

Hindu View on The Origin of Life on Earth : Role of Mā Durgā The Mother Factor

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Section A

All life originated from the Supreme Being. "On contemplating by that Progenitor (*Prajāpati*)" says Vishṇupurāṇa, "the mental progeny came into being from his corporeal (terrestrial) existence with senses (*kshetrajñā*) and body (*gātra*)."¹ Thus, for a living being, two fundamental elements are essential : body and senses ignited with Prāṇa. Body with senses, called "*indriya*" is the primary requirement to form a '*jīva*' or a living being. It is immaterial if the body is unicellular or multicellular; prokaryotic bacteria or prokaryotic archaea, or multicellular eukaryotes. It is "*indriya*" or sense (s) that makes it live. It is the 'Mother Factor', called 'Mahādevī', Śivā, Prakṛiti, Bhadrā, Raudrā, Nityā, Gaurī, Dhātṛī, Jyotsanā, Chandra-rūpiṇī' etc. that is responsible for consciousness (*chetanā*).² She is also known as 'responsible for establishment of "*indriya*" in all living beings'; and thus pervading in all :

इन्द्रियाणमधिष्ठात्री भूतानां चाखिलेषु या।
भूतेषु सततं तस्यै व्याप्त्यै देव्यै नमोनमः॥³

Here it will be interesting to know what '*indriya*' is.

Yāska in Nirukta gives a revealing meaning of '*indriya*' that connects the word with life and living being. It runs as follows :

इन्धे भूतानीति वा। "तद्यदेनं प्राणैः समेन्धंस्तदिन्द्रस्येन्द्रत्वम्" इति विज्ञायते॥ That is to say 'इन्धे' denotes all the living creatures, i.e. 'भूतानि'. From "जिइन्धी दीप्तौ" '*indha*' means to kindle, to light, to set fire, shining, glowing, blazing, etc. In this light "तद्यदेनं प्राणैः समेन्धंस्तदिन्द्रस्येन्द्रत्वम्" may be interpreted as 'From this fuel (*indhī*) the energy (*prāṇa*) is ignited that becomes "*indra*", and gains '*aindratva*' i.e. life. Thus the ignited '*indriya*' becomes energetic or *prāṇavanta* (live). The life comes into existence.

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Here the idea of fuel and energy produced by it in the living beings is note worthy. The living creature feels 'aindratva' or consciousness through the 'indriya' or sense (s); then it becomes live (prāṇavanta). May it be a unicellular living cell with simple though highly complex construction or the most complicate human body with trillions of cells? But sense of *aindratva* is essential requirement to consume fuel (*indha*) in the form of food to be transformed into energy (*prāṇa*). Here the principle indicates to synthesize the fuel > generate energy > reproduce its kind.

It will not be out of place to bring in Nirukta again which defines 'Indra' as who i) dṛiṇāti, ii) dadāti, iv) dadhāti, iv) dārayat and v) dhāryat the 'irā' which is explained as 'vrīhi' or rice grain. I cannot give English equivalents of these terms but it seems to have something to do with the germination of rice grains which bursts shoots after becoming wet. It may be related with reproduction or reduplication of life in a broad sense.

However, indriya and Indra appear to have derived from the same root which seems to be a combination of fuel and energy. In modern scientific sense we can call 'a living being an energy producing machine that acquires its fuel from nature and keeps generating energy to sustain it. This machine is equipped with a consciousness, i.e. *aindratva* and can reduplicate itself; by desire or by copulation. That other name of the 'fuel' is 'anna' from 'ad' to eat. It is interesting to note that Monier Williams⁵ gives the meaning of this word as 'food in a mystical sense (or the lowest form in which the supreme soul is manifested, the coarsest envelop of the Supreme Spirit)'. This gives a glimpse of Hindu view on the origin of life.

However, 'indriyas' are the characteristic feature of a living organism which may be one in some and more than one in others. It is not that organ in the body that works but the faculty of that sense ignited by prāṇa makes it functional or live. It goes on only till the energy (prāṇa) keeps it functioning.

Without going into details it will be interesting to point out that in Sāṅkhya philosophy 'the first product of the creation is called 'Mahat', Great. It is the germ of this vast world of objects including intellect, ego and mind. It is cosmic in nature'. 'Mahat' produces 'Ahaṅkāra' or self-consciousness. This is the most important element in all living beings because it gives a sense of 'being' or consciousness of being. All the preliminary forms of life, may be prokaryotes or eukaryotes, are equipped with 'ahaṅkāra' or 'self-consciousnesses (not ego). This provides each of them a feeling of individuality or living being. Thus they are equipped with 'indriyas'. The progression of the 'indriyas' in higher species is :

Prakrit > Mahat > Ahaṅkāra > Manas > Five Jñānendriyas or Buddha-endriyas or sensory organs > Five Kārm-endriyas of functionary organs > five Tanmātras > Five

Mahābhūtas. Besides these, Buddhi and Chitta are enumerated among Abhyāntara or internal 'indriyas'; some include 'manas' and 'ahaṅkāra' also among the internal ones. Human body is endowed with a multiple of complex 'indriyas'. These are classified into three groups : i) Four Antara-indriyas or internal ones, ii) Five sensory 'indriyas' (ear, skin, eye, tongue and nose), and iii) Five functionary 'indriyas' (anus, parts of generation, hand, foot and larynx).⁶ The eleventh 'indriya' with the qualities of both, is 'mana' which controls them all.⁷

It can be understood in terms of a generator provided to every living organism. Every living being is provided with an energy device or 'generator' at the time of its conception, according to its capacity and requirement to consume fuel (food) and generate energy to continue and reproduce. When the generator stops functioning, the body created by consuming fuel (food from nature 'Prakṛiti') dissolves and decomposes into the matter from which it was created. In the human beings, when the male sperm meets the overy, a unique phenomenon takes place; the two join together to form soul and body (i.e. DNA), and multiply into trillions of cells with specific function for each. Thus Durgā, or the Prakṛiti of Sāṅkhya, the mother factor, is responsible for consciousness in every living organism, even bacteria, by instilling 'indriya' or 'energy/generator' necessary for its existence.

We will deal the three stages of her activities to make the Earth worth living for the future species by destroying those species that were harmful for the advent and sustenance of the species to come. This is a natural process to refine species; but it was misunderstood as 'evolution'.

Section B

The Miraculous DNA Demands a Creator

The above exposition leads us away from the evolutionary theory which propounds that the 'organic life sprung from non-organic matter through a natural mechanistic process on a pre-biotic earth. That original life form then evolved into more complex life forms through a natural process of random mutations and natural selection. In a nutshell... matter randomly acting on matter for long period of time created everything we see.⁸ According to the writer of the book '*All About The Journey*' (hereafter *The Journey*) there are five stages of the 'Theory of Evolution', namely, Cosmic Evolution, Stellar Evolution, Chemical Evolution, Planetary Evolution and Organic Evolution (also known as 'spontaneous generation'. It is said that Darwin 'maintained that original life probably arose from a 'little pond' where sunlight was acting on the organic salts. In the 1920's scientists Oparin and Haldane updated the basic conjecture of 'spontaneous generation' by proclaiming that ultraviolet light acting on a primitive atmosphere of water, ammonia & methane produced a 'hot dilute Soup' of

basic life. But the 21st century science and technology reveals that for the 'prebiotic soup' theory 'there is absolutely no positive evidence for its existence.' Scientists like Harold Morowitz, Sir Fred Hoyle, etc. find little chance for it. The Noble Laureate George Wald declared 'One has to only contemplate the magnitude of this task to concede that spontaneous generation of a living organism is impossible.'

The discovery of DNA (Deoxyribonucleic acid) molecule in 1953 has brought revolution in thinking about the origin of life. The structure of this storehouse of genetics has eliminated all chances of 'spontaneous generation'. It was noted that DNA establishes physical characteristics of each organism. But the true nature of and complexity of the digital code inherent in DNA in human being could be understood in 2001. Now it is established that the tiny DNA molecule is comprised of chemical bases arranged in approximately 3 billion precise sequences. 'Even the DNA molecule for the single celled bacterium, called E. coli, contains enough information to fill an entire set Encyclopedia Britannica.'

The Structure of DNA

It is this DNA that is inherent in every living species and decides its future course. It is so important that it not only governs every individual body, but even every part of it. Its structure 'is a double-stranded molecule that is twisted into a helix like a spiral staircase. Each strand is comprised of a sugar-phosphate backbone and numerous base chemicals attached in pairs. The four bases that make up the stairs in the spiraling staircase are adenine (A), thymine (T), cytosine (C) and guanine (G). These stairs acts as the 'letters' in the genetic alphabet, containing into complex sequences to form the words, sentences and paragraphs that act as instruction of guide the information and functioning of the host cell. May be even more appropriately, the A, T, C, and G in the genetic code of the DNA molecule can be compared to the '0' and '1' in the binary code of the computer software. Like software to the computer, the DNA code is a genetic language that communicates information to the organic cell.

It was discovered that an A will form a rung only with a T and a C only with a G. So, the pairs A-T, T-A, C-G and G-C form in a way a four letter alphabet with which messages can be spelt out. This four-letter alphabet makes up what is known as the Genetic Code. The genetic code is not only complex but also extensive. In 1977 Fred Sanger pointed out that the DNA code of virus, when decoded by the computer came to a print of 15 meters. At this rate, the computer print-out for the human DNA would stretch to 16,000 km.

'Enormously long strands of DNA intertwine within the core of living beings. So narrow and tightly coiled is this DNA that all the genes in all the cells in a human body would easily

fit into a 1.25 cm cube. Yet, if all these DNA strands are unwound and joined together it would stretch from the Earth to the Sun and back. The genes control all functions of the cell and body growth. The two main events in the life of most cells are multiplication (by division) and synthesis of proteins. Both these operations are carried out on the basis of the blueprints coded in the genes.⁹

The Process of Cell Division

Before a cell divides, the DNA ladder splits down the middle. The nucleotides as separate from the Ts and the Cs from the Gs match in the same way as a zipper is pulled apart. Now the separated nucleotides A, T, C and G pick up appropriate patterns from the free-floating nucleotides in the cell. Thus the split ladder becomes two whole ladders of DNA, each an identical copy of the other. Once the division of the DNA is completed the rest of the cells, other organelles also duplicate, ultimately producing two cells of the same type.

This is what precisely the installation of 'indriya' in the living being by the mother factor is meant; to synthesize the proteins to produce enough energy to sustain the species, reproduction. In the early period of generation of life on Earth the cells could reproduce themselves by division, as ameba does. This process is called by the Hindu thinkers as 'mānasī śrīṣṭi'.

The Process of Replication in Higher Species

In many other species reproduction was done by cohabitation, called the 'maithuni śrīṣṭi'. The replication of cells in growing bodies is followed by differentiation. Life in most species begins from a single fertilized egg or cell. The single cell becomes a double cell, then a quadruple and so on. At the same time different sets of genes work in different cells evolving specific physical traits, while specialized cells form different organs of the body, hands, legs, brain, heart etc. This process is known as *differentiation*.

Differentiation implies strictly regulated work. The cells concerned concentrate on the task in hand and cease all other activities and when the work is completed they stop working. This switching on and off of genetic activities is achieved by the presence of two molecules attached to the genes - inducers and repressors.

The DNA is described as 'incredible micro, digital, error-correcting, redundant, self duplicating, information storage and retrieval system'. According to Michael Denton *'It is astonishing to think that this remarkable piece of machinery, which possesses the ultimate capacity to construct every living thing that ever existed on Earth, from giant redwood tree to the human brain, can construct all its own components in a matter of minutes and weigh less than 10⁻¹⁶ grams. It is the order of several thousand million million times smaller than the smallest piece of functional machinery ever constructed by man.'*

The writer of the book 'The Journey' comments 'with the discovery, mapping and sequencing of the DNA molecule over the last few decades, we now understand that organic life is based on vastly complex information codes... cannot be created or interpreted without some kind of 'intelligence'.

He informs 'Each person begins as a single cell - a cell structure formed by the joining of the mother's egg and the father's sperm. That single cell form contains the digital code to make thousands of other kinds of cells, from fat cells to bone cells, vein cells, capillary cells blood cells... Ultimately, from that original cell, that human body will have something like 30 trillion cells conducting an orchestra of different functions.' 'Through the marvels of 21st century technology, scientists now understand the following' :

Although the tiniest bacterial cells are incredibly small, weighing less than 10^{-12} grams, each is in effect a veritable micro-miniaturized factory containing thousands of exquisitely designed pieces of intricate molecular machinery, made up altogether of one hundred thousand million atoms, far more complicated than any machinery built by man and absolutely without parallel in the non-living world.

He challenges the evolutionist's concept that the first simple microscopic organisms were created in prebiotic rock soup. He asks : what's considered 'simple'? He notes '...a fertilized human egg at the moment of conception looks like a simple singled-cell blob no bigger than a pinhead. However, we know that amorphous blob contains information equivalent to 6 billion 'chemical letters' -enough complex code of fill 1,000 books, 500 pages thick with print so small that it would take a microscope to read it. Through the marvel of DNA, every single human trait is established at the moment of conception. Within hours, that single cell starts reproducing and grows a cilia propulsion system to move the fertilized egg (now called a 'zygote') towards the uterus. Within six days, the original cell (now called an 'embryo') has reproduced its library of information over 100 times. Ultimately, that original blob of gelatin will divide into 30 trillion cells that make up the human body. At that point, if all the DNA chemical 'letters' were printed in books, it's estimated those books would fill the Grand Canyon-fifty times!'

Human body is a complex design; then what about the 'simple' bacterium? 'The bacterial flagellum consists of about 40 different protein parts, including a stator, rotor, drive shaft, U-joint, and propeller. Through 21st century magnification technology, we now understand that a simple bacterium has a microscopic outboard motor! The individual parts come into focus when magnified 50,000 times using electron micrographs. These microscopic motors can run at 100,000 rpm. Nevertheless, they can stop on a microscopic dime. In fact, it takes only a quarter turn for them to stop, shift gears and start again spinning 100,000 rpm in the other

direction!' The flagellar motor is water-cooled and hardwired into a sensory mechanism that allows the bacterium to get feed back from its environment. 'Even with 21st century technology, we'll never be able to create a micro-machine like this.'

He observes "...no one would expect an outboard motor, whether mechanical or biological, to be the product of a chance assemblage of parts. Outboard motors are designed and engineered."

"What about the human brain? It's a legitimate computer system, 1,000 times faster than a Cray super computer and with more connections than all the computers, phone systems and electronics on the entire planet..."

No Transitional Forms

The writer of 'The Journey' talking about the fossil records writes : "Our museums now contain hundreds of millions of fossil specimens (40 million along are contained in the Smithsonian Natural History Museum). If Darwin's theory were true, we should see at least tens of millions of unquestionable transitional forms. We see none. Even the late Stephen Jay Gould, Professor of Geology and Paleontology at Harvard University and the leading spokesman for evolutionary theory prior to his recent death, confessed "the extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology." He continues :

The history of most fossil species includes two features inconsistent with gradualism : 1. Stasis. : Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking much the same as when they disappear... 2. Sudden Appearance : In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and 'fully formed'. The evolutionary trees that adorn our text books have data only at the tips and nodes of their branches; the rest is inference, however reasonable, not the evidence of fossils.

Now, after over 120 years of the most extensive and painstaking geological exploration of every continent and ocean bottom, the picture is infinitely more vivid and complete than it was in 1859. Formations have been discovered containing hundreds of billions of fossils and our museums are filled with over 100 million fossils of 250,000 species... The gaps between the major groups of organisms have been growing even wider and more undeniable. They can no longer be ignored or rationalized away with appeals to imperfection of the fossil record.

The same authority quotes some pure fantasy that has crept into text books on fossil records. According to him David M. Raup, "Evolution and the Fossil Record" *Science*, vol. 213, July 1981, 289, points out the reality of the 'human fossil record' of the past century.

Remapithecus was widely recognized as a direct ancestor of human. It is now established that he was merely an extinct type of orangutan.

Pitldown man was hyped as the missing link in publications for over 40 years. He was a fraud based on a human skull cap and an orangutan's jaw.

Nebrashka man was a fraud based on a single tooth of a rare type of pig.

Java man was based on sketchy evidence of femur, skull cup and three teeth found within a wide area over a one year period. It turns out the bones were found in an area of human remains, and now the femur is considered human and skull cap from a large ape.

Neanderthal man was traditionally depicted as a stooped ape-man. It is now accepted that the alleged posture was due to disease and that Neanderthal is just a variation of the human kind.

Australopithecus africanus or 'Lucy' has been considered a missing link for years. However, studies of the inner ear, skull and bones have shown that she was merely a pigmy chimpanzee that walked a bit upright than some other apes. She was not on her way to becoming human.

Homo erectus has been found throughout the world. He is smaller than the average human of today, with a proportionately smaller head and brain cavity. However the brain size is within the range of people today and studies of the middle ear have shown that he was just like current *Homo sapiens*. Remains are found throughout the world in the same proximity to remains of ordinary humans, suggesting coexistence. *Australopithecus africanus* and Peking man were presented as ape-men missing links for years, but are now both considered *Homo erectus*.

Homo habilis is now generally considered to be comprised of pieces of various other types of creatures, such as *Australopithecus* and *Homo erectus*, and is not generally viewed as a valid classification.

The Intelligent Design Theory

Finally the author falls back on the intelligent design theory. He defines it in following words :

'Interestingly, in all other fields of human endeavor we find that 'design necessitates a designer.' Thus, design detection methodology is a prerequisite for many disciplines, including archaeology, anthropology, forensics, criminal jurisprudence, copyright law, patent law, reverse engineering, crypto-analysis, random number generation, and SETI (the Search for Extra-Terrestrial Intelligence). In general, we find 'specified complexity' to be a reliable indicator of the presence of intelligent design.' He remarks as follows :

"When it comes to the origin of life there are only two possibilities : creation or spontaneous generation. There is no third way. Spontaneous generation was disproved one hundred years ago, but that leads us to only one other conclusion, that of supernatural creation. We cannot accept that on philosophical grounds; therefore, we chose to believe the impossible : that life arose spontaneously by chance!"

But more interesting is this remark :

"So, out of all this, I developed a new thesis for my view of life... We need to drop our preconceived notions. Dump our presumptions. Just meditate on this material with an impartial mind. Does this stuff have "metaphysical" implications? Sure. But why should that deter us from logically examining the evidence? Where did we get the notion that science and technology somehow have to exist in a naturalistic vacuum? That's not true science. True science is observing the evidence, creating a hypothesis, and testing that hypothesis through various means. Philosophical presuppositions have no place in true science. If science reveals things outside the bonds of known physics, then science should be applauded for its impartial contribution to philosophical and metaphysical thought."

Here one feels, if the author had some knowledge of Hindu philosophy he might not have so disappointed on the use of science and philosophy about the origin of life and the role of Supreme Body in creation.

Now let us agree with him that "In fact, evolution become in a sense a scientific religion; almost all scientists have accepted it, and many are prepared to 'bend' their observations to fit with it." And that : "... The theory of evolution may be the worst mistake made in science."

Section C

Hindu philosophy believes in Supernatural Creation; that a Supreme Being who is called Brahmā or Nārāyaṇa was responsible for the creation of the universe (*Sarga/Śṛishṭi*). It also accepts that it is not the first creation but it is 'cyclic' in nature (*yathāpūrvam-kalpayat*). Brahman literarily means 'growth'/'expansion', and it fits with the modern concept of 'expanding universe'. In Hindu philosophy natural forces are personified, and therefore every one is given a definite personality (for understanding by people in general) but in philosophical concept Brahmā, Nārāyaṇa and Śiva and others are natural forces. In Vishṇupurāṇa the *rishi* Maitreya puts a question to saga Parāśara "When the Brahma is absolute (*nirguṇa* i.e. without qualities), limitless (*aprameya*), pure (*śuddha*) and clean soul (*nirmal-ātmā*), how the can be conceived as the creator of the universe etc.? The saga Parāśara accepts that "Powers of natural forces are inconceivable (*achintya*) and therefore Brahmā was endowed with the power to create in the beginning of the Creation (*Sarga*) in the same way as fire is naturally endowed with the quality of heat."¹⁰The intricacies of life and its

beginnings compel one to accept some 'Super-human agency' or 'Intelligent Designer' to keep its understanding within human comprehension. The Hindu thinkers, with their experience and reasoning, begin with accepting the existence of a Supreme Being' to avoid deflection. The other distinguishing feature of Hindu comprehension is that through personification of the forces of nature they made it easily understandable to common man. By proclaiming it a religious duty every Hindu was taught the intricacies of the history the universe as well as that of his ancestors. The practice still continues in the form of Bhāgavat-kathā and sessions of Rāma-kathā; which every Hindu knows. But at present it has become more a religion than history. Similarly, Durgā-pāṭha is performed by crores of Hindus, at least twice every year, but its historical importance is missed.

The author of *The Journey* reaches at such a stage after discussing Darwin's theory of evolution, the spontaneous generation, fossil records, modern scientific researches in marvels of DNA, etc. At this stage evolutionists feel helpless but being captives of their discipline and devoting almost whole life in that direction they often are hesitant in accepting the shortcomings; but some have done. The most astonishing thing is that none of them has an iota of the idea that the Hindus of ancient times also have devoted much of their time and energy in investigating these things. The ancient Indian thinkers were not equipped with modern scientific technologies like x-ray crystallography and perhaps they had also not seen the marvels of DNA. But through their insight (they appear to have some equipments also because their calculations are so precise) they have reached the conclusions that are nearer to modern scientific investigations. It seems that after considering all probabilities they begin with the existence of a Supreme Being; called Nārāyaṇa and Brahmā etc.

Role of Geology and Astral Movements

The modern science accepts the geological events alter the environments that change the course of biological evolution. But the Hindus have investigated that, besides geological events the astrological movements also affect life cycle on Earth. Modern science does not recognize astral movements to have anything to do with the life in several billion years' of Earth's existence; but the Hindus do. They have calculated that one round of the Sun with its planets around the galaxy, takes about 300 million years and it brings changes in Earth's atmosphere and thus gives rise to new forms of life on it. If today's paleontologists review their fossil records in this light they might find amazing results.

However, according to the Hindu calculations life on earth started about 2,000 million years ago; to be more precise it happened 1,97,29,49,000 years. Since then our Solar system has taken six rounds of the Galaxy and seventh round is going on. Each round is calculated to

take 30,67,20,000 years; and including a junction period of 17,28,000 years it comes to 30,84,48,000 years. According to modern science this period is estimated to be about 220 to 280 million years. According to the Hindu science the entire atmosphere (i.e. the Indra, the celestial gods, seven rays of the sun and the life pattern) of the Earth changes during this period. They have named every cycle after one intelligent agency called Manu who is responsible for all life systems during his tenure.¹¹

Western View : Fossil records in modern paleontological studies have revealed the existence of earliest bacteria about 3.8 billion years ago. It is also estimated that 'For the first three-quarters of evolutionary history, Earth's only organism was microscopic and mostly unicellular. 'The Earth formed about 4.5 billion years ago, but rock bodies left over from the origin of the solar system bombarded the surface for the first few hundred million years, making it unlikely that life could survive.'

Indian View : According to Hindu thinkers whole Earth at the beginning was covered with water (*salila*) and no soil was visible; and life originated from water. It is only our planet Earth that contains water in three forms : solid, liquid and gas. Scientists are in search of water on other planets and it is likely that they may find it on some but not in these three forms which are congenial for life to evolve. Science also postulates that Earth separated from the sun slowly solidified; then incessant rains followed that intensified the process of solidification. However, after several million years of rains its crust was formed but it was water everywhere. The Creator (Brahmā) began his work on 1st day of bright half of Chaitra in Śrishtī Samvat (SS) 1, 97, 29,49,108. It is said that he had to wait for 1,70,64,000 years for creation.¹² Perhaps the biosphere of the Earth was still in the process. It supplies essential requisites of life for all the species of life like suitable heat, light, water, food and living space or habitat. The biosphere, collectively called 'Indra' by the Hindus, is an evolutionary system that represents a stable equilibrium of various physical and biological factors which have been operating since its beginning. The organic continuity of the system rests on a delicate network of interdependent relationships, called 'Devatās'.

With every new round of the Galaxy by the Solar system changes in the biosphere also take place. The Hindus describe figuratively as the change of the Indra (father or the Lord of Devas), The Devatās, the seven Ṛishis (i.e. the rays of the Sun), the avatāras of Vishṇu and most important is the change of Manu and his sons, i.e. pattern of live species also changes.

Thus according to Hindu view the actual creation started on Kārttika Śukla 12, SS 1,95,58,85,108 when the Svāyambhuva Manu started creation. He and the coming four Manus are clubbed together by saying that the later were offspring of Priyavrata, the son of the Svāyambhuva Manu.¹³ Thus the life system during the period of these Manus, i.e. from SS

1,95,58,85,108 till about 737 million years from now remained almost unchanged. The Purāṇas do not give much detail about the development and evolution of life during this period but it is also creation that the same species never repeat and with every new Manu new sorts of species come into being according to the environment of the biosphere; Indra etc. All organisms appear for once and disappear never to return; but a certain improvement in their biological composition is marked. Though one species gives way to another improved one but does not transform into the other. this may be attributed to the better environment or the eco-system which has a rhythm and spiral movement of its own and delicately balanced cycles. These organisms survive by adjusting themselves to the environment and attuning their lives to its rhythm. The paleontological records need to be checked in this light not prejudiced by the idea of natural selection and transformation into other species. The Hindu scientists believe that new organism is the creation of the changed bio-sphere, i.e. Manu and Indra etc. and extinct with a change in it.

Better environment prevailed during the Chākshusha Manu when new forms of organisms appeared to give way to those that are seen in the time of the present Vaivasvata Manu.¹⁴

During the period, devoid of modern scientific advancements, it is not a mean achievement to give a scanty outline of organic development that appears almost confirming modern results.

Of course we should enquire further by accepting that the ancient Hindus must have had a different mode of enquiry and their own terminology. Here we attempt to decode some terms to know about organic development. We should see the description below in the light that all life emerged from the sea.

The names mentioned in the following puranic description (or story) is revealing and therefore we are giving English meaning or equivalent in brackets and leave it to the readers to derive their conclusion.

The *Vāyupurāṇa* relates eight stages in development of planet life and declares that the Earth is the womb of all animate and inanimate life.¹⁵ The names in the figurative story related below appear at the first glance to be that of human beings but acrually it describes a natural phenomenon of development of plant life.

The fifth Manu is named Raivata and/or Charishṇu indicating that animated life emerged by his time. The next one is called 'Chākshusha' (Visible). His father was 'Ripu' (the 'Earth' or the 'hostile planet')¹⁶ and mother was Pushkariṇī (the Pond), the daughter of Varuṇa (god of the oceans, connected with water, 'Sindhu-pati', lord of the sea of river, etc).¹⁷ His great

grandson was Prithu (broad, wide, expansive, extensive etc.) who leveled the earth and made it fit for living. His son and grandson were Antardhi and Hvirldhi (meaning concealed). The latter begot six sons from his wife named Āgneyī Ghishṇā the first among whom was Prāchīnbarhis (the early light?; also interpreted as a species of kuśa-grass or seaweeds). He married Savarṇā, the daughter of Samudra (Sea) and begot ten sons jointly called Prachetas (attentive, mindful, observant etc.)

It is related that the Prachetas indulged in penance for ten thousand years under the sea water. During this period very high trees grew on earth and they covered the whole sky. It was a great calamity for the progeny, and hearing about this they become angry. Then they released air and fire from their mouth to burn the trees. Thus the trees were destroyed; only a few escaped. Then the king Soma (Moon) intervened and persuaded the Prachetas to calm down the air and fire and stop burning the trees for the sake of future progeny. He told that from the remaining greenery new plants will grow. He also offered to marry his daughter 'Mārishā' (dew) who was produced by the trees and grown up by his rays. Their son was 'Daksha' (dexterous or intelligent) Prāchetas (the mindful). All the progeny on earth is said to have descended from him.

This story of growing very long trees and their burning is of the period of Chākshusha Manu who started about 428 million years ago. It is a geological event. I have read in a newspaper that in the National Scientific Proceedings, the Journal of American National Academy of Sciences has published an article by Prof. Scott, a geologist in the Royal Hallway, University of London. He states that several hundred million years old samples of charcoal were collected from America, Australia, Scotland, India, Norway, South Africa and Antarctica and it was found that frequent conflagration of the forests about 250 million years ago was on account of presence of 33% of oxygen in the atmosphere. At present it is 27%. The professor further estimates that during the early 350 million years of plant evolution, incidents of conflagration were rare because the presence of oxygen in the atmosphere was less. The quantity of oxygen increased as trees grew; and it reached one third during this period. Thus it supports the puranic story.

Section D

To Resume the Role of Durgā

Now we can resume the role of 'Mother Factor' in the origin and development of life on Earth. The most popular name of the deity is 'Durgā' the literal meaning of which is 'the inaccessible'. Perhaps she got this name because she made the inaccessible earth accessible, and also she protected the earth from meteors and other bodies in the sky. However, the 'Durgā-Saptaśatī' specifies three phases of Her life where She had to intervene for the

betterment of future life on Earth. The First Phase (Prathama Charitra) relates to the beginning of life on earth when the bad-growth of pests (*Kīṭa*) threatened the future life. There appears to have grown some bad formation of soil also (i.e. *Madhu* = sterile or fallow). This is called the Madhu-Kaiṭabha age. The Second Phase or the 'Madhyama Charitra', occurred several millions of years after this when earth was filled with wild animals and their elimination was necessary for the growth of future life. This was the Mahishāsura Phase. The Third Phase took place at the site of the Himalayas which had just started emerging from the ocean. It was a horrible phase because the present species of man-kind was to be born on it. The Mother created congenial conditions for the most superior specie, the Man' to be born. This story of Her fight with the natural forces is related in this phase called 'Uttara-Charitra'.

Prathama Charitra

This phase of Life appears to be in the beginning when the stage was set for the life to come into existence. The Earth was still under water; Nārāyaṇa pervaded over it and Brahmā is said contemplating for it. Some mal-formations of life in the shape of pests called Kīṭa came into being and threatened the emergence of life. Some mal-formation in the water, called Madhu also appeared that was not congenial for life. Exact connotation of Madhu is not found in dictionaries, but the legends say that the son of Madhu was Lvaṇāsura who was killed by Śatrughna, the younger brother of Rāma. Thus Madhu was to be followed by salty and sandy fallow land. This was a threat to the future plant life as well. The story goes on that the Brahmā prayed the Mother who came out of the body of Nārāyaṇa, who fought the two for about five thousand years. In the end they were executed by the god. This is called the Madhu-Kaiṭabha Age. It is related in the first chapter of Sapta-śatī of the Mārkaṇḍeya Purāṇa.

Madhyama Charitra

The second phase of the praise of the goddess is related in three chapters; from 2 to 4. The story relates to the several million years after the Madhu-Kaiṭabha Age. Many phases of emergence of live species came and vanished. A time came when the Earth became studded with reptiles. They reigned over it for several hundred million of years. They become a threat to the generation of future species of life. The science knows them as dinosaurs; but the Puraṇās call them Mahish, from Mahi, the earth. A vivid description of the fight between the goddess and the demon Mahish is given; but these should be taken as figurative. There can be another interpretation of this. The Purāṇas describes a phase of life when reptiles dominated the earth. These were the sons of Kadrū and Kaśyapa.

However, this species of reptiles was eliminated by the grace of the Mother goddess and facilitated the emergence of modern Man, the progeny of the seventh Manu the Vaivasvata.

In the third chapter the goddess challenges the demon to bluster till she is drinking the 'madhu'.¹⁸ Some are inclined to interpret the verse that the goddess was a habitual drunkard. But it is unthinkable that some one fighting an enemy will find time for drinking intoxicant in the battle field; especially when it was a man to man fight. Here we must accept the meaning of the word 'madhu' in the sense which spoils the land, as referred to above. The goddess was destroying the species from the earth as well as she was making it (soil) congenial for the future species.

The goddess is shown as wearing a garland of severed heads (*muṇḍa-mālā*). Most probably this garland of heads was those of the demons destroyed by her.

The venue of the event must had been somewhere in the southern part of the Jambudvīpa. There is a place in the southern part of the country that is called Mysore, a corruption of the word Mahishāsura. Incidentally, there is a temple of Chandikā near this place.

Uttara-Charitra

The third phase of the deed of the goddess is described in not less than seven chapters. The venue of this incident is the Himalayas. Then this great mountain was in the process of formation. We can imagine what can happen on the earth when a mountain is born. Earth quakes and several other turbulences accompanied with it might have been the order of the day. Such a situation must have continued for several centuries. R̥igveda is full of praise of Indra because he stabilized the earth and the firmament. The demons defeated by the goddess were, Dhūmralochana, Chaṇḍa-Muṇḍa, Rakta-Bīja, Śumbha and Niśumbha. We could not find any etymological sense of these words. The dictionaries record that these were the demons defeated and killed by the goddess Durgā. The incident is related with the Himālayas, where the goddess Pārvatī appears. We wish to correlate the incidence with the period of the formation of the Himalayas, it is expected that the words should contain some sense related with earthquake and other terrestrial tectonics. We could find a phonetically nearer word that connotes an expected meaning. This is Ni-śushma,¹⁹ meaning 'cracking downwards or not cracking (said of fire, opp. *ucchushma*)'. I am not sure if it can be applied here; but if the incident has anything to do with the earthly upheavals our purpose is reached. Now, if *ni-śushma*, vulgarly pronounced as '*niśumbha*', can mean crevice or crevasse, in the context of Himalaya formation it may mean a 'fault'; the opposite '*śumbha*' should mean a 'fold'.

Not insisting on the above interpretation of the names of the demons we may resume the story of Mother Durgā fighting and slaying them. Here we find the name of 'Himavanta' for the first time.²⁰ Then appears Pārvatī (daughter of the Himalaya) and Śivā and Ambikā, and

other deities come out of her body to play their role of the Mother. Thus there can be no doubt about Himālayas being the venue of the event.

The Jambu-dvīpa has now become a peninsula after colliding with the Eurasian continent and formation of the Himālayas. Several geological and geographical changes took place. The northern sea (उत्तर समुद्र), the Tithes Sea vanished. Indians retained and cherished its memory till at least 12th century A.D. and some copperplate inscriptions of the period coming from the Gorakhpur region mention the northern part of this area as Uttara-Samudra. Some of these alternately call it 'Saumya-Sindhu' i.e. 'Quiet Sea'. The ancient Sanskrit literature of India is full of the descriptions of 'four seas' that continued till recent times. Right from the kings of the Gupta dynasty till the kings of medieval period boasted to have enjoyed the earth bounded by the four oceans. But it is a geological fact that the fourth sea in the north of the Jambu-dvīpa had vanished several crores of years back; only its memory lingered.

As the Himālayas were still in the formation stage man stages of human history have been neglected by the historians. Hindus believe that this act of the Mother Durgā set the stage for the emergence of the present species of Man. This took place in the Himālayas.²¹ Vaivasvat Manu descended at this place about 120 million years ago. The theory of several races of human beings is a myth propagated by the European racists to show their superiority. The maxim समानप्रसवात्मिका जातिः does not require any proof because any man on earth can marry any woman and produce progeny. Thus the whole humanity is a single race. This should also be noted here that the present species of man has emerged on the earth as he is today. No signs of progress or evolution can be proved. Man may live in different conditions of civilization and culture on the Earth but to search any sort of evolution in it is a myth created by evolutionists. We have already noted above the fossils of any species of creatures never show any evolution in their bodily formation. Why man should be an exception? The Hindu philosophy accepts that man was born with the faculty of speech and as such he could not remain uncivilized for millions of years as propounded by the evolutionists.

Thus the Uttara-charitra of the Mother Durgā facilitated the emergence of Man on Earth in the Himālaya region. The Hindus strongly believe that the humanity emerged in the Himālayas and from there they spread all over the world. The language of the Vedas was the earliest language revealed by the god and it prevailed for several millions or year on Earth. That is why several Vedic/Sanskrit words, variations, are found in almost all the languages of the world.

The Hindus gratefully remember the Mother Durgā at least twice a year and revise Her role in the history of Life of Earth. May She please and Bless us.

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1. Vishṇupurāṇa, I, VII. 1. ततोऽभिध्यायतस्तस्य जज्ञिरे मानसाः प्रजाः। तच्छरीरसमुत्पन्नैः कार्यैस्तैः करणैः सह। क्षेत्रज्ञाः समवर्तन्त गात्रेस्तस्य धीमतः॥
2. नमो देव्यै महादेव्यै शिवायै सततं नमः। नमः प्रकृत्यै भद्रायै नियताः प्रणताः स्म ताम्।।
रौद्रायै नमो नित्यायै गार्थे धात्र्यै नमो नमः। ज्योत्सनायै चेन्दुरूपिण्यै सुखायै सततं नमः।।
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4. यास्कमुनिप्रणीतं निरुक्ततम्। मुकुन्दझाशर्मणा कृतया निरुक्तविवृत्या टिप्पण्यादिभिः समुपेतं। Delhi, 2002, p. 436-37. (10.1.8)
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8. Some of the following excerpts are taken from internet 'Origin of life' (All about the Journey). I could not trace the name of the another on the internet to whom I am indebted for many ideas n this section.
9. Manorama Year-Book, 1997, p. 172.
10. Vishṇupurāṇa, I.3.1-4.
11. For more information on the subject see author's '*The Science of Manvantaras*' Varanasi, 2006.
12. T.P. Verma, "The Science of Manvantaras", p. 8 ff.
13. Vishṇupurāṇa, III, 1.24-25; and Vāyupurāṇa, 62, 56.
14. Vāyupurāṇa, 62, 69.
15. Ibid, 62, 177-95. चराचरस्य लोकस्य प्रतिष्ठा योनिरेव च।
16. See Monier Williams, Op. cit. p. 880, col. 3.
17. Ibid, p. 921, col. 2. t is interesting to note that Varuṇa was the son of Kardama, i.e. mud.
18. गर्ज गर्ज क्षणं मूढ मधु यावत्पिबाम्यहम्। मया त्वयि तहेऽत्रैव गर्जिष्यन्त्याशु देवताः॥३।३८
19. Monitor-Williams, op. cit. P. 561, col. I.
20. Sapta-śatī, 5.7.
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