



Reconceptualizing the Origin of Life and the Universe

What if atoms are alive? Abiogenesis, the origin of life from atoms and molecules, is the current scientific hypothesis for the origin of life on Earth. This may change soon. In 1986, Prabhat Ranjan Sarkar proposed that billions of subatomic living entities called microvita compose atoms. Microvita may have been emanated from a Cosmic Mind and composed the hot Big Bang early universe, before they formed atoms. Microvita may be released from radioactive atoms and form RNA and DNA-containing viruses in a test tube of precursor chemicals in controlled experimental conditions. A lab experiment is proposed to test this hypothesis.

Keywords: abiogenesis, origin of life, microvita, Big Bang, viruses, Cosmic Mind, radioactivity

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Introduction

COULD PRESENT BIOLOGICAL organisms such as bacteria and human beings have evolved naturally out of molecules by following the known laws of physics? This is the current scientific hypothesis for life's origin. Abiogenesis ("generation of life from non-life") is the concept that life arose from non-life more than 3.5 billion years ago on Earth.¹

Abiogenesis is different from the related idea of spontaneous generation. With the latter, com-

plex life (e.g., a maggot or mouse) was believed, as least back to Aristotle's time (384-322 BC), to arise spontaneously and continually from nonliving matter. Spontaneous generation of maggots on meat was experimentally disproved in the 17th century. Spontaneous generation was decisively rejected in carefully designed laboratory experiments by Louis Pasteur² in the 19th century. Origin-of-life theorists Alexander Oparin and J. S. B. Haldane³, in the early 20th century, proposed that life developed gradually

from inorganic molecules, i.e. according to abiogenesis. Oparin and Haldane's ideas about abiogenesis were tested in an experiment by Stanley Miller and Harold Urey⁴ in 1952. Their experimental apparatus contained the circulating gasses hydrogen, ammonia, methane and water vapor, with applied electric sparks, aiming at simulating the early Earth's atmosphere acted on by lightning. The experiment produced several kinds of amino acids, which are organic chemicals used in the construction of protein molecules. It showed that testing for abiogenesis is experimentally feasible. Many other related experiments followed, but full abiogenesis has never been either experimentally demonstrated or disproved.

One major problem in origin-of-life research is that scientists have not been able to agree on a definition of life. Zimmer⁵ describes the frustrations of both scientists and philosophers in searching for a good definition of life. Walker, Packard and Cody⁶ describe the need for a reconceptualization of the origins of life, taking what life may be to higher levels of abstraction. Life is being modeled by different researchers at a variety of higher levels of abstraction, in hope that general principles of life will emerge that will then lead to further insights into the origin of life. Walker and Cody⁷ edited a volume of research articles pursuing this approach.

A New Approach to the Origin of Life -- Microvita

If it is so hard to define "life", maybe origin-of-life researchers have been missing something that really goes to the essence of "life" or "aliveness". Perhaps atoms and fundamental physical particles like electrons and protons, generally thought of as non-living, are composed of entities that are actually living. Unbeknownst to most origin-of-life researchers, living entities that compose "non-living" atoms and other physical particles have already been proposed and described, and have been given the name "microvita". If individual atoms are composed of billions of microvita, then abiogenesis from molecules, if it occurred, would actually be the origin of life from the microvita composing the molecules. Technically, the abiogenesis of any protozoa from molecules would actually be biogenesis, i.e. the creation of life from life, where living protozoa would be created from the living



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microvita composing the molecules. Such abiogenesis creating protozoa could happen in minutes, not millions of years. A scientific experiment has been proposed to test for microvita that may create DNA and RNA-carrying viruses.

The concept of microvita was given by P. R. Sarkar in 1986 in a discourse "Microvitum—the mysterious emanation of the Cosmic Factor." (8) The microvita hypothesis predicts the origin of DNA and RNA-containing viruses from microvita released from radioactive atoms, including under experimental laboratory conditions.

If the proposed microvita hypothesis is experimentally confirmed, the scientific implications should shed more light on the nature and origin of life, matter and the universe, and have many practical applications as well.

Microvita, Matter and Viruses -- Some Quotations

Since microvita may be unfamiliar to most readers, it will be useful to quote several brief descriptions by P.R. Sarkar about microvita and their relationship to matