

Udivikâsa-the Evolution

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The theory of evolution is a satisfactory way to explain the changes that occur in species that cause new traits to appear in the organism. According to Darwin, this takes place by means such as natural selection and mutations, and affects the way living beings change and live. First we should define the term evolution, for the sake of understanding. Many people wrongly believe that evolution has to preclude creation. Not only that, but most people would probably describe the theory of evolution as having to include a common ancestor for all living beings, when that might not be completely true. However, its strict biological definition is simply "a change in allele frequencies over time." If we go by and use this definition, then evolution has to be considered an uncontested fact. The idea of a common ancestor is simply a fraction of the evolutionary theory, and is also part of some other very different theories.

However, there is also another type of Evolution, and that is Spiritual Evolution. A fact very well documented by the Vedic corpus of scripture. It documents how living beings, mainly humans, become crueler and more evil as time goes on. According to the Vedas, there are four eras of life. In the first era called *Satya-Yuga*, humankind is very peaceful and all people follow Dharma and are very righteous. They live for a much longer period of time than people today do. Then, in the second era called *Treta-Yuga*, people become slightly more evil. There are thieves and robbers and wars begin to take place, and peoples' life spans are shorter now, but still longer than ours. In the third era, *Dwâpara-Yuga*, the times are even worse and family rivalries become full scale world wars. People in this era live a decade or two over a hundred years. Then there is this time, the *Kali-Yuga*, a period where people may live only to a hundred at most and many are cruel and vicious. And this cycle repeats. Also, according to the *Law of Karma and Samsâra*, individual souls, called *âtmas*, take birth as different life forms such as insects, fish, trees, birds, humans, etc. due to the results of their past actions in previous births. So in this respect, not only do the Vedas document evolution, they also document devolution!

The *Sastras* talk many times about how living beings can fall down from their positions. There are many accounts of beings like *devas* and *gandharvas* (the different classes of demi-gods) having to turn into trees or various animals because of their actions and conduct. In one of them, two of *Kubera*'s sons turn into trees after they insult *Nârada muni*, a great sage. Lord *Indra* once was turned hog by his guru for misbehavior. There are many other similar cases of gods falling from their positions as administrators of the material universe.

As we can see, rather than mutations and natural selection, the causes of Spiritual Evolution/Devolution are actions. Therefore, according to the scriptures, one is responsible for his or her own advancements and falls.

There is also an increasing amount of evidence that physical evolution does occur, and is not in fact, a lie. For example, in Africa's Lake Victoria, the Cichlid fish have vision that adapts to the amount of light present in their surrounding environment. At greater depths, their eyes are biased towards red light, since the light there is shifted towards the red end of the spectrum. As they get closer to the surface, they are able to see better in blue light. A member of the University of Bern and the Swiss Federal Institute for Aquatic Science and Technology, Ole Seehausen, has found that male cichlids have evolved two different colours to catch female attention, red nearer the lake bottom, and blue at the surface. These two species appear to be genetically diverging, and in the future may become two genetically separate species.

In addition, Arhat Abzhanov of Harvard University and Cliff Tabin of Harvard Medical School have recently discovered that when activated (with the scientific term being *expressed*), the gene for the protein **BMP₄** affects the depth and width of the beak of a growing finch. However, in other species of finches, the protein **calmodulin** lengthens and elongates their beaks.

Also contrary to popular belief that evolution slowly crawls along, researchers Peter and Rosemary Grant discovered that the finches of Daphne Major-one of the islands in the chain of the Galápagos Islands- actually evolve every year as the conditions on the islands change from dry to wet. In 1977, when a severe drought struck the island, the medium ground finch, one of the only two species of ground finch on that island, resorted to eating bigger seeds with tougher shells, and the individuals with the larger beaks survived to pass on those traits to their offspring after smaller seeds grew scarce. But, in 2005, after the large ground finches that had arrived in 1982 who also subsisted on larger seeds, drought struck yet again, leaving only 13 large and 83 medium ground finches. Experiencing a shortage of seeds, Daphne Major's medium ground finches experienced a reduction in beak size as they slowly began switching to consuming smaller seeds- quite the opposite of what had happened only 28 years ago.

The lakes and bodies of Africa's Great Rift Valley contain over 2,000 species of cichlid fish, including the ones talked about earlier. Lake Victoria, the grandest of all the lakes, which was completely dry 150 centuries ago, now houses around 50 different species of them all evolved from uncertain origins. Similar to the finches, the cichlids have adapted to their different habitats and they all have different diets. Some consume algae and other types of plant matter and have therefore evolved densely packed teeth, whereas others have large jaws capable of crushing the shells of snails and other similar creatures. And, the very gene responsible for strengthening those jaws is **BMP4**. There is definitely no better evidence of Darwin's theory of the commonality of species than finding that one gene, continents, and even species apart does the same job.

There is however, a problem with trying to synchronize the theory of evolution with the teachings of the *Srimad Bhagavad-Gîtâ* which is also known as the *Gitopanishad*, the crop of the Upanishads. In it, Lord Krsna, possibly the greatest *avatâra* of Sri Visnu, the Supreme Personality of Godhead, says:

***“Aham sarvasya prabhavo
Mattah sarvam pravartate
Iti matva bhajante mām
Buddha bhâva- samanvitah”***

“I am the source of all spiritual and material worlds. Everything emanates from Me. The wise who know is perfectly engage in My devotional service and worship Me with all their hearts.” [Bhagavad-gîtâ 10.8]

Also, Sri Krsna says:

***“Sarva yonisu kaunteya
Murtayah sambhavanti yah
Tasam brahma mahad yonir
Aham bija-pradah pita”***

“It should be understood that all species of life, O son of Kunti, are made possible by birth in this material nature, and that I am the seed-giving father.” [Bhagavad-gîtâ14.4]

By this, it becomes very clear that God is the creator of the material universe and everything in it, including animals and plants. Now you may ask, “If the *Gîtâ* says that Sri Krsna is the Creator, and has made everything that exists, then isn’t that contradictory to the evolutionary theory?” The answer to that however, is no. It can be considered that both evolution and creation can go hand in hand. After all, why would God be so cruel so as to not allow His children to adapt to their environments?

Both the Vedas and modern day science have concepts of the evolution of living creatures that, although as different as day and night, can be reconciled with each other, and themselves. Just as the *âtma* evolves from body to body, each species reaches for the stars and adapts to meet the challenges along its path.