

## **Soul: The Intelligent Designer**

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### **1. Creationism and Intelligent Design**

Life is still a mystery to science and many others. Existence of life has always been a standing question before the humanity and all great thinking souls have pondered over it and offered explanations. Many religions like Hinduism, Christianity, Islam, Judaism, etc. believe in creationism which holds that matter, the various forms of life, and the world were created by God out of nothing. There are different versions of creationism like Dualistic and Non-Dualistic concepts of Hinduism, Young Earth Creationism, Gap Creationism and Progressive Creationism. Creationism became the object of renewed interest among conservative religious groups following the wide dissemination of the theory of biological evolution, first systematically propounded by Charles Darwin in 19<sup>th</sup> century. In the late 20<sup>th</sup> century many creationists advocated a view known as Intelligent Design, which was essentially a scientifically modern version of the argument from design for the existence of God. This view is intended to demonstrate that living organisms were created in more or less their present form by an "Intelligent designer (God)" Proponents of intelligent design observed that the functional parts and systems of living organisms are "incredible complex" in the sense that none of their component parts can be removed without causing the whole system to cease functioning. From this premise they inferred that no such system could have come about through the gradual alteration of functioning precursor systems by means of random mutation and natural selection, as the standard evolutionary account maintains. Critics of intelligent design argued that it rests on a fundamental misunderstanding of natural selection, that it ignores the existence of precursor systems in the evolutionary history of numerous organisms, and that it is ultimately untestable and therefore not scientific.

Creationist views reject scientific findings and methods. No scientific evidence supports these view points. On the contrary there is overwhelming evidence that

evolution has taken place and is continuing to occur. The annual changes in influenza viruses and the emergence of bacteria resistant to antibiotics are both products of evolutionary forces. Another example of ongoing evolution is the appearance of mosquitoes resistant to various insecticides, which has contributed to a resurgence of malaria in Africa and elsewhere.

The International Society for Science and Religion believes that intelligent design is neither sound science nor good theology. Although the boundaries of science are open to change, allowing supernatural explanations to count as science undercuts the very purpose of science, which is to explain the working of nature without recourse to religious language. Attributing complexity to the interruption of natural law by a divine designer is, as some critics have claimed, a science stopper. In the opinion of the overwhelming majority of research biologists, it has not provided examples of "irreducible complexity" in biological evolution that could not be explained as well by normal scientifically understood processes. Further, what may appear to be "irreducible complex" today may be explained naturalistically tomorrow?

## **2. Jainism view of Intelligent Design**

Jainism presents a different view of life and cosmos which does not involve any intervention of supernatural power like God. It explains the phenomena of both the living and non-living worlds by propounding the existence of real substances that are independent and distinct. All real substances are eternal, powerful in their own right and cannot be destroyed by one another. The real are not absolutely permanent but are transitory - permanent, i.e. they undergo transformation according to the set of rules, maintaining their essential characteristics. The transformation in the substances is based on the principle of causality, an approach which is also the foundation of modern science.

Soul, incorporeal, and matter (including energy), corporeal, are two important kinds of substances in the cosmos. The soul is the sentient substance that is distinguished by consciousness and its manifestation. Intelligence and intuition are two main manifestations of consciousness that are responsible for interaction of soul with matter. A pure soul has infinite intelligence, intuition, bliss and spiritual energy; matter

is devoid of these properties. Life as we see is impure soul, a combination of soul and matter. The matter forms the physical body we see and also two other subtle bodies; karma body and fiery body. The soul is eternal but it undergoes transformation according to his karma. Each mode of transformation is called life that has a physical body of some given species, the type of species is determined by karma. The so called death is nothing but a change of mode by the soul. Thus the soul occupies bodies of different species in his spiritual Journey which aims at attaining the pure state, the state of infinite intelligence, intuition, bliss and energy. This is development of the soul, which proceeds from the lowest form of life to highest form of life, of human being and beyond as mentioned below. Jain philosophy classifies the souls on the basis of number of senses in the body; the lowest level is one sense beings and the highest level is five sense beings endowed with mind.

Jainism rejects all forms of creationism but accepts the theory of intelligent design in a different form; the "intelligent designer" is the soul and not God. The soul, according to Doctrine of Karma, produced designs of various forms of bodies, the species; each form has a complexity typical of that form. The complexity increases from the lowest level of existence to the highest level of existence, and this is the reason why a soul cannot jump from the one- sense existence to five sense existence; it has to progressively proceed from one sense level to five sense level, as the level of intelligence is incrementally increased, and which is required to support the higher level of complexity in higher forms of organisms.

Before we discuss spiritual evolution and design in some more detail we must review the Jainism view on cosmos.

### **3. Jainism and Cosmos**

Jainism believes in a finite *Loka*, cosmos, which is eternal. The *Loka* contains six kinds of substances, the *jiva* (soul) pudgala (matter and energy), a substance (*dharmastikaya*) that passively helps soul and matter in motion, another substance (*adharmastikaya*) that passively helps soul and matter to attain rest position, *akasa* (space) and *kala* (time). All these substances are independent, mixed but maintain

individual identity, eternal and non-destructible. *Akasa* is infinite but the *loka* is finite due to the selective existence of substances that help motion and rest; these substances are present in *loka* and absent in space beyond, so that soul and matter cannot travel beyond *loka*. As all the substances are eternal and so is the *loka*, no supernatural power has created this *loka*, creation of any kind is in fact not possible.

Jainism has divided the cosmos in three parts, the upper *loka*, middle *loka* and lower *loka*; we live in the middle *loka* which contain a series of innumerable circumscribing islands, a galactic kind of structure. As the substances are transitory permanent, the *loka* is also transitory permanent meaning thereby that the island (galaxy) experiences changes in structure. The components of island can be destroyed and created in new form keeping the total matter content in *loka* unchanged. Although this kind of process is not clearly mentioned in scriptures but it is implied from the very definition of matter. Jainism therefore, allows for destruction and formation of stars, the island components. Jain philosophy does not support the Big Bang theory of creation of universe but provides for mini bangs taking place in the cosmos, signifying transitional nature of matter. Jainism describes Sun and Moon as members of Earth family as opposed to Earth and Moon a member of solar family in the modern concept. But this is only a relative statement and Jainism in principle, has no objection in accepting that Earth is formed when a new sun is born. Modern science estimates the life of Earth equal to about 4.6 billion years, Jainism makes no such mention. However, life must begin on a new planet, and Jainism offers no opposition to such a concept.

#### **4. Beginning of life**

How does life begin on a new planet? Modern science has not yet found a generally accepted answer to this crucial problem. Jainism offers an explanation. According to Jainism a class of microorganism, much smaller than virus and therefore we call them nano organism, are present all over *Loka*. The three bodies, *gross*, *karman* and fiery of nano organisms are made of same matter, the *Sukasma Nigod Vargana* (SNV) which is intermediate between *Pratyeka Sarira Vargana*, comparable to photons in size

and Mahaskandha Vargana, which constitutes all subatomic particles of the normal matter. The SNV, therefore, is expected to be in plasma like state. The plasma nano organism, who do not need oxygen for living, are present on the new planet and are the source for development of other life forms. The *karman* body of nano organisms contains code and plan for constructing the gross body on availability of suitable material and appropriate conditions for development. Jainism states that life activity is dependent on four factors like state of the soul (*dravya*), local conditions and availability of suitable matter (*ksetra*), appropriate time (*kala*) and quality of the soul (*bhava*). When such conditions are favorable on the planet the soul in the form of nano organism uses his intelligence to create a body with the available suitable matter spontaneously by the asexual process of agglutination (*sammurchhan*). It is possible that success rate is low and a body is produced in several attempts.

Jainism describes in detail the nature of code contained in the *karman* body, that has all the instructions to construct a body of a particular species. Modern science tells as that a DNA structure made of nucleotides is essential to produce a cell. It is also known that nucleotides can be produced naturally under favourable conditions but a larger structure like DNA is not produced in this manner. The nucleotides provide the suitable material to nano organisms, which using their intelligence and the *karman* code assemble them to produce the required DNA structure. DNA is the brick from which the cell is produced as per plan contained in the karma body. It is obvious that a simplest form of DNA; and therefore a preliminary life form, is produced in the beginning. Virus, bacteria and archea are expected to be first level life forms. These organisms are supposed to have only one sense of touch (through skin) by which they interact with the external world. Thus life begins on a new planet like Earth when conditions and time are favourable for intelligent creation by nano organisms by agglutination process.

The DNA can be compared to a computer. A computer consists of two essential components, hardware and software; the latter is of two types, operating software and application software. The molecules of matter forming the DNA constitute the hardware that needs software for its operation. The software is provided by the soul through physiological karma. The operating software enables the DNA to divide and multiply. The

application software supplies plan and instructions to the cell to organize and construct a tissue, organ and a body part. Both the software is necessary for formation of the body. A cell separated from the body retains the operating software and is able to divide but in the absence of application software it cannot construct a tissue or organ. If a replicating cell can be produced artificially it would contain only the operating software, it cannot organize to form the body parts until a soul containing intelligence and application software enters it. It must be well realized that intelligence of the soul uses the DNA brick to construct the body that performs different functions as per instructions provided by karma.

### **5. Development of soul and Biological Evolution**

Development of the soul provides the force for biological evolution. Leading a life means enjoying some of the existing karma. Going through several births the soul reduces karma and increases the level of explicit intelligence. With enhanced level of intelligence the soul is in a position to create body of species having higher complexity. The soul may take billions of years to get out of the stage of microorganism. In the next phase of development the soul acquires a plant body which also has one sense of touch. Vegetation and plants produce oxygen and make the atmosphere suitable for higher forms of life.

In the first part of biological evolution different species having one sense of touch are progressively and spontaneously produced by the soul. We shall call this as horizontal evolution. The vertical evolution takes place when species with more number of senses is created. After going through births in the form of various one sense species the soul is in a position to design a body of higher organism with two senses, touch and taste, again spontaneously by agglutination birth. Jainism describes that organisms up to four senses, invertebrates, have spontaneous birth by agglutination. It may be noted that worms etc. are two sense, ants etc. are three sense (touch, taste, smell) and mosquitoes, flies and other insects are four sense (touch, taste, smell, vision) organisms. Marine creatures like fish etc, all kinds of birds and terrestrial animals are five sense creatures, vertebrates, without mind. Human beings are five sense beings endowed with

mind. Five sense beings may take birth by both sexual and asexual methods (cloning is asexual birth).

What factors are at work in biological evolution? Jainism mentions besides intelligence of soul four broad factors as described above. Modern science has discovered evolution mechanisms like, mutation, linkage, heterozygosis, recombination, gene flow, population genetics, genetic drift, natural selection, speciation, adoption, etc. These mechanisms only account for the natural forces that are at work in evolution process. The scientific thinking misses the force of intelligence (consciousness) which plays the primary role in evolution.

We have some idea how intelligence of the soul is fundamental to evolution process. The karma body on fruition of karma continuously emits radiations, known as *adhyavasaya*, which are supposed to interact with cells and body systems. These radiations, particularly from physiological karma, compare with bio-photons which have been discovered by science. Bio-photon, supposed to be emitted by a coherent electromagnetic field that is assumed to originate from DNA, have been assigned the task of regulating and controlling the chemical activity in the cells. Scientists are not sure of the source of this coherent electromagnetic field, but it is highly probable that this is the field of physiological karma that is responsible for constructing, developing and maintaining the body, its disorders, malfunctioning and other kind of variations, producing pain and pleasure, general physical health and life span. DNA contains a code and stores information. This is like the operation software. The karma body contains the plan and code for constructing the cell, tissues, organs, body parts and systems and the anatomy and physiology of the body of a given species in accordance with karma bond in the previous life. The soul bonds karma for a given realm of existence e.g. animal, human being, infernal being or celestial being, and a given species in that realm in the next birth. The karma body is seen to contain the application software which in conjunction with the operating software of DNA produces the form of the body structure of a particular species. It is known that DNA is influenced by words and frequencies. The karma radiations must interact with the DNA and produce the necessary changes in its structure suitable for the species planned by the soul as per

intelligence manifested. It must be emphasized that DNA alone cannot accomplish evolution as is assumed by scientists. Science has long discovered that the story about genes is not as simple as first thought. Some genes are active, others on suppressed, and this may change. Some change their places on the chromosome. Some advance mutations, other suppress mutations. Many DNA codes seem to be present already before they were needed - a fact which is difficult to explain by natural selection and survival of the fittest, because genes that so far were not used, never had to compete.

The karmas are of various types, but fall in two broad groups- psychical karma and physiological Karma. The effect of psychical karma is still more complex. In addition to effects on DNA structure, they are also supposed to influence the hormonal system, nervous system, brain, cardiovascular system, immune system, lymphatic system, etc, and thus control the psychology, actions and behaviour of organisms.

Jainism accepts biological evolution but links it to the development of the soul. The consciousness of the soul is the main force behind evolution; the natural forces have a helping role. The karma scheme is general and covers wide variation in shape size, structural features, colour, etc. of any species. Variation in features of species observed by Charles Darwin is admitted in Jainism on the basis of manifestation of intelligence depending on the working factors. Strictly speaking, Darwinism is not a theory of evolution; it is merely a theory on how changes of material form in nature can be explained.

The development of consciousness takes place by self- effort and depends on the level of consciousness itself. In general the higher the level of consciousness the higher can be the rate of development of consciousness, which implies purification of the soul. This process can be represented mathematically as

$$dc/dt = c$$

where c is level of manifested consciousness at anytime t. At the lowest level of existence like microorganism the consciousness is very low and therefore the development also proceeds at very slow pace. The soul may remain in that state for billions of years before assuming a plant form. It is expected that as soul progresses from one-sense existence to five-sense existence the development rate also



progressively increases. But on account of large number of variables, the evolution process may not follow a definite and time linear path and is likely to remain unpredictable at any stage. We know that on Earth life remained almost exclusively unicellular for the first five sixths of its history from the first recorded fossil at 3.5 billion years to the first well documented multi cellular animals less than 600 millions years ago. Great diversity quickly evolved during the Cambrian period 530 million years ago. About 500 million years ago plants and fungi colonized the land, and were soon followed by arthropods and other animals, leading to the development of land ecosystem. Amphibians first appeared around 300 million years ago, followed by early amniotes, then mammals around 200 million years ago and birds around 100 million years ago. Scientists believe that human branched off from chimpanzees about 5-7 million years ago and Homo sapiens evolved between 400,000 and 250,000 years ago. This means that if soul evolves from one sense to five sense animals and finally as human being the brain must also grow correspondingly to store larger amount of information. This is verified by medical science when we examine the nervous system and brain structure of animals and human beings

Plants do not have a nervous system and brain; the hormones regulate the body functions. The hormones control the chemical activity in cells, growth and flowering. All this is possible with minimum amount of consciousness and knowledge. In the higher stage of evolution the body has a nervous system. The simplest possible creature has incredible simple nervous system made up of nothing but reflex pathways. For example, flatworms, two sense organism, and invertebrates, having up to four senses, do not have a centralized brain. They have a loose association of neurons arranged in simple reflex pathways. Flatworms have neural nets; individual neurons linked together that form a net around the entire animal.

Most invertebrates (such as lobster) have simple brains that consist of localized collections of neuronal cell bodies called ganglia. Each ganglia controls sensory and motor functions in its segment through reflex pathways, and the ganglia are linked together to form a simple neuron system. As neuron system evolved, chain of ganglia evolved into more centralized brain. Brains of invertebrates evolved from ganglia.

As you proceed from fishes towards humans, the cortex gets bigger, takes up a larger portion of the total brain and becomes folded. The enlarged cortex takes an additional higher – order functions, such as information processing, speech, thought and memory. In addition, the part of the lower brain called the thalamus evolved to help relay information from the brainstem and spinal cord to the cerebral cortex. Primitive vertebrates such as fish, reptiles, and amphibians have fewer than six layers of neurons in the outer layer of their brains. More complex vertebrates such as mammals have a six-layered neo cortex, in addition to having some parts of the brain that are allocortex. In mammals, increasing convolutions of the brain are characteristic of animals with more advanced brains. These convolutions provide a larger surface area for a greater number of neurons while keeping the volume of the brain compact enough to fit inside the skull.

The structure of human brain differs from that of other animals in several important ways. These differences allow for many abilities over and above those of other animals, such as advanced cognitive skills. Human encephalization is especially pronounced in the neo cortex, the most complex part of the cerebral cortex. The proportion of the prefrontal cortex is larger than in all other mammals (indeed larger than in all animals, although only in mammals has the neo cortex evolved to fulfill this kind of function).

We see from above that structure of brain is related to development of soul. One-sense plants have no brain, worms have neural net and invertebrates have ganglia. Brain is developed in five sense animals and its complexity increases from lower order to higher order animals. The human brain is the most complex. Thus as soul develops with increasing consciousness he possesses a body with increasingly complex brain. A corollary of this is that a soul with low consciousness cannot occupy a body having a complex brain, which is suitable for soul with higher consciousness. For instance, a soul having ant's body cannot normally jump the order and occupy a human body. A soul has to gradually develop step by step as his consciousness increases. In other words the evolution is driven by consciousness or karma. The small nano organisms are at the bottom and humans are at the top of the ladder.

How many body forms or design of species the soul can produce? The soul is the perfect designer and produces designs that give optimum performance in all respects for the given level of intelligence. At the minimum level of intelligence bodies having only

one sense of touch are designed and as the level of intelligence increases more senses are incorporated in the design. According to Jain philosophy the soul produces a total of 8.4 million designs of species, yoni, the lowest being the nano organism and the highest is the human being. Variations in each design is possible and the total variants, known as *kula*, number to 20.05 million. Each design is unique; it has an optimum configuration of features that are specific to that form. Each design has irreducible complexity that increases from lower to higher organisms. Each body form and its design is a marvel of highest order and exhibits features that are mind-boggling and beyond human comprehension.

Development of soul does not stop with the end of biological evolution. Biological evolution is the first part of development of soul in which the soul acquires sense capability essential for further development which is mainly spiritual. It is important to know that biological evolution and development of soul are apparently similar but the concepts behind them are fundamentally different. Biological evolution is assumed to be based on the concept of natural selection, struggle and survival of the fittest whereas the development of the soul is based on the concept of eradication of karma that implies sufferings on account of enjoyment of karma, benevolent acts of cooperation and mutual help and co-existence. These later features are characteristic of all life forms. Self defense, that may qualify for struggle at individual level, is a need for every living being but when considered at collective level the organisms do help each other and live in groups where mutual help and support may override personal convenience. This tendency of mutual help can be seen at all levels of existence. Microorganisms help digesting food in the stomach of all beings, trees provide food to all creatures, worms assist in agriculture, ants form communities, bees work for the queen and produce honey, and so on. Struggle for survival is not evident in creatures up to four senses that do not have mind. Five sense beings having mind also are seen to love and help their off springs, form families and groups and exhibit a sense of collective survival. All creatures have instincts and work for their fulfillment at individual level but they also have a sense of mutual need and help that limits their individual liberty.

Every organism wants to live, no one wants to die. So there is a natural tendency in organisms to develop features that help in survival. Survival is dependent on environmental conditions and population of other life forms inhabiting that region and

to that extent organism may tend to effect suitable morphological changes through mutation and other biological processes. This is a force to reckon with in biological evolution but does not constitute the sole reason for change; the intrinsic power of the soul to develop is the main force behind evolution.

Question may be raised how the very first member of a higher species, particularly human, was evolved. It is very likely that the initially births were asexual. Jain scriptures mention that in the early history the humans were born in pairs, male and female, At the end of their life they gave birth to another pair and so on. These human beings were dependent on trees for all their requirements and did not know any kind of skill. When the food supplies from forests fell short of demand, agriculture was invented by the first Tirthankara Rishabhdeva, who as a king also taught other kinds of skills like writing, trading, accounting, defending (fighting) and crafting.

## **6. Evolution in Cosmos**

Scientists are searching for extra terrestrial life with no success so far. However they anticipate many Earth - like planets in the universe where life must exist. Jain scriptures state that life is flourishing all over loka but animals and humans are found only in the middle loka. Out of the innumerable islands (galaxies?) in middle loka human beings are found in 2 ½ Islands and animals on all Islands. The humans beings are of different kinds; physiologically they are of two types, one like our type and the other having animal faces.

Let us analyze this question of existence of life from the point of view of the evolution process. As stated above the evolution process, depending on a large number of factors, is highly uncertain and probabilistic. When evolution taking place on a large number of planets, the diversity of the local conditions, the path the evolution takes and the dynamic state of the soul would determine to what extent the evolution is able to proceed and what is the final picture of life on the planet. Accepting Jainas, on all Islands except the 2 ½ Islands, the evolution proceeds up to the stage of five sense animals only. Variation is found in the size and shape of animals from planet to planet, the farthest Island has the largest size of fish. In the 2 ½ Islands human beings are found to vary in shape and size. Human beings of our type are found only in 3 regions of our Island, and

15 regions of 2½ Island; other regions have human beings with animal faces or some other combination of human beings and animals. Such human beings are not expected to have speech and language ability like ours and obviously must lack the communication skills. Jaina scriptures state that these human beings do not have six kinds of skills which we have and lead a forest based life (*Bhog Bhumi*). Does a civilization more advanced than ours exist elsewhere? In the spiritual sense the answer is yes. We live in Bharat Ksestra region of our Island (Author has compared this to Milky Way Galaxy). In the Videha region at the centre of this Island the human civilization is said to be spiritually more advanced, and also perhaps more intelligent. They remain happy all the time whereas the human beings in our region are said to have repeating cycles of happiness and unhappiness over a period of hundreds of thousands of years

### **7. Higher Evolution**

The evolution up to the stage of human being described above in fact is the lower evolution in which the soul starting his journey from nano organism stage reached a state having a five sense body and mind. Further evolution is rather spiritual in nature in which the soul attains the ultimate goal of perfection and purity. The primary requirement for this higher journey is to recognize the fact that the body is different from the soul and to experience the existence of the soul. On such realization the soul undergoes a sea change in his outlook. The external world loses attraction for him; he directs his mind and energy how to purify the soul by removing the karmic bondage practicing austerity, penance and meditation. Jainism has dealt in detail the rules and methods for this spiritual journey, which ends up in the state of omniscience in the embodied form. In the last stage the soul is emancipated, he discards the body and lives in pure and perfect state for ever, enjoying infinite bliss, intelligence, intuition and energy. The higher evolution has not yet become the subject of scientific investigation.

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