not yet been detected by scientific instruments.

Many scientists, such as Roger Penrose, Stuart Hameroff, Vernon Neppe, and Edward Close, have started working on a consciousness model of the universe. We welcome Professor Neppe's paper on his work at this conference.

ICSJP2021 aims to synthesize scientific studies with spiritual concepts to explain various processes in the universe. Jain tīrthankaras, sages, seers, and philosophers have gone very deep into spirituality and consciousness to develop systematic and consistent theories of soul and consciousness. ICSJP2021 is an opportunity for scholars of Jainism to discuss those theories with the world of science.

This conference builds on the first International Conference on Science and Jain Philosophy (ICSJP), which was held on the theme, "New Avenues of Scientific Research in Jain Philosophy," in 2016 at the Indian Institute of Technology Bombay in Mumbai. In that conference the academic community discovered that Jain principles and practices are very scientific in character and that conferences bridging science and spirituality serve the important purpose of narrowing the gap between the two. The overwhelmingly positive global response to ICSJP2016 motivated us to plan ICSJP2021 at Florida International University, with the support of the Jain Education and Research Foundation, on the theme of "Consciousness." Undoubtedly, the intellectual and scholarly deliberations and rigorous discussions by eminent scientists and scholars at the conference will create a paradigm shift in the study in consciousness and many other such subtle realities, thereby fostering a harmonious, peaceful, and nonviolent world order.

**Prof. Samani Chaitanya Prajna**

Director General, ICSJP2021

**Dr. Pratap Sanchetee**

Executive Director, ICSJP2021

## CONFERENCE THEME

### **Consciousness in Modern Science and Jain Philosophy**

Muni Mahendra Kumar, Advisor, ICSJP

**Ātmā (Soul) or Jīva (Living Being).** Jain philosophy (*darśana*) is essentially based on the beginningless bondage of the soul (ātmā) to karma (the subtlest form of matter). Hence, any consideration of the mundane soul according to modern scientific concepts should be based on the fact that consciousness in the mundane soul, or *jīva*, is not at all free from the effects of the association of the soul with the eight types of matter technically known as *vargaṇās*. In metaphysical and spiritual treatises, “pure soul” is described as possessed of such innate qualities of pure consciousness as the infinite power of knowledge (*jñāna*) and infinite perception (*darśana*), infinite bliss, infinite spiritual energy, and so on. Yet it is not at all proper to speak of soul in its purest form—as free from all contaminations—in the context of the material world. While discussing the consciousness of the mundane soul, we should always be aware that we are dealing with ātmā + *pudgala* (matter): materialistic effects on the soul or consciousness become very significant and useful when we consider the scientific view.

**Psychosomatic Effects and Vice Versa.** Our focus is on consciousness that is not devoid of physical effects of the eight *vargaṇās*. Therefore, it is important to describe psychosomatic effects not only in their gross aspect of effects of mind on matter or matter on mind but also in subtle effects of consciousness on karmic matter (*kārmaṇa vargaṇā*, *taijas vargaṇā* [vital body]), and so on. It is also important to determine how the karmic matter, vital body, and other matter affect soul or consciousness. We should discuss how ultimately the gross physical body (*audārika vargaṇā*) plays the key role in the life of human beings and other living beings through its biochemical and biophysical activities, genetic codes, and bodily systems such as the nervous system, the endocrine system, and the like.

**Cognitive Faculty.** *Upayoga*—cognitive behavior—is the main characteristic of *jīva* and at the same time is defined as *cetanā-vyāpārah*. Theories of perceptive cognition, verbal cognition, and other forms (*matijñāna*, *śrutajñāna*, etc.) are presented here in the context of scientific views of learning, memory, and the like. The texts *Nandī Sūtra*, *Viśeṣāvaśyaka-Bhāṣya*, *Dhavalā*, and *Satkhandāgama*; the commentaries by Abhayadevasuri on the nine canons (*anga-āgamas*); Shilanka's commentaries on the canons *Āyāro* and *Sūyagado*; Malayagiri's commentary on the scripture (*upānga-āgamas*); and Haribhadra's explanatory scholastics on different commentaries are rich sources of Jainism's subtle explanations and ideas and how they may inform modern scientific epistemological theories.

**Neuroscience and Karma.** These conference papers explore the theory of eight karmas, which elucidates the life processes in detail in light of neurological concepts that explain the functioning of the human brain and that of other living beings; cognitive development from birth through death; the language of the brain—knowledge, learning, memory, and intelligence; and sensory and emotional experiences of pain, loving and attachment, religion, fear, and flight.

**Attitudinal Change and Behavioral Modification through Human Endeavors.** Consciousness is the seat of all types of human emotions, attitudes, and behaviors. Human endeavors such as education, the social environment, culture, and familial intervention, play a vital role in bringing about attitudinal changes and behavioral modifications in individuals and groups.

Spiritual technologies—including meditational techniques, yogic and breathing exercises, concentration of perception, contemplation, auto-suggestion, sound production (*mantra*), color visualization, and the practice of relaxation of the body, muscles, and nerves—have been used from generation to generation to bring about attitudinal changes and behavioral modifications so as to develop human (voluntary nervous system) control over the autonomous mechanism. Consciousness plays a major role in spiritual technology.

The vital question is whether it is possible to awaken wisdom in human consciousness through our efforts. If the answer is yes, perhaps the most important outcomes of such conferences as this one are to mold a new human consciousness through scientific (or objective) research (using sophisticated scientific tools and equipment) and thereby imparting global training in nonviolence so as to minimize the violence that has seemingly converted humankind into a “bestial race.” We should learn how to develop consciousness and its faculty in such a way that an average human being would be able to practice “self-restraint” in day-to-day individual and social (national, international) life to the minimum extent of keeping intact the environment and ecology.

These outcomes may seem to be utopian. Yet by uniting the two fields—modern science and technology with spiritual science and technology in general—and Jain philosophy and spiritual practices (*sādhana*), in particular—the twenty-first century would pave the way toward achieving a universal world order of perennial peace and optimal physical, mental, emotional, and social health.

## ABSTRACTS

### **Theme: Soul and Consciousness in Jain Philosophy**

#### **Is It Possible to Define Consciousness Scientifically?**

Acharya Vijaynandighoshsuriji Maharaj

At present many scientists are engaged in research on consciousness with the guidance of insights from quantum mechanics, the probability principle, Bose-Einstein statistics, and the theory of relativity. Yet, because the soul or consciousness is nonmaterialistic and cannot be perceived through any senses or instruments, western scientists are also deriving insights from Indian philosophers and philosophies. Indian spiritual and philosophical conceptions of the soul, living organisms, consciousness, mind (*manas*), and brain are informing scientific explanations of consciousness, as explored in this paper.

Just as quantum mechanics explains different levels of different cognitive powers, so can the energy of the soul of any person be assessed. The power denoted by neuroscientists as brainwaves, such as gamma, beta, alpha, theta and delta waves, can also be conceived as a form of extrasensory power or spiritual power. The neuroscientist Nobel laureate John Eccles claims that some part of our brain works according to probability principles. Because every soul is connected with the space-time continuum, each is also connected with Einstein's principles of general theory of relativity. Each soul directly reacts to auspicious or inauspicious micro *paramānu* units called *kārmana varganās* according to the *Adhyavasāya* of corresponding soul. The material mind (*manas*) is equivalent to physical mind (*manas*), which is made up of more micro *paramānu* units of *mano varganās*.

#### **On Two Qualitative Jain Models of Consciousness**

Kanti V. Mardia

In my paper, I use the term "consciousness" in a broad sense to address the interaction between the soul and *karmic* matter. Raychandbhai was the first to use this term in this manner when he developed the first qualitative Jain model of consciousness, "attainment of the soul" (*ātma siddhi*). Its six principles summarize the Jain path of purification. Independently, I was searching to develop an axiomatic system of Jain thinking and came to what are now termed the "four noble truths of Jains" (the fourth noble truth has three components, so that the total number of principles is actually six).

I compare and contrast these two models of consciousness. They share the feature of liberation (*moksa*), but my model explicitly mentions the strong interaction between the soul and *karmic* matter, whereas in Raychandbhai's model, this interaction is implicit. In my model, the first three noble truths are abstract, outlining the theoretical aspects of the Jain path, whereas the final noble truth focuses on practice. Broadly speaking, Raychandbhai's principles 1, 2, and 5 correspond to my noble truth 1, and his principles 3, 4, and 6 correspond to my noble truths 4A, 4B, and 4C. My noble truths are all based directly on the original Jain scriptures, whereas Raychandbhai's principles seem to be drawn from his vast knowledge of Jain thinking.

Of course, there are other models of consciousness, such as the "quantum soul" posited by Penrose and his school, which provides a quantitative as opposed to qualitative construction. Additionally, Deepak Chopra has put forward eight principles of consciousness (a qualitative model), and Bal Ram Singh has introduced another quantitative model. I also explore these models in my paper.



**Conference Address****Soul, Life, and Consciousness in  
Modern Science and Jain Philosophy**

Muni Mahendra Kumar

The whole world seems to be groping in the dark, trying to find solutions to our global problems. That is because modern science and technology are based on one-dimensional theories involving only “physical existence” or a materialistic view of life, whereas we ought to consider consciousness together with matter. Jain philosophy reveals that it is only the power of free will of consciousness (of the soul) that possesses the inherent “potency” needed to overcome the effect of matter, including both the subtle structures called *kārmaṇa vargaṇā* and the gross structures of *audārika vargaṇā* (building cells of the human body).

The application of spiritual technology advocated by the Jain seers/tīrthankaras could ameliorate such major problems as these:

- Curbing violence in all fields of human life to an optimally low level in the personal and interpersonal arenas (i.e., familial, social, national, and international)
- Improving health through a holistic approach that promotes physical, mental, emotional, spiritual, and social (interpersonal) health, mainly by increasing “emotional intelligence” so as to inhibit negative/destructive emotions and increase positive ones
- Reducing hunger and economic inequality by narrowing the vast, ever-increasing abyss between “haves” and “have-nots” by putting efficacious limits of endless desires, boundless accumulation, and the needless consumption of things and wealth. “Hunger” is the most dreadful blot on so-called civilized human society in the twenty-first century.

The three main practices of the spiritual lifestyle prescribed by Jainism—(1) *ahimsā* (universal

compassion, friendliness, forgiveness, etc.); (2) *samyam* (self-restraint: the five-fold major vows for ascetics or twelve-fold minor vows for householders); and (3) *tapas* (external ascetic practices such as fasting and semi-fasting and internal ones such as meditation, the scientific practice of concentration of the conscious mind)—are potent enough to curb the animal instincts of the human brain emanating from the limbic system or the mammalian brain (which is situated in the frontal lobe of the human brain).

The twofold goal of ICSJP2021 is to develop the “new man—new world” via thorough and objective scientific research in the field of consciousness and to impart training as part and parcel of global education at all levels. This would help us pave the way to awakening wisdom and creating the “wisdom world,” an altogether innovative concept amalgamating spirituality with science.

**Conference Address****Consciousness and the End of Life**

Nathan Katz

My studies of Jainism and my experiences with people on their deathbeds have influenced my thinking about death and dying and about spiritual life in general. Some years ago, I had a remarkable encounter with a very senior Jain nun who was near death. Her dignity at that crucial moment deeply impressed me, and I began to explore issues of consciousness at the end of life. Each year I deliver a lecture to students in Florida International University’s College of Medicine on this theme. It is quite a challenge to guide these very intelligent, competitive, hard-working students to think about these weighty matters. My paper tells the story of that deathbed encounter and shares some of what I teach the FIU medical students each year.



## **Conference Address**

### **How the Triadic Dimensional Vortical Paradigm (TDVP) Unifies Nature, Spirituality, and Science**

Vernon M. Neppe

Spirituality (including Jainism) can incorporate what is scientifically feasible in our reality. We must recognize that the four *overt* dimensions of physical experience (three of space in a quantum of time) reflect only part of the mainly *covert* expression of the *existing* nine-dimensional quantized volumetric finite reality embedded in an indivisible infinite continuity.

The Neppe-Close discovery of the triadic dimensional vortical paradigm (TDVP) have completely changed the current conception of the nature of reality. Spirituality and science can now be based on empirically verified real-life proofs. We know via TDVP that:

- TDVP involves nine quantized volumetric dimensions embedded in the infinite continuity.
- Gimmel (the third massless and energyless fabric) is critically important: it affects consciousness, life, all quanta, and rotating vortices.
- Spiritual philosophical models of unified monism, kabbalah, and Jainism amplify and promote TDVP.
- Mathematics is fundamental in nature: it can be applied to quantal units, gimmel, nine dimensions, and the infinite.
- TDVP proposes ordropy, conserved order in the infinite. Ordropy is critical for the spiritual, allowing immortality in the infinity and explaining physical life and death, as well as abiogenesis plus meaning.
- So-called junk DNA may be the message that contains consciousness, meaning, information, spirituality, and even Godliness.
- Our direct overt experience reflects parts of a broader existence, mostly hidden from our

physical world. Yet that higher consciousness, spirituality, hidden dimensions, and the infinite continuity have marked physical impacts on us. Mathematics confirms many hypotheses.

- The Laws of Nature are unified. That means there is the same law for the infinite and finite, as well as for all the quantal, macroreality, and cosmological levels.
- TDVP is loaded with the concepts of impact and influence. These imply theism— not only the existence of G-d but also the active potential for interventions.
- Consciousness, mass, and energy involve content, whose extent is reflected in measurable consciousness, space, and time.

Indeed, science can be unified with the spiritual, as I explore in my paper.

### **Theme: Relative Economics – A New Model of Development Based on Consciousness**

#### **Relative Economics and Consciousness**

Ashok Bapna

The failure of existing economic systems to meet the basic needs of much of their people is of growing concern. The primary reasons for this failure are that these systems lack a humane approach and suffer from a lack of consciousness. In the past there was a perfect balance between people and the planet, but as development started taking precedence, the balance was disturbed. At the root of this imbalance are the three *Ps*—planet, people, and profit—and their interaction in modern societies and economies.

The global race to achieve superpower status has resulted in much exploitation and suffering. The United States, China, and India, as well as many European countries, use immoral tactics to compete in this race: their actions have resulted in an unequal distribution of resources across the globe and

degradation of the climate and environment. We need to save Mother Earth from the perils of incessant greed, and it is here that the principles of Jainism—nonviolence, *aparigraha*, and *anekāntavād* can play a very important role.

Mahapragya, in his many writings and teachings, described a closer relationship between the doctrine of relative economics and consciousness, with a focus on a human-centric approach to development. Indian tradition in general and Jainism, in particular, consider the plant and animal kingdoms on a par with human beings: all deserve equal consideration and treatment. Thus, economics has to be not only friendly to human beings but should also be eco-friendly. That is the only way it can lead to sustainable development and all-around happiness.

For an economic system to be sustainable, it must see the development of consciousness as the ultimate target. It must also adopt the humanitarian view of avoiding exploitation of weaker members of society. Any economic development has to be holistic in nature; the failure to adopt that approach may be the largest weakness in current economic systems. My paper discusses why these economic systems do not operate according to these principles.

### **Aparigraha: Jain Theory and the Practice of Finance**

Atul K. Shah

The powerful yet platonic discipline of finance “resists” cultural and ethical dialogue, making it ever more technocratic and incapable of questioning its own fundamental assumptions and paradigms. Meanwhile, business leaders know little about the global Jain community, one of the world’s oldest living cultures, and its intricate and distinctive living ethic and philosophy of finance that have yielded sustained long-term success and leadership in business. This paper is an auto-ethnography using the “person-in-community” approach to examine the core Jain principle of *aparigraha*, or non-possession, thereby introducing

a unique method of understanding the nature and practice of finance. I explain Jaina philosophy and connect it to the lived practices of Jain businesses and communities to show how together they inculcate a culture of sustained success. These lived practices embody a pragmatic and contemporary way of maintaining respect and accountability to society and the environment, one that need not compromise on economic viability or sustainability. Understanding, self-discipline, practice, and reflexivity are shown as keys to restraining possessiveness and greed. In this organic approach, trust is developed and replenished, such that finance flows to good uses and a peaceful planet and society results. I also elaborate concepts and practices of sustainable leadership in finance. A mindset of pluralism and inclusivity helps managers adapt to a global interconnected world. Finally, I offer new insights on reforming the morality of finance theory, culture, and education.

### **Manifestations of Consciousness as Three Jewels**

Siddheshwar R. Bhatt

Jain philosophy, *darśana* in the Indian context, is a systematic reflection by a thoughtful human mind on lived experiences to enable realization of the quality of worldly life (*abhyudaya*) and ultimately the *summum bonum* of life (*nihśreyas*). It is mainly a conscious enterprise of self-awareness and self-reflection (*ātma jñāna*).

In Jainism great emphasis is laid on proper knowledge (*samyak jñāna*) as the only and surest way to spiritual perfection. The Jain scriptures therefore stress that we must draw a clear distinction between true cognition (*samyak jñāna*) and erroneous cognition (*mithyā jñāna*). Erroneous cognition entangles us in the vicissitudes of worldly life. It is bewitching and bewildering, and it springs from *avidyā*, or ignorance. To have the right knowledge, it is necessary to have the right attitude or right mental makeup. This is *samyak drsti*. Opposed to this is *mithyā drsti*, from

which we generally suffer. *Samyak drsti* leads to *samyak jñāna*, which alone is the pathway to *moksa*, or liberation.

Knowledge's value and purpose are not theoretical but necessarily practical, because right conduct ensues only from right knowledge. As the saying goes, conduct without knowledge is blind, and knowledge without conduct is lame: the two complement each other. Without right conduct, deliverance from worldly miseries, trials, and tribulations is impossible, and without complete deliverance from this suffering, no permanent happiness can be achieved. As said earlier, these are the three jewels of life which every human being must wear. Knowledge is useless without conduct, and conduct is unserviceable without knowledge. Thus, in Indian culture and specially in Jain culture, philosophy, and religion, beliefs and the way, theory and practice, are not divorced and segregated, as explored in this paper.

### **Acārya Mahapragya and the Doctrine of Relative Economics**

Chain Singh Barla

Lord Mahāvira professed that all human beings must, as far as possible, restrain their consumption needs. *Acārya Mahapragya*, the great Jain saint-philosopher, supported this view. He contended that a multiplication of wants generally begets numerous problems. His views, which are explored in this paper are the antithesis of what growth economists like W. W. Rostow argue—that the ultimate goal of economic pursuits is attaining a *high level of mass consumption*.

Logically, the multiplication of wants leads to increases in the scale of production, which, in turn, create many problems that place a society at a *point of no return*. These major problems are as follows: intensive/extensive use of land for growing food

- loss of forest cover, resulting in catastrophic changes in physiography

- increasing use of fossil fuels, causing emissions of CO<sub>2</sub> and other gases into the atmosphere
- water shortages resulting from the reckless and irrational use of water
- depletion of natural resources like minerals, soils, and water, thus leaving very little for the next generations
- loss of numerous species of birds/plants
- water pollution and resultant water-borne ailments

*Acārya Mahapragya* believes that all these problems originate in an unrestrained lust for consumption that motivates people and, especially, policy makers to pursue growth-oriented and production-raising goals. Relative economics thus is guided by this message, "*there must be a limit to growth.*"

### **Consciousness in Indian Tradition**

Dayanand Bhargava

Indian tradition asserts that material objects are not valuable for their own sake but for the purpose of supporting conscious beings. Yet it so happens that money occupies a key position in individual and collective life, relegating consciousness to the second place. Therein lies the root of all the evils and sufferings of social and individual life.

The pursuit of money may be driven by human nature. For example, material objects are alluring for the senses and mind. They offer comfort to the body and bring prestige, status, and fame to one who possesses them in large quantity. For these and many more reasons, many people ignore moral precepts such as "all that glitters is not gold" and "there is no gain without pain."

Indian thinkers therefore found that merely issuing moral precepts does not prevent the pursuit of

material goods. So they asserted that there is a supra-moral plan of life that is consciousness-centered. Consciousness is inherently perfect; it is the foreign element that corrupts it. Therefore, a person's every action has to aim at purifying the self, rather than achieving any reward in this world or other world.

Second, since the nature of a thing is not the subject of argumentation, logic only has practical utility and cannot lead to the ultimate truth. Just as there is a supra-moral plan, there is a supra-logical approach that characterizes Indian thought—both Jain and non-Jaina—on the highest place of consciousness, which is the abode of eternal and supreme blissfulness. Morality concerns the well-being of society, whereas logic prevails in the sphere of natural sciences. This concept, which is peculiarly Indian, distinguishes spiritualism from the concept of religion as often understood. It has a global nature and therefore is more relevant for modern times.

### **Theme: The Biological and Spiritual Evolution of Consciousness**

#### **Consciousness and the Doctrine of Karma**

Narayan L. Kachhara

Consciousness is the property of soul. Its manifests in various ways, principally through *jñāna*, the power of cognition, and *darśana*, the power of perception. A pure soul has an infinite power of cognition and perception, in addition to perfect bliss and unlimited spiritual power. Worldly souls are not pure but are infested with impurities in the form of karmas: ignorance and information records made by experiences of the soul, which obstruct the full manifestation of the powers of the soul. Karmas are of two types: *bhāva karma*, impurities of the soul, and *dravya karma*, a subtle form of matter that forms part of the subtle body, called the *kārmana* body.

The physical, vocal, and mental activities of a living being attract *karmana-varganās* (subtle matter) from

cosmos. The force of *kasāya*, passions, binds these *varganās* to the existing *kārmana* body. Because these karmas are bound to the living being, the soul experiences the fruits of this karma in later life. This is a cause-and-effect system: the soul has to reap the fruits of its actions. After giving these fruits the relevant karma sheds the *kārmana* body.

The soul has to be reborn to experience the bonded karma, and this process goes on until karmas are associated with the soul and the cycle of karma can be broken. There are ways to stop the influx of karma and shed the balance of karma. A soul free of karma is in a liberated or emancipated state.

In my paper, I discuss properties of the soul; types of karma; the inflow, bonding, stoppage of inflow, and shedding of karma; and other details of the process. Karma is not the sole determinant of our destiny, and I also explore some of those other factors.

#### **Consciousness in Ekendriya Jīvas with Special Reference to Microorganisms**

Ashok K. Jain

In Jainism, living beings are classified on the basis of their number of senses and mobility. There are two major groups of living beings: (1) immobile, or *sthāvara jīva*, those that cannot move on their own and have only one sense, and (2) mobile, or *trasa jīva*—those that can move on their own and have two to five senses. Immobile living beings are further divided into (i) *prithvikāya*, or earth-bodied; (ii) *apkāya*, or water-bodied, (iii) *tajjaskāya*, or fire-bodied; (iv) *vāyukāya*, or air-bodied; and (v) *vanaspatikāya*, or plant-bodied. A guiding concept of Jainism is that important components of nature like earth, water, air, and fire are also considered to be living entities that possess all properties of living beings, such as senses, emotions of anger and ability, ingestion and respiration, aging, sexual feelings, and so on. Scientific experiments using modern tools and instruments have probed the presence of life in these components.

Different kinds of microorganism have been found in the bodies of all living beings. Such minute entities are usually not visible through the naked eye but can be seen with transmission electron microscopes and scanning electron microscopes: they show detailed images of fungi, bacteria, viruses, viron, virioides, and the like. Our paper addresses the modern scientific classification of several categories of microorganisms and their useful or harmful roles. We compare such microorganisms with *Nigoda* as described in Jainism.

### **Animal Consciousness, Jainism, and Science**

Jaipat Singh Jain

This paper explores consciousness in scientific terms in relationship to the Jaina understanding of animal consciousness. Using Jaina terms, it examines cognition obtained through sensory and intellectual organs (*paroksa* or *a-pratyaksa*) and through direct perception (*pratyaksa*). It then posits that the instruments of science are inherently limited but do not need to be. Jaina thought offers fruitful and rich avenues for exploring consciousness, including animal consciousness.

### **Theme: Neurological and Cognitive Theories of Consciousness**

#### **Jain Science: Uniting Spirituality and Science**

Satish Kumar

Jain science is founded on the principle of *anekānt*, which means that there is no one single truth: truth is multidimensional. *Anekānt* also means there is no final truth that we can grasp intellectually or communicate verbally. The search for truth is a lifelong journey. Truth is a process of discovery; it is a process, not a product.

A second important principle is *syādvād*, which means "the diversity of truth." Just as there is religious diversity, cultural diversity, linguistic diversity, racial diversity, and biodiversity, we also need to recognize

the diversity of truths or the plurality of truths.

In Jain science the search for truth is complemented by the practice of nonviolence. Whatever truth we discover, we need to communicate it, with respect, to other people who may hold different truths. In the pursuit of truth, we must avoid harming anyone physically, emotionally, or intellectually. Reverence for all life is integral to the search for truth. Thus, Jain science promotes the search for truth without dogmatism, domination, or destruction. My paper explores Jain science in which truths and nonviolence cannot be separated.

### **Definition, Structure, Function and Cognitive Theories of Consciousness**

Samani Chaitanya Prajna

The subject of consciousness has recently become a topic of rigorous scientific investigation; at the same time, several new questions and challenges regarding consciousness are facing philosophy. It is of utmost importance to address these complex and unexplained issues using our present level of knowledge of physics, chemistry, information science, and biology. Scientists have gained a substantial understanding of the neural network, which appears to function on a code system that can seemingly be decoded using the tools of information technology. Given that Jain sages, seers, and scholars have gone very deep into the concepts of soul and consciousness and written many texts on them, it is the right time to present their knowledge in the light of these scientific questions.

Jain philosophy, from its very inception, has explored the phenomenon of consciousness (*ātmā*, *cetanā*, or *upayoga*), leading to the development of very systematic and profound theories of consciousness comprising all its physiological, biological, psychological, parapsychological, logical, sensuous, and intuitive aspects. Jainism postulates consciousness as an entity whose presence in a living body distinguishes it from a nonliving entity,

in which consciousness is not present. Several canonical and philosophical texts, such as *Nandī Sūtra*, *Āvaśyakniryukti*, *Viśesavaśyakabhāṣya*, *Sanmati-Tarka*, and *Jñānabindu*, discuss in detail the various sensory and extrasensory cognitive theories of consciousness.

