

# **EVOLUTION OF THE LIVING BEING IN JAINA PHILOSOPHY AND SCIENCE**

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A detailed expatiation regarding the living being is found in Jaina Philosophy and attempt has been made to define its evolution as well. Biologists have a vast knowledge of the living being yet they find it a bit difficult to present the evolution of the living being as compared to Jaina Philosophy.

## **Characteristics of Living Beings**

The characteristics of living beings that are given in Biology are available in Jaina philosophy too. It will be desirable to know them from both the points of view.

### **(A) Scientific view**

In every living being a certain chemical is found that performs the same kind of chemical action. These chemicals remain in a unit in an orderly and systematic way. This unit is known as 'cell'. From the point of view of modern science, the following characteristics are found in every living being—**Adaptation, sensitiveness, communication system, stimulation, metabolism, growth, development and reproduction etc.** Let us discuss them one by one :

- (i)      **Reproduction :** This is a process by which a living being beget its own species. There are two ways of reproduction—sexually and asexually. Asexual reproduction takes place simply from the development of a being existing earlier.

Sexual reproduction takes place by the union of two sex cells. When the sperm of the male unites with the ovum of the female, a new cell is formed from which the soul takes birth. Human beings, animals and birds reproduce sexually.

- (ii) **Growth :** The gradual development of a living being is known as growth. Trees make their food from some simple atoms, water and carbon-di-oxide and form from them the necessary complex chemicals for their growth whereas animals and birds make their food suitable for the growth of their tissues. Growth is found in the non-living beings also but there is a difference in the growth of living beings and non-living beings. Growth in the non-living beings is the result of a new layer formed on its surface as is the case with the formation of crystals etc.
- (iii) **Metabolism :** During metabolism some chemical actions take place by which such elements are formed which are necessary for the formation of new cells. During this process old cells are destroyed and new cells are formed. **Thus new cells substitute the old cells.**
- (iv) **Movement :** Most of the beings make movements. There is an internal movement even in the plants. They tend to bend towards light.
- (v) **Sensitiveness :** Beings feel the presence of objects around them and are also affected by them. A change also takes place in their behaviour in the presence of some object and it is known as stimulus. Different beings are affected by different objects. For example, a tortoise hides itself in a strong shield in the presence of someone else. Plants begin to grow in the direction of light.

(vi) **Adaptation** : Beings have the quality of adapting themselves to the circumstances so that they may survive. The fact is that in the process of adaptation, some changes take place in the genes of the being that are passed on to the next generations. The species that are found today, have existed due to this quality of the beings.

### **(B) Jaina view regarding beings**

In Jaina philosophy, the characteristics of the beings have been explained on the basis of instinct, vitality and life force.<sup>1</sup>

(i) **Instinct** : The instinct of food, fear, sex indulgence and possession that is found in all the worldly beings from the small creatures to human beings and gods. The instinct or the desire for taking particular grains etc. is known as food-instinct. The instinct of escaping from fear is known as fear-instinct. The desire for enjoying sexual intercourse is known as sex-instinct. The desire for earning, collecting and preserving money and the other worldly things is known as the instinct of possession.

(ii) **Vitality** : The stage when all the senses and forces get strengthened upto perfection is known as vitality. **It is of six kinds—food, body, senses, respiration, speech and mind.** The moment the being enters the conchy circular birth place, it begins to intake food suitable to its body. After this intake it gradually forms body, senses, respiration, speech and mind. All this formation seems to take a long time but minute observation shows that the being attains the completion (perfection) of all these six activities within fourty eight minutes (*anter muhurta*). One-sensed beings

have the first four vitalities (food, body, senses and respiration). Beings from two-sensed ones upto non-rational five-sensed ones have five vitalities and rational five sensed once have all six vitalities.

- (iii) **Life Force :** The element that gives life to a being is known as life force. It is of two kinds—absolute (non-conventional) and conventional. The force of consciousness of a being is its absolute (non-conventional) life force and the five senses, mind, speech, body strength, longevity and respiration are conventional life forces. One-sensed (immovable) beings have the four life forces—touch (feeling), bodily strength, respiration and longevity. Two-sensed beings have taste and speech in additional to all these four life forces. Three-sensed beings have seven (including the sense of smell), four-sensed beings have eight (with the sense of seeing), non-rational five-sensed beings have nine (with the sense of hearing) and rational five-sensed beings have all the ten life forces. There is some difference in vitality and life force. The completion of intake, body, senses, respiration, speech and mind is known as vitality (bio-potential) and the element by which soul gains life is known as life force. Thus the completion of the forces like senses is known as vitalities and the elements that cause life are known as life forces.  
**Hence vitality is the cause and life force is the effect.**

### **Similarities in the characteristics of the being in science and Jaina philosophy**

The characteristics of being that are given in science are found in Jaina philosophy also. Taking this fact into consideration, the assumptions of

Jaina philosophy and science seem to be very much alike. Characteristics like reproduction, growth, metabolism, movement, sensitiveness and adaptation etc. have been given in science, whereas according to Jaina philosophy, every being has four instincts and its growth takes place in accordance with vitality. The scientific names for these instincts may be given as below :

<b>Jaina philosophy</b>	<b>Science</b>
Instinct of food	Metabolism
Instinct of fear	Sensitiveness, movement
Instinct of sex	Reproduction
Instinct of possession	Growth

Besides all these similarities, what is known as adaptation in science has been acknowledged in Jaina philosophy also. According to Jaina philosophy the cycle of time goes on moving constantly. With the passage of time, changes take place in the height (occupancy), in the number of the bones in the back bone of body and in longevity. In the beginning of the fifth period (Aara) the average height of man was of seven hands (a unit of measurement), and the number of bones in the backbone of body was 24. By the end of this period the height will be reduced to three and a half hands and the number of bones in backbone will be reduced to 12. Thus the characteristics of adaptation has been accepted in Jaina philosophy as the change that takes place from time to time.

## **Beginning and Development of Life**

It is important to understand the scientific and Jaina views regarding the beginning of life and its gradual development in the universe.

### **(A) Scienctific View :**

The maximum recognition regarding the origin of life in the world has been given to the concept expounded by the Russian Bio-chemist Operin. According to him the earth was a ball of fire five billion years ago. Everything that was found in its atmosphere was in the form of elements only. Some compounds were formed when the earth got cold enough. These compounds contained some proteins in their simple form that could get dissolved in water. Then gradually some complex proteins were formed by certain chemical actions known as carbo-hydrates. As per Operin's assumption these carbo-hydrated can be regarded similar to the beings that are found in some viruses. These carbo-hydrates could reproduce on their own. Some more changes took place in them by mutation and free chromosomes were formed that are found in bacteria also. With the formation of chromosomes, primary cell nucleus was formed by a complex composition. **The characteristics of beings were noticed first of all in these primary cells.** All these things took nearly a billion years to happen. Thus, according to the assumption of Operin, existence of life on earth began nearly four billion years ago.

Many attempts have been made to prove this concept of Operin. Stanley Miller and Yuri, and Kelvin and Fox, with their different experiments tried to prove Operin's theory of chemical evolution. They were able to notice the constituent ingredients of the cell at high temperature and voltage in the laboratory. Operin's theory was strengthened by these experiments.

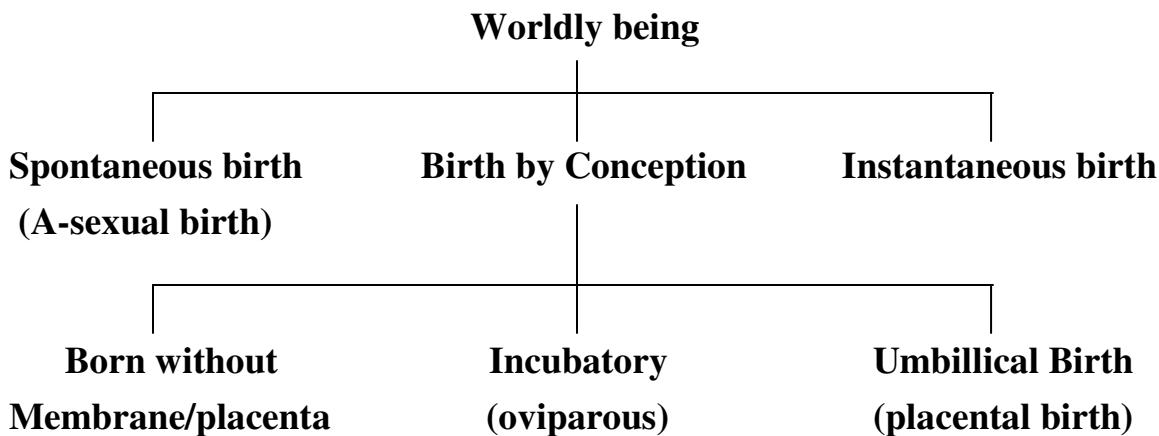
#### **(i) Evolution of Life by Natural Selection**

According to Darwin's theory of Natural Selection, the evolution of life takes place in the following manner<sup>2</sup> :

- (a) Beings have immense capacity of reproduction and every creature struggles for its existence.
- (b) Only the creatures that can adopt themselves to the favourable or adverse circumstances can survive.
- (c) Species of the beings having favourable qualities get developed and produce a new species.
- (d) The superior species of human beings came into existence after the crores of years of development of the single-celled subtle creatures.

### **(B) Jaina View**

In Jaina philosophy, beings are supposed to be born in three ways<sup>3 4</sup> :



#### **1. Spontaneous Birth :**

The birth that takes place by the combination of different atoms and by favourable circumstances is known as spontaneous birth. In Jaina philosophy, all the beings from one-sensed ones to four-sensed ones and some non rational five-sensed ones are said to be born spontaneously.<sup>5</sup> There is no clear distinction of male and female in these beings. The desire for sex in them is caused by hermaphrodite libido.

**(a) One-sensed beings :** These beings have only one sense, that of touch. Earth bodies, water bodies, luminous bodies, air bodies and flora bodies are such beings. There are seven kinds of flora bodies—root-seed, grafting, knot-seed, rhizom-seed, stem-seed, *beej-rooh* and spontaneity. They are known as immovable beings as they remain static at one place and cannot move. The earth-bodies, water-bodies, luminous-bodies and air-bodies have seven lac forms of life each. Plants have 10 lac individual flora-bodies and 14 lac ordinary flora-bodies each, the total beings 24 lac forms of life.

**(b) Two-sensed beings :** These beings have two senses—touch and taste. Worms, earthworms, leeches and conches etc. are some such beings. There are 2 lac forms of life of these beings.

**(c) Three-sensed beings :** These beings have three senses—touch, taste and smell. Ant, scorpion, bedbug, louse etc. are such beings. But creatures like ants etc. lay eggs, hence some Jainacharyas regard them to be born by conception. But then they have made it clear that the eggs originating in womb is not certain, hence ant should be regarded as spontaneously born inspite of the fact that it lays eggs.<sup>6</sup>

**(d) Four-sensed beings :** These beings have four senses—touch, taste, smell and sight. Mosquito, beetle, fly, locust etc. are such beings. They have 2 lac forms of life.

**(e) Five-sensed beings :** These beings have five senses—touch, taste, smell, sight and hearing. Fish, frog and quotient-completioned man are such beings. They have 4 lac forms of life. The height of a non-rational quotient-completioned man is only an innumerable part of a finger (a unit of length) and he gets destroyed immediately after being born. These beings are born in the excreta, urine, semen, phlegm, wax of the ear, the discharge of nose and the other dirty places instantaneously.

Creatures from one-sensed beings to non-rational five-sensed biological beings are known as many-sensed beings that can move.

## 2. Birth by Conception :

Beings taking birth by conception are five-sensed rational ones. Such beings are divided into three parts :

- (i) Born without membrane,
- (ii) Incubatory,
- (iii) Umbilical.

- (i) **Born without membrane** : Beings that have no covering like membrane in the womb and that begin to move immediately after being born and known as beings born without membrane as—lion, tiger etc.
- (ii) **Incubatory** : Beings that are born of eggs are known as incubatory ones. For example—birds (pigeon, peacock, kite etc.)
- (iii) **Umbilical born** : Beings that are born from the womb are known as umbilically born or placental ones, for example—man, cow, buffalo etc.

Account of the capability of maintaining restraint-cum-non-restraint of the rational five-sensed completioned spontaneously born animals such as fish, frog etc. is found in Jaina scriptures.<sup>7</sup> Five-sensed animals have 4 lac kinds of life. Human beings have 14 lac living forms of life.<sup>8</sup>

## 3. Rebirth in Hell/Heavens Instantaneous Birth :

Residences of the deities and the hellish beings at rebirth are fixed. When the space-points of soul reach there, the whole creation takes place automatically within 48 minutes (*anter muhurat*). The deities and the hellish

beings have four lac forms of life each.<sup>9</sup> Both the deities and hellish beings have in-animate form of life. All the four kinds of deities have birth-places from the point of view of animate, in-animate, cold, hot, covered and uncovered ones.

According to Jaina religion, all the beings have a soul having the same power and qualities but it is covered by karmas. A being gathers karmas in accordance with the reaction to the circumstances in which it is living and gets a mode/body accordingly.<sup>10</sup> Even one-celled beings may get the form of mobile-beings if they make efforts. They may get the form of insects and animals and even the rare form of human-beings by their virtuous deeds.

### **(C) Relation Between the Development of Beings and Brain**

According to Jaina philosophy, the nature of a being is to move upwards. It wants to go from the lowest level to the highest level. The lowest stage of a being is that of micro-organism. In this stage it has only one sense. In the process of development, a being attains two-sensed, three-sensed, four-sensed and five-sensed forms. **It may then attain salvation, getting the body of a five-sensed, mind-endowed human being and developing emotionally, spiritually and mentally by right efforts.** This is the highest stage of a being. The other side of this concept is that a being of a lower level cannot attain the form of a higher level because it does not have the knowledge conforming to that stage. A being, therefore, has to go upwards or to a higher level form by form. The being of a tree cannot directly attain the form of a human being because it does not have the knowledge conforming to a human being.

**Development of a being and its reaching the higher level are the result of the destruction of its karmas.** More and more knowledge is gathered by a being with the destruction of knowledge-obscuring karmas. In other words it can be said that a human being must have the highest level of

knowledge and a one-sensed being must have the lowest level of knowledge. **In the physical body, brain is the center of knowledge.** It is, therefore, expected that in the higher forms of life, brain must be more developed. Thus, by the study of brains of different kinds of beings, the theory of the development of beings is proved.<sup>11</sup>

## Comparative Study and Conclusion

By the formation of multi-celled species from one-celled beings we come to know that the existence of some primary beings (one-celled beings) came to an end and new forms of life in the changing circumstances came into existence resulting in the emergence of a new species. The fact is that no two-sensed or three-sensed beings were formed out of one-sensed beings but in the new circumstances, some one-sensed beings continued forming a new form of life in which two-sensed beings might be born, bringing their own existence to an end.

Science has discovered nearly ten lac species of insects. According to Jaina philosophy, these insects are two-sensed ones, three-sensed ones or four-sensed ones, their combined forms of life being 6 lacks. Scientists are of the opinion that the number of these species may be 80-90 lacs, which is definitely much more than 6 lacs. It is clear from this that many species may originate from the same kind of animate, in-animate, cold or hot forms of life. According to Jaina philosophy, as many species may originate as are the forms of life and families are there. Provided circumstances are favourable. The origin of no other species apart from them is possible. According to Jaina philosophy there are 84 lac forms of life and only 197.5 lac species can originate from them.

Some scholars are of the view that a being takes birth in 84 lac forms of life before it gets birth as a human being i.e. it is born in different modes. According to scientific view, evolution of a race is the climax of the gradual

evolution of the lacs of species of the universe. That is why there is a similarity in the foetus of a human being in that of the species—fish, amphibians, reptiles, birds and mammals—preceding it.

These days some scientists are trying to grow new varieties of rose by grafting and cloning. They think it to be a revolutionary phenomenon. But this process has already been going on in small insects and vegetables. This phenomenon has been mentioned as spontaneous birth (a-sexual birth) in Jaina scriptures.

**According to Genetic Science 'Genetic codes' the basic elements of all living-beings are the same.<sup>12</sup>** It is because of the change in the order of the genetic codes that different kinds of beings from ameba to man get originated. Similarly Jaina philosophy believes that all the beings have the same soul, the same capacities. It is because of their different karmas that they get different forms and bodies. Regarding the origin of life, science believes that the formation of DNA, the basic atom of life is not possible without enzyme and this enzyme is formed by DNA itself.<sup>13</sup> This means that regarding the origin of life science is uncertain and this fact affirms, the organism being beginning-less, a principle of Jaina philosophy.

**(a) As is the karma, so is the gene and man.** Once Gautam, the chief disciple, asked Lord Mahavira, "O Lord! Difference is found everywhere in the world. Someone has greater knowledge whereas someone may have less knowledge. Would you please tell me the reason of this difference?"

**The Lord said, "O Gautam! karma is the cause of this difference."<sup>14</sup>**

**If this question is asked to a biologist, he will say that the only cause of this difference is in 'gene'.** The nature and behaviour of man are determined by gene. This is the gene that is the root cause of all the differences and divisions. Science believes that a single gene is responsible for as many as 60 thousand orders. The karmic theory believes that a single

karmic aggregate is responsible for infinite orders.<sup>15</sup> So far science has been able to come upto genes only. Gene is an ingredient of this gross body. But karma is the ingredient of the subtle body. In this gross body there is, Astral body which is subtle. Microbody is subtler than Astral body. Micro-body is the subtlest unit. On a single aggregate of a karma are written infinite scripts. Every account of our efforts, goods, evils, shortcomings and specialties and all their reactions is found in our karmic body. Man behaves according to the vibrations that come from the karmic body. The doctrine of karma is very subtle. It is beyond the jurisdiction of gross intellect. **The modern science of gene has helped a lot in understanding the karmic theory. It is the carrier of man's hereditary traits.**<sup>16</sup> **The distinction that we find in persons is caused by genes. For every specific trait there is a specific gene. These laws of heredity are the corresponding laws of the karmic theory.**<sup>17</sup>

**'Karma' is the main cause of individual differences.**<sup>18</sup> All the differences are caused by karma. If we make comparison, we find that all the three principles heredity, gene and chemical change are the principles of karma. **Acharyashri Mahaprajna writes, "A day will come when it will be proved by deep research that genes not only carry the traits of their parents but they also represent the karmas done by individual.**<sup>19</sup> The journey from the subtle body to the gross body is in itself very significant. The gross body is made of very minute biological cells. As per Biologists there are one hundred-trillion cells in the body. In the context of Jaina philosophy, innumerable micro-organism beings can be accommodated in a space as small as the tip of needle.<sup>20</sup> This micro-organism life is a section of vegetation—this is a very subtle matter. However, modern science too deals with many subtleties.

On the basis of the above facts it can be said that the Jaina theory of the evolution of beings perfectly corroborates science and the order of evolution too is rational and logical. Science has not yet been able to unravel

the mysteries of mind, consciousness and soul. That is why no definite concept on this subject has been formed so far by science.

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  - <sup>20</sup> Karmavāda—Ācārya Mahāprajña, p. 152, Bhagvatī Sūtra.