Karma theory is another important concept that involves soul–matter interaction. In Jainism, karma does not correspond to action but refers to a fine variety of matter that is somehow associated with a worldly soul and obstructs the true properties of a pure soul. This theory can provide a totally new set of ideas about the ongoing matter–consciousness dialogue in the scientific world. It also leads to a concept of the spiritual evolution of consciousness that differs greatly from Darwin’s principle of evolution.

This paper explores in depth the definition, structure, and function of consciousness in light of the Jain literature.

### ***Anekāntavāda* in the Context of Quantum Physics**

Narendra Bhandari

Jain philosophy propounds that every human being needs the correct worldview (*samyak darśan*) to lead a meaningful life and develop its potential fully. Without *samyak darśan*, whatever one does in this life is a waste. The doctrines of *anekāntavād*, *syādvād*, and *nāyavād* are related to the nature of the constituents of *loka* (universe), the nature of “the truth,” and the perspectives of the observer (the self), respectively. To comprehend the true nature of the universe and to develop a comprehensive worldview to the extent possible, it is necessary to understand these three doctrines, which are colloquially dubbed “*Anekāntavāda*,” or non-absolutism. This paper describes these doctrines and how they enable us to understand the true nature of reality and develop a correct worldview.

*Anekāntavād* essentially implies the multiplicity of modes: everything, living and nonliving, changes its manifested mode every moment and yet preserves its

essence, without any change and eternally. Nothing remains the same, even for a moment, except this essence, which is unchangeable and indestructible and continues forever. This is the true nature of things and objects. *Syādvād*, which is related to *jñāna* and is poorly translated as “knowledge,” is even more fundamental. It asserts that there is no one absolute truth: all truths are relative. *Nāyavād* or perspectivism essentially deals with the observer. The self, who is the observer, looks at different things from different points of view at different times.

The nature of the universe is such that, to any problem, a binary solution (yes or no) is not adequate. Instead, seven possibilities exist, all of which should be considered for the sake of completeness. This system is called *Saptabhangi* (seven modes of expression). For some problems, the solution may be indescribable.

### **Monkey Metacognition**

Bennett L. Schwartz

Metacognition typically refers to the conscious processes by which people judge and then change their own thought patterns. Human beings can monitor and control their own cognitive processes and so have metacognition. For example, because I feel like I have not learned the French word for “cauliflower” well enough, I choose to continue studying it. In my research, I have studied tip-of-the-tongue states as a case study in the phenomenology of metacognition. I found that strong experiences of tip-of-the-tongue states are usually, but not always, associated with knowledge of the sought-for item. In my paper I briefly review this work before focusing on metacognition in animals.

For the last twenty-five years, researchers in comparative psychology have explored whether nonhuman primates and other animals can also consciously monitor and control their own cognition. The results are varied, with some species (e.g.,



chimpanzees, rhesus macaques, and bottlenose dolphins) showing strong evidence of metacognition, whereas others, such as pigeons, mice, and rats, showing no evidence or mixed evidence. I review the methodology by which metacognition has been studied in nonhuman primates. Then, I speculate whether showing that a monkey monitors and controls its learning and remembering means that its metacognition is conscious in the way that ours is. In this discussion I briefly entertain the conflict in this area between the scientific concept of parsimony and the philosophical problem of qualia.

### **Hegel and *Anekāntavāda* in a Wired Brain**

Andrew Bridges

In 2020, philosopher and psychoanalyst Slavoj Žižek dedicated his work *Hegel in A Wired Brain* as a celebration of the 250<sup>th</sup> anniversary of Hegel's birth. It considers how Hegel might react to the idea of consciousness being altered so drastically by the experience of the technological singularity, which the wired brain facilitates. A wired brain is a component of the technological singularity; it is a hypothetical futuristic technology that would allow a mind to share a neural link with another mind. The philosophy of mind largely assumed by this hypothetical futuristic technology is functionalism. This technology would provide a mind immediate experience of shared consciousness with another mind. Other features of the technological singularity include multiple minds sharing a neural interface or a mind interfaced to technological equipment, allowing for intellectual intuition.

In this paper, I explore how the Jain doctrine of *anekānta* might be understood in the context of the technological singularity and how it could serve as a form of mediation between minds. I consider how the ontology expressed in *anekāntavāda* might be affected by the hypothetical futuristic situation of the technological singularity.

### **The Soul and Life in Conscious Action Theory**

Wolfgang Baer

Advances in quantum physics have succeeded in integrating consciousness into a physical framework. This paper discusses such a framework: a fully pan-psychic nonlinear interpretation of quantum physics called *conscious action theory*. This theory starts by assuming that our conscious experience is undeniable and real. It identifies physical correlates of consciousness with the rate of action—energy—flowing through our first-person space of awareness. By recognizing our conscious experience in the phase of a self-regenerating action loop, it leads us to the discovery of the physical activities that cause our own here-and-now experience. The physical behavior of an action loop is described by the least action principle. This principle states that any physical activity loop desires to increase the amount of action it experiences by engaging in interactions that minimize the stress and strain of its internal forces. Physical systems with balanced forces are in equilibrium within themselves. Such systems can be isolated in what eastern philosophy has called the *nirvana* state, while physicists use the term “ground state.”

This paper shows that such self-contained activity loops have the characteristics of a soul and represent the physical essence of a conscious being. Souls are shown to be independent lifetimes in which the appearance of objects signifies transitions to excited states called life. The life state happens in response to interactions intended to produce an increase in negative entropy, resulting in growth. Lifetimes maintain a permanent existence. It is only the individual excited states, along with the conscious experiences and memories they contain, that grow, wither, and die. Conscious action theory recognizes death as an isolated system in a *nirvana* state and life as resulting from interactions that transform the ground state into excited forms. Evolution then proceeds when isolated systems attempt to increase the amount of internal activity through interactions



that produce an excited state, which then modifies its internal structure by accommodating absorbed action in a new and bigger *nirvana* state.

### **Theme: Karma Theory and Development of Consciousness**

#### **Consciousness beyond Mind and Brain**

Muni Siddha Kumar

Consciousness has been studied for centuries and been the subject of innumerable explanations, definitions, and debates yet remains as unknowable as ever. It is somewhat like defining the undefinable. What constitutes it? Is it a product of the brain or something psychological? Is it the same in every living organism, or does it consist of different states that vary from person to person? Is it possible to sense of feel without the brain? Many thinkers, from Descartes and Locke to Hameroff and Penrose, have tried to figure out this compelling mystery and, to some extent, have been successful, yet the ultimate truth awaits. To try to get all questions answered, it is important to let go of the stick-to-your-guns policy and welcome a different approach.

Trying to determine the nature of consciousness now is like a lawyer who has the flu and is struggling to feel better. However knowledgeable he may be, studying the law is just not the solution to his flu. What he needs is to use the different approach of medical care. Is it wrong for a lawyer to visit a doctor? Similarly, a subject such as consciousness needs a combination of oriental and occidental sciences, a pinch of this and a pinch of that to arrive at a holistic approach. Even though matter may influence consciousness, it is definitely not a material entity. And being a nonmaterial entity, it is difficult for modern science to complete the

quest singlehandedly. Although science can help us study how consciousness is influenced by external experiences and what role the brain plays, Jain philosophy can go beyond the realms of matter and give life a larger meaning by comprehending the actual nature of it, as shown in this paper.

#### **Effect of *Nāma Karma* on the Manifestation of Consciousness**

Dharmchand Jain

Although consciousness is an essential characteristic of all living and liberated beings, how it is manifested differs among living beings. Some of the causes of this variation are (1) the effects of eight types of karma; (2) differences in bearing *prānas* (vitality); (3) variations in *leśyās* of all beings; (4) variable intake of liquor, poison, medicine, food, and so on; (5) sinful and pious activities; and (6) meditation and other *sāghanās*.

Variation in *jñānāvarana karma* affects the manifestation of the knowing ability of living beings. *Darśanāvarana karma* and its destruction affect the sensitivity of every living being. Sound sleep is a type of *darśanāvarana karma*. *Vedanīya karma* in the form of pleasure and pain expresses the consciousness of living beings. *Mohanīya karma* affects a soul in two ways: it affects the inner right view, obstructing one's understanding of the nature of consciousness and its relation to other material objects, and it keeps consciousness in a sinful and impure form. *Ayusya karma* keeps a soul for a period in the life of an infernal, subhuman, human, and celestial being. *Gotra karma* affects a being and its higher or lower impressions about himself. *Antarāya karma* affects the ability or potential of a soul to engage in efforts toward its betterment.

There are forty-two kinds and ninety-three subtypes

of *nāma karma*. It mainly deals with the body—its structure and the abilities of that specific body. *Nāma karma* affects consciousness in several ways:

- Consciousness differs in every *gatināma karma*.
- Consciousness differs in one-sense, two-sense, three-sense, four-sense and five-sense beings.
- *Samhanana*, *samsthāna*, and the various types of *nāma karma* known as *trasa*, *bādara*, *suksma*, *paryāpta*, *aparyāpta*, and *tīrthankar* also affect the consciousness.

This paper explores the types of *nāma karma* and how they affect consciousness.

### **Think of these Things: Soul, Consciousness, and Science**

Sudhir M. Shah

The nature of consciousness—the primary attribute of all *jīva*, according to Jain philosophy—has alluded scientists and philosophers alike for millennia. I am often asked as a scientist whether I believe in the existence of soul, whether soul and consciousness are the same thing, and whether Jainism is a scientific religion. My paper explores these questions and the “hard question”: What is the biological basis of consciousness, or how does consciousness get into the world?

If we look at the foundational theory of physics, general relativity of quantum mechanics, periodic tables of chemistry, or the endless ACGT chatter of genes, nowhere is there mention of experience, which is the foundation of consciousness. How does matter give us an experience?

I attempt to solve the eternal mystery of consciousness and soul with reference to various

scientific disciplines such as molecular biology, chemistry, neurobiology, and quantum physics, as well as artificial intelligence (AI). I look at the role of each cell, as well as the roles of parasites and microbiome. I examine the limitations of materialism theory and Donald Hoffman’s work suggesting that we may be thinking about it backward: that consciousness is fundamental to the universe and gives rise to the physical world, and not vice versa. The paper also explores the promises and challenges of pan-psychism, Susan Simard’s experiments on plant consciousness, and other similar investigations.

As we attempt to answer the second most important unanswered question of science—whether consciousness is binary or on a gradation scale, or at what point does one become conscious—can we also answer the first most important question?

### **The Concept of Soul in Jainism**

Anand Bhansali

This paper presents the Jain view of the soul, body, reality, matter, karma, and salvation. Jainism treats the existence of the soul as separate from that of the physical body (matter) in which it resides. Even though consciousness is one of the soul’s principal neural attributes, the soul is much larger than mere consciousness. The soul is permanent, and the body is impermanent. Reality is a combination of the permanent and the impermanent: this duality provides a complete understanding of reality.

All life is interdependent: every life form has an important role to play. Jainism places the utmost emphasis on the practice of nonviolence for sustaining interdependent life, peaceful coexistence, and environmental equilibrium.

The transcendental journey of the soul from bondage to liberation occurs over many life spans

and life forms. Karmic law and karmic justice operate throughout the journey of the soul from initial karmic bondage to eventual liberation. The path prescribed in Jainism for attaining *moksa* or salvation is fascinating.

### **Toward a Cultural Role for Jainist Belief in the Modern World: Reconciling the Concept of the Soul in Jainism with Organismal Biology**

Helen Kaibara and Jimmy Triplett

Jains believe that all life on Earth, including bacteria, plants, fungi, and animals, contain living souls of equal value, worthy of compassion and respect, which pass from one life to the next on the path to liberation. This view of life forms an important foundation of Jainist philosophy, ritual, and daily practice. Yet Jainism also advocates the adoption of rational attitudes toward life and the discarding of superstitious beliefs. Modern science demonstrates that consciousness, intelligence, and the perception of soul arise from the nervous systems of humans and that these qualities are largely absent in other lineages, despite their sophisticated functions and behaviors. Neuroscience and psychology explain the soul of humans as an extension of our physical minds, rather than as a supernatural, noncorporeal entity that can persist outside the body. Nevertheless, there is cultural and psychological value associated with the perspective of the living soul in all life.

In this paper, I draw attention to the cultural significance of religion in Japan, a largely atheist society, as a model for the value of Jainist doctrine for modern science. I highlight the potential for a duality, as in the position of Shinto beliefs among an essentially atheistic Japanese population. Although modern science may dismiss the supernatural, life itself is magical, and the fact that science can explain many of the mysteries and wonders of life in

no way detracts from the miracle of it. In this way, the cultural beliefs of Jainism can provide a course of practical moral discipline consistent with *samyak darśana* (right perception), the first step in the Jaina process of self-realization.

### **Consciousness: Contrasting Oriental and Occidental Approaches**

Jashvant Shah

Most dictionaries define the word “consciousness” as a kind of awareness. In Jain philosophy, it refers to the soul itself or sometimes the inherent characteristic of the soul. Soul and consciousness cannot be separated, and the latter has nothing to do with the physical brain. Consciousness as awareness (*samvedana*) or as knowledge (*veda* or *jñāna*) only concerns the soul. Modern science, in contrast, relates consciousness to the activities of the physical brain and the body. This paper explores these contrasting understandings of consciousness.

According to Jain philosophy, every soul until it is liberated possesses three bodies: the tejas body, the karmic body and the gross body (either the *audārika* body or *vaikriya* body). During transmigration, between the time after death and the new birth, the soul carries tejas and karmic bodies with it; consciousness also persists then. Modern science is only capable of understanding the gross body, which in humans and certain animals consists of five sense organs and a brain.

According to Jain philosophy, consciousness exists forever in the soul, irrespective of the material body in which it dwells. Consciousness is the inherent, nondetachable attribute of the soul. Thus, there cannot be consciousness without the soul, and the soul cannot be without consciousness. Both are nonmaterial entities whose existence can never

be terminated nor created. Yet, consciousness can never be found in any nonliving material. The 24th Tirthankar Mahaveer proclaims this truth in the words, “*Je ayaya se vinnaya, je vinnaya se ayaya. Jena vijanati se ayaya*”: the soul is knower and the knower is soul. Soul is the means by which one knows.

### Consciousness in the Fetal Development Stage

Namramuni Maharaj Saheb

Jain philosophy asserts that the cognitive, physiological, and emotional development of the fetus is largely dependent on two factors: the karma it has accumulated in the past and the memories it has carried forward. In my paper, I explore how these two factors affect the development of any fetus, particularly its neurological abilities. Scientific research has concluded that the fetus develops from a fertilized egg. This information is accurate but incomplete, leaving many questions unanswered. Which organ, physical trait, intellectual ability, and emotional attributes does a fetus inherit from the mother and which from the father? When should a mother ideally conceive the fetus? What are the kinds of dreams that a mother sees at the time of conception? Is it possible to genetically engineer a fetus with respect to its nature, attitudes, and value system, above and beyond its physical aspects? It is a known fact that mothers have a deep influence on the unborn child’s mind. But how strong are the unborn child’s neurological abilities for intercepting messages and emotions, perceiving situations, expressing desires, and so on?

This paper explores how every fetus has a very different fate: some die in utero, some die soon after birth, some are born with lifelong defects, some defects are treatable, and some are fortunate to enjoy a long and healthy life. What are the individual karmas

of different fetuses that affect their longevity? And while an unborn child does not commit any physical karmas, what are the mental karmas that its mind is capable of binding?

Jainism offers a wide-ranging perspective about consciousness in the fetal stage and opens avenues for future research and development in embryology.

### Cetanā: Animals, Plants, and the Ahimsic Imperative of Veganism and Ecological Preservation

Gary Francione

In my paper, I discuss how an equivalence is often posited between *consciousness* and *sentience*, or between subjective awareness and the ability to have a mental experience of pain and suffering. That equivalence would be justified in most systems of Western philosophy—but it is not justified in Jainism. The concept of *cetanā* in Jainism is a much broader concept than is “consciousness” as understood in the West. *Cetanā* is a property of the soul, or *jīva*, and it is always present. A being who is alive but is in a permanent comatose state would most probably not be considered conscious as we use that expression in western philosophy. Yet that being would most definitely have *cetanā* as that expression is used in Jainism.

Plants are alive and possess *cetanā*. But plants are *ekendriya jīva* that are *sthavar*. That is, they have one sense—touch—and they are immobile. Other *ekendriya jīva* include beings that have earth, water, fire, or air bodies. *All* have *cetanā*, yet *none* are sentient or subjectively aware. The Jain ascetic is enjoined not to commit *himsā* on such beings. This injunction does not apply to lay Jains, who are allowed to commit *himsā* against *ekendriya*, particularly plants, in order to survive.

All Jains are forbidden from committing *himsā* against mobile beings, or *trasa*, whether they have two (*dwindriya*), three (*trindriya*), four (*chaturindriya*), or five (*panchendriya*) senses. This injunction has particular application to *samjñi panchendriya*, which have a *mana*, or mind. They have both a physical mind, or *dravya mana*, which interacts with the brain and nervous system, and a psychical mind, or *bhava mana*, that results in states of mentation or decision making. This injunction against inflicting *himsā* on *trasa*—and particularly *samjñi panchendriya*—applies not only to acts that are done (*karita*) but acts that are approved of (*anumodana*). This injunction does not—and cannot—apply in the case of *ekendriya*. Without *himsā* against *ekendriya*, no one—laypeople or ascetics—could survive.

From this, we may draw three conclusions. First, Jains *must* limit any and all food to *ekendriya*. Any *himsā*, whether *katita* or *anumodana*, involving *trasa*, is strictly forbidden. This injunction *must* include dairy (cows are *samjñi panchendriya*). There is a qualitative difference between plants and animals, such as mammals, birds, and fish; plants have *cetanā* but do not have *manas*. The sense of touch that an *ekendriya* possesses cannot be equated to what we normally think of as sentience. *Samjñi panchendriya* have both *cetanā* and *manas*.

Second, because plants have *cetanā*, we have the obligation not to interfere with their spiritual journey beyond what is strictly necessary for our survival. Therefore, we must consume plants only to the extent necessary, which means consuming less than most of us do. Frequent and intermittent fasting should be the rule and not the exception in Jainism.

Third, although the environment per se may not have *manas*, a nonsentient environment still involves myriad instances of *cetanā*.

### Forty-Seven Śaktis of Ātmā in Jainism and Analogous Ideas in Modern Science

Surendra Singh Pokharna

The concept of *ātmā* is the foundation of Jain philosophy. It is explored through an extensive literature in Jain *āgamas* and in Śwetāmbara and Digambara traditions. The *Samayasāra* of Ācārya Kundakunda is an important philosophical work on *ātmā* and holds a prominent position in Jain literature. In this paper I analyze the Sanskrit commentary *Ātmakhyāti* by Ācārya Amritchandra and its relationship to modern scientific concepts. In verses of great spiritual value, Amritchandra describes forty-seven of the infinite śaktis (powers) of *ātmā*. Extensive details of these śaktis are available in *Pravacana Navneet*, a Hindi book written in Gujarati written, based on the sermons delivered by Ācārya Kanji Swamy.

*Cetanā* (consciousness) is an important śakti that has two attributes. *Darśana jñāna*, is not found in matter (*pudgala*) or in other nonliving substances, but is the means to establish contact with the self and the external world. The concept of five infinities used to describe the Jain model indicates self-consistency of it.

This model of Jainism has remarkable parallels with the relativistic quantum holographic (RQH) model of consciousness developed in modern science. The infinite śaktis are almost independent but are weakly coupled nonlinearly and may correspond to the infinite frequencies of holograms. The concept of dual vector spaces of topology with zero sum developed for nil-potent quantum physics helps distinguish *ātmā* from all other substances, including *pudgala*. *Kevala jñāna* and *samudghāta* are then explainable on the basis of nonlocal information due to quantum entanglement, whereas a worldly *ātmā* will always have local and nonlocal information.

**Theme: Evolution of Consciousness in Jain  
and Western Perspectives**

**Morphic Fields and Biology**

Rupert Sheldrake

According to the hypothesis of formative causation, all self-organizing systems, including crystals, plants, and animals, contain an inherent memory, created by a process called *morphic resonance* from similar systems. This type of memory works through morphic fields within and around systems in which the whole is greater than the sum of the parts, which include molecules, cells, organs, organisms, and societies of organisms. There are several kinds of morphic fields: morphogenetic fields organize forms, behavioral fields organize behavior by influencing the activity of the nervous system, and social fields organize social groups. Morphic resonance occurs when similar patterns of activity influence subsequent similar patterns in self-organizing systems across time and space, from the past to the present.

The hypothesis of formative causation predicts that each species has a kind of collective memory. If rats learn a new trick in London, for example, rats all over the world should be able to learn the same trick quicker. There is already evidence that this happens: social groups, such as flocks of birds, are organized by morphic fields. In this context, telepathy can be understood as an interaction between members of social groups within the morphic field of the group as a whole that interconnects the individual animals. All human beings draw on a collective human memory and, in turn, contribute to it. Even individual memory depends on morphic resonance, rather than on physical memory traces stored within the brain. This hypothesis is testable experimentally and implies that the so-called laws of nature are more like habits. My paper explores the scientific support for morphic resonance and collective memory.

**Conscience and Consciousness**

Christopher Chapple

The field of consciousness in Asian thought, as articulated by Fritjof Capra and Rupert Sheldrake, tends toward a monistic worldview that emphasizes connections and long-distance communication experiences. It thus privileges moments of other-worldly transcendence. This approach supports what Rudolf Otto, a comparativist, referred to as "awe in the face of the tremendum." In contrast to this totalizing view of consciousness, Jain thinkers emphasize human conscience as the gateway to a state of abiding, applied mindfulness.

This paper examines the granularity of Jain thought and practice, exploring the descriptions of life forms found in the *Acārāṅga Sūtra* and other texts, the comprehensive Jaina ethical system, and the progressive elemental meditations found in medieval literature. These practices foster an intimacy with immediate physical, sensory, and emotional realities. They also point to a world in trouble caused by consumerism and abuse of the environment. Awareness of ecological disarray requires an ethically attuned response. A person who has cultivated a Jaina conscience feels compelled to take direct action in diet, consumer choices, and overall lifestyle trajectory. I give examples of modern trends, including the rejuvenation of *dīksā* in India during the past fifty years, the global advocacy of veganism (which is not without controversy), and the commitment to renewable energy.

**The Role of Consciousness in  
Jain Responses to Darwin**

Brianne Donaldson

Many contemporary Jains assert that the ancient tradition of Jainism is compatible with modern science. Some authors specifically attempt to



demonstrate the early evolutionary insights of “Jaina biology” that may partially and implicitly resonate with “Darwinian expressions” or offer a corrective to Darwin’s nineteenth-century theory by altogether redefining certain aspects of evolution.

The Jain view of consciousness can, according to certain Jain interpretations, resonate with or diverge from Darwin’s theory of evolution. In this paper, I explore three strategic arguments that contemporary Jain authors have made for their tradition’s compatibility with Darwin’s theory of evolution, paying special attention to the role of consciousness in each account; namely, that the Jain view posits (1) biological resonances and epistemic flexibility, (2) the evolution of consciousness as explained through karmic variation, and (3) the exceptional possibility of human omniscience. I highlight persistent challenges within these arguments that undermine any easy comparison between the Jain worldview and Darwin’s theory.

The Jain tradition does not speak in one voice regarding modern science. However, as Jain communities move and develop in new contexts with fresh concerns that go beyond ancient orthodoxies, we find a proliferation of responses to claims such as Darwin’s theory of evolution—especially as pertains to the understanding of consciousness—that keep the Jain tradition alive and changing in its own right.

**Consciousness: A Cross-Cultural and Multidisciplinary Engagement between Jain, Analytic, and Phenomenological Philosophy of Mind**  
Anand Vaidya and Purushottama Bilimoria

In our paper, we develop a deep, rich, and continuing dialogue between Jainism’s philosophy of mind, the analytic and phenomenological philosophy of mind, and the sciences, particularly physics and neuroscience.

This dialogue respects the centrality of Jain texts and their correct interpretation by Jain scholars.

Within the analytic and phenomenological philosophy of mind, there are two important and related questions. The question of *reductionism* asks, Can consciousness be reduced to purely physical processes without epistemic or metaphysical loss? The question of *causation* asks, what role, if any, do conscious or conscious states play in causing physical behavior? If consciousness states are nothing over and above physical processes, and reductionism is true, then one might be skeptical that consciousness could play any role in causing behavior. It seems as if one’s conscious reflection on what to eat for dinner plays a causal role in determining what one then makes for dinner. However, if one’s conscious reflection and decisions are nothing more than the result of certain neurological activities in the brain, then consciousness appears to play no role in an individual’s choice of what to make for dinner.

We aim to bring Jain theories of consciousness (*cetanā*) and causation (*sadasatkāryavāda*) into conversation with analytic and phenomenological philosophers regarding these two questions. We argue that Jain theories of causation provide for a role for consciousness in mental causation. We also claim that the relationship between consciousness at the phenomenal, value-guiding level and Jain ontology in general is consistent with physical causes for conscious mental events, because the physical level of causation is not the only level of causation under which we can explain intentional action, such as choosing what to make for dinner.



## **Theme: Consciousness and Artificial Intelligence**

### **Unleashing the Power of Consciousness through Spiritual Technology to Counter Future Threats from Artificial Intelligence and Others**

Muni Abhijit Kumar

The vital essence of all living beings that distinguishes them from the inanimate world is consciousness. Consciousness is the prime driving force of all activities, whether positive or negative, constructive or destructive. It is the entity that perceives, observes, experiences, and governs all the mental and bodily activities of all living beings. Humans have used this force in developing their culture, civilization, art, science, and technology. Consciousness necessarily differs from the state of being conscious, of being aware; instead it is the one that becomes aware. Thus, it is not a state but existence itself.

Consciousness in philosophy and psychology means something beyond the physical order of existence. The eminent mathematical physicist Roger Penrose claims that known laws of physics are inadequate to explain the phenomenon of consciousness in his famous book *The Emperor's New Mind* (1989). In many contexts, consciousness implies four characteristics: subjectivity, change, continuity, and selectivity. Similarly, in Jain scriptures, we find its four essential attributes: sentience, an enlightened worldview, bliss, and energy.

Recent developments on the frontiers of neuroscience concerning neuro-links, immortality, artificial intelligence, cloning, and genetic engineering, may result in an ability to transcend the physical limits of the body and make a human's life longer and more durable and powerful. However, these efforts may not be sufficient if the nonphysical part of existence—

consciousness—does not evolve in parallel to match the advancements in physical structuring. This asynchrony leads to an imbalanced life.

The spiritual technology propagated by Bhagawan Mahāvira, the last tīrthankar of Jain tradition, is a guiding light for us to advance ourselves. Just as our lives have become more comfortable and luxurious because of scientific developments, so spiritual technology can enhance our inner potential. Consciousness itself will become more powerful and upgraded, and wisdom will awaken. The superior powers of consciousness will be able to stabilize all prospective threats arising from scientific advancements, as explored in this paper.

### **The Enigma of Consciousness**

Muni Jagrit Kumar

The nature of consciousness is the thorniest and most mind-boggling question in philosophy, confounding scientists, philosophers, and spiritual leaders for generations. The etymological meaning of the word *consciousness* (con = "together" and scio = "to know") is "having joint or common knowledge with one another." Thus, both spiritual insights and scientific evidence, combined with an unbiased approach and seeking attitude, are needed to arrive at the eternal truth. The nature of consciousness can be further unraveled by exploring these following questions:

- Is consciousness omnipresent and universal, or is it a relative and superficial phenomenon?
- Is consciousness the source and origin of all the phenomenal happenings in the universe?
- Can consciousness be extended/widened/evolved with the aid of technology?

- Does consciousness arise from nothing or from some mysterious exotic physics acting inside our neurons?
- Can consciousness be defined as a function of physical matter, a product of the complex physical nervous system, or an incomprehensible spiritual entity?
- Can quantum mechanics be helpful in understanding the uncertain nature of consciousness?
- Can artificial intelligence (AI) take the place of consciousness?
- What are the nuanced differences between consciousness, AI, soul, and mind?
- Does the brain–computer interface play an important role in deciphering the mysteries of consciousness?
- Can extrasensory perception (ESP), psychic ability, or the concept of past life regression help us comprehend consciousness?
- Does consciousness manifest itself in many layers or strata?
- Is consciousness a complex algorithm that can be decoded and downloaded for the sake of immortality?

My paper addresses these questions through an exploration of canonical texts of Jain philosophy, as written by enlightened souls in a way that is accepted even by the scientific domain.

### **A Multidimensional View of Consciousness in Context with One's Identity and Equanimity**

Paras Mal Agrawal

The multidimensional view of water acknowledges its many forms: drinking water, distilled water, salty water, a single molecule of water (H<sub>2</sub>O), and the like. In the same way, Jain preceptors provide a multidimensional view of consciousness.

Molecular scientists know that a single molecule of water is one natural unit of water, and all the other kinds just mentioned represent an assembly of a very large number (~ 10<sup>23</sup>) of molecules. There is a great difference between a single molecule of water and a cup of water. Science shows us that the labels of solid, liquid, and gas apply to an assembly of many H<sub>2</sub>O molecules, not just one molecule. Likewise, a molecule of water can never be salty water. Water becomes salty only when an assembly of water molecules under consideration also contains salt molecules. Surface tension, viscosity, visibility by the naked eye, and other qualities are also the properties of the assembly of many molecules, not of one molecule. In the same way, Jain preceptors explain that titles such as man, woman, horse, ant, and so on, are given to the combinations of soul and physical body, not to the soul alone.

In this paper I highlight the importance of understanding consciousness from various perspectives. At times it is okay and perhaps even necessary to have a provisional identity of oneself only with one's physical body. However, in the interest of equanimity and liberation, it is important to have one's identity with the eternal soul only. One should have a multidimensional (*anekānta*) view of consciousness based on the following principles:

- From the relative point of view, the consciousness of body and mind is to be recognized.

- From the real point of view, it is to be understood that in reality, only the eternal soul has the attribute of consciousness,
- In reality, I am an eternal soul only.

### **Wherefrom Life: Soul, Matter or Consciousness? The Jain Perspective**

Ratnakumar Shah

According to theories of modern science, life evolved from a chain of chemical reactions in preexisting inorganic (nonliving) matter—amino acids, proteins, and nuclear material such as RNA—under high temperatures of the early Earth to form a mixture called an “organic soup.” Five hundred million years after formation of the Earth—that is, four billion years ago—life arose on the Earth in the form of noncellular large molecules. After a lengthy, drawn-out process of evolution, the modern human being arrived on the scene, about 200,000 years ago, amidst a multitude of species.

Jainism does not believe in the modern scientific theory that life was created at some stage but instead asserts that all the six substances (*dravya*) constituting the universe (*loka*) are present from an infinite past, are perpetual, and will last until eternity. The two most significant substances—living beings (*jīva*) and inanimate matter (*ajīva*)—are forever there. The other four elements—earth (*prthvī*), water (*āpa* or *jala*), air (*vāyu*), and fire (*agni* or *teja*)—are also a sort of living being but possess only one sense (of touch). Thus, the Jaina view is close to that of modern science that life arose from inanimate matter.

Jaina scriptures describe the lowest form of living beings, the *nigoda*, which are smallest in physical size and also least in their level of the faculty of cognition. It abounds in the universe (the three *lokas*)

and is present even on *Siddhaśilā*, the abode of the liberated souls (*siddhas*). The number of *nigoda* souls is stated to be infinite of the third category and is toward the upper end of *anantānanta*. In modern science, we know that the lowest form of living beings called bacteria is present all over the universe. The paper attempts to establish that the *nigodas* of Jaina metaphysics may be the bacteria (and viruses) of modern science.

### **Consciousness, Conation, and Knowledge as the Powers of Soul**

Ram Gopal Jain

Because of the power of consciousness (*chitti shakti*), the soul never becomes a nonliving physical substance but remains “soul,” a sentient substance. The power of consciousness distinguishes the soul from inanimate substances and the soul from the body. The “life” in a living being is not due only to the union of soul and body, as signified by the life power: it exists as a manifestation of the consciousness of soul. The power of consciousness is the intrinsic consciousness property of the soul, which is recognized externally by its life power.

Consciousness manifests in two forms: conation power (*drsti shakti*) and knowledge power (*jñāna shakti*). The formless or general perception by the soul is made possible by conation power, and perceptions of shape, size and particularity are due to the knowledge power. The conation and knowledge powers are in fact manifestation of consciousness, but they have distinct functions.

In my paper, I focus on subtle differences in the powers of consciousness. Perception is among the forty-seven intrinsic powers of soul mentioned in the texts *Samayasāra* by Ācārya Kundakunda (second to fourth centuries CE), the Ātmakhyāti commentary

of Amritchandracharya, and Ātmavaibhava by Kanji Swami (twentieth century).

### **The Exchange of Information between Soul and Matter**

Shugan C. Jain

This paper analyzes human (living being//*jīva*) anatomy as discussed in Digambar Jain holy texts (*Dravya Sangrah*, *Pañcāstikāya*, and *Tattvārtha Sūtra*, among others) and later studies on the soul. It explores the soul's structure—with particular reference to *svadeha parimāna* and psychic and matter sense organs; its dispositions (*upayoga*); its attributes, such as the four infinities; and its functions—to understand soul–body interactions through concepts like parallelism and reflection. The parallels to recent scientific research in computer technology, psychology, and immunology are noted.

In 1975 psychologist Robert Adler and immunologist Nicholas Cohen, both at the University of Rochester, demonstrated that the nervous system can affect the immune system and can work together. Their research findings laid the groundwork for the field of psychoneuroimmunology. Further research by them and others shows that every thought, emotion, and belief in the past, present, or future, whether real or imaginary, generates a chemical response that has a positive or negative neurochemical consequence, depending on our state of mind. Candace Pert (1946–2013), a neuroscientist and pharmacologist, stated in her pioneering book *Molecule of Emotions* that body and mind are one: what you think and say affects the states of your cells, which are in close communication with the brain. In other words, emotions run every system of the body. This chemical exchange of information provides scientific proof that emotions are inseparable from our physiology. Molecules of emotions are also termed *information substances*. It is these informational

substances that form a chemical response within us that guide the way we think, feel and act. The paper provides both Jaina and scientific theories relating to information exchange within the human body, while considering the impact of external factors.

### **Consciousness: Cell-to-Cell Communication and Ahimsā**

Mahaveer Singh Sisodia

It is imagined that in about 100 billion years from now the whole cosmos will collapse into a singularity point. This point will have infinite density and infinite temperature: matter and energy will be indistinguishable. It is believed that about 13.8 billion years ago, the present universe began in the Big Bang, an earlier singularity point. Gradually in the universe there evolved a primitive cell that had consciousness.

Conventionally, consciousness represents cognizance of our surroundings, which is called sentience or *cetanā*. The organ for the sentience is brain, but Jains contemplate it as a part of the soul. How consciousness evolved remains an enigma.

It is known that life on the Earth came into existence 3,780 billion years ago. This life consists of different elements such as carbon, phosphorus, calcium, water, and so on. All the elements are cooked in stars, but how these elements change into a living cell is still a mystery. Scientific research shows that each cell has cognitive self-awareness and that this information is passed freely between them through an intricate system of cell-to-cell communication. That scientists can grow a complete organism with varied organs from a single tissue confirms the existence of precise communication between all types of cells. A virus can remain defunct or dead for centuries but will come alive as soon as it comes into contact with a friendly host. The virome, an intermediary

cellular domain, holds the secret to the origin of consciousness.

Jain philosophy is aware of cell-to-cell communication and so recommends precautions so as not to annoy ultra-microscopic life, called *ahinsā*. *Ahinsā* also means *cetanā-ka-vistaar*: the discernment or realization of *cetanā*, the cognition of consciousness. My paper shows how and why a scientific approach to the Omniscient's teachings is necessary to fully comprehend consciousness.

### **Denying the Binary of Dualism and Identity Theories: Jaina View on Consciousness**

Meenal Katarnikar and Jinesh Sheth

The mind–body problem has remained a perennial topic of philosophical debate, especially since Descartes declared “*cogito ergo sum*,” highlighting the strict distinction between the physical and mental. With modern advancements in artificial intelligence and neurology, the philosophy of consciousness has evolved considerably for philosophers in both camps: the proponents of dualism and those of identity (between mind and body). Dualism—substance dualism, in particular—became a hard position to defend, and different versions of identity theory, such as functionalism, physicalism, and eliminative materialism, began to gain more support. However, as Chalmers convincingly argues, these identity theories never took seriously the “hard” problem of consciousness. The debate continues with arguments from both sides even today.

Against this background, this paper introduces the Jaina model of consciousness, which argues against the identity of consciousness with the physical body, while not ignoring the subsequent problems that arise in a typical dualist position. It thereby presents another critique of strict dualism,

drawing on concepts falling in the category of the quasi-conscious. This leads to a denial of the two extreme views on the subject. We ask whether there is a way to synthesize the binaries without running into contradictions with basic Jaina postulates of metaphysics, psychology, ethics, and soteriology.

### **Theme: Origin and Evolution of Consciousness**

#### **Mind Theory in the Jain Context**

Natalia Zheleznova

In Indian philosophy in general and in Jain epistemology in particular, several notions and terms designate consciousness and its activity: *cetanā*, *upayoga*, *citta*, *buddhi*, *samvedanā*, *svasmvedanā*, *samjñā*, and *manas*. The word “mind” is correlated with *manas*. In Jainism *manas* is understood as a sense organ or quasi-sense organ (*no-indriya*, *anindriya*, *antahkarana*). *Manas* resides in the body and is connected with its abilities: it is considered to be both physical and psychical. The physical mind denotes the brain, nerves, and so on and is formed by a specific kind of karmic matter; psychical *manas* implies psychical abilities of cognition and determines the intention or application of consciousness. The term *samjñā* sometimes is used in the sense of *manas* (for example, in *Tattvārthādhigama Sūtra*, 2.11: *samanaskāmanaskāh*, and in 2.24: *samjñinah samanaskāh*). The very idea of consciousness is expressed in the concepts of *cetanā* and *upayoga*. The former term denotes cognitive ability as a whole, and the latter one corresponds with the idea of consciousness's intention/application. In Jain epistemology, consciousness is a main attribute of the soul and never correlates with the body. Thus, mind–*manas* is material, and consciousness is immaterial.

The *upayoga* may be represented in two forms: *jñāna*, knowledge/cognition, and *darśana*, vision/

perceptual experience: each of these forms may be expressed in different types. Later Jain thinkers—for example, Brahmadeva in his commentary *Paramātmaprakāśa-vrtii*—very often used *samvedanā* and *svasamvedanā* to designate consciousness and self-consciousness/knowledge of the self, respectively. Terms such as *buddhi* and *citta* refer to aspects of the activity of the mind in various contexts.

The modern understanding of mind in neuropsychology and neurophysiology correlates to the Jain idea of *manas*, as presented in this paper. Both approaches attribute mind/*manas* to different species of living beings: humans, animals, and birds. In this attribution there is no controversy between Jain thinkers and modern scientists. The problem occurs when we try to define consciousness and self-consciousness, which, according to Jainism, is a natural quality of every soul.

### Consciousness in Lower Organisms:

#### Jain and Scientific Views

Shyam Lal Godawat

The soul is eternal, indestructible, immortal, and indivisible; it is an uncreated substance. Its characteristic features are consciousness (*cetanā*), *darśan*, and *jñāna*: all three are coextensive, and their mutual relationship is popularly known as *tadattmsambandh*. Where there is life there is consciousness.

Yet the explicit consciousness of all organisms is not identical and has three forms:

1. *Karmaphala cetanā*: Consciousness in this case is latent, and the organism experiences only the fruits of karma, such as pleasure and pain.
2. *Karma cetanā*: Consciousness is more explicit in this case; the organism has feelings of pain and pleasure and also undertakes activity to progress.
3. *Jnana cetanā*: Consciousness is fully expressed; the soul experiences natural powers in full measure.

Lower organisms having one sense have *karmaphala cetanā*. Lower organisms with two to four senses have *karmaphala cetanā* and *karma cetanā*. Knowledge in these organisms exists as instincts, of which there are four main types: the food, fear, sex, and possession instinct. These organisms also have instincts of anger, ego, deceit, and greed. This paper gives some details of the body structure of these organisms that enable them to carry out these instinctual functions. Covid-19 is also discussed.

Jain practices give high importance to the non-killing of even lower organisms. The paper presents ways in which such killing is committed in daily life and measures to avoid doing so. The principle of spontaneous birth is introduced as an explanation for refraining from killing even lower organisms.

### The Mathematics of Consciousness

Pragati Jain

Consciousness is the power and mathematically is a function of a soul that manifests as *jñāna* and *darśana*. It has infinite intelligence, awareness, bliss, and power, enabling the soul to experience these attributes to the fullest extent without the assistance of any other substance. The soul is complete by itself; it does not depend on anything else for its functioning and manifestation. The karmas impair the manifestation of powers of the soul temporarily, but the soul is capable of removing them without the grace of any other power. Every soul is independent and maintains its existence in all conditions, mundane or liberated.

A popular view among many neuroscientists is that, through a variety of learning paradigms, the brain builds relationships, and it is in this context



that the brain acquires meaning in the form of the relational content of the corresponding experience. Mathematicians are also working to develop mathematical models of consciousness, which I explore in this paper.

### **Jain Perspective – Known, Knowing, and Knower in Inner Consciousness Space**

Sushama Parekh

Studies of the neural correlates of consciousness (NCCs) focus on examining the relationship between the experience reported by the subject and the activity that simultaneously takes place in the brain at the physical domain level. A variety of scientific analyses and experiments have been conducted in this area.

This paper analyzes the Jain theory of acknowledging objects in the inner consciousness domain by using the physical sense (*dravya indriya-nivrutti*), receptive sense (*dravya indriya-upkaran*), cognitive sense (*bhav indriya-labdhi*), and the most important attentive sense (*gyan upayoga*, the cognitive power of the soul). The process through which all these senses are integrated is discussed based on Jain philosophy using these concepts:

- Ontology: the concept of reality (six substances), consciousness (soul) and matter interaction, cause-and-effect relationship
- Epistemology: the nature of knowledge (*gyan*), which is the intrinsic characteristic of consciousness (soul); different types of knowledge, their functions, and associations with the soul; and the effects of knowledge-obscuring karma

The paper concludes that objects are perceived and created in the consciousness by using the knowledge virtue of consciousness. It draws on

important works in the Jain literature, such as *Tattvārtha Sūtra* by Acāryaashri Umaswati and *Samayasara* by Acārya Shri Kundakudev. References to ancient *agams* are also provided.

### **Revisiting Veganism, the “Ahimsa Crisis”: Raising Consciousness according to Karma and Science**

Christopher Miller and Jonathan Dickstein

Our paper highlights the importance of a vegan lifestyle from both philosophical and scientific perspectives. First, we outline Jain karma theory and its relationship to the experience of consciousness (*jīva*) in the Jain tradition according to the *Tattvārtha Sūtra*. We then enumerate the practical dimensions of the eradication (*nirjarā*) of karma according to the text and highlight how diets and lifestyles that include any substances from animals conflict with the spirit of the *Tattvārtha Sūtra*'s proscriptions. Although science has shown us to be “conscious” of the various forms of *himsa* involved in all mass food production, animal agriculture arguably remains the only system in which blatant *himsa* is integral to its very existence. We conclude with a call for Jains and non-Jains alike to consider the importance of veganism, whether one chooses to abide by Jain karma theory or by modern scientific understandings of consciousness.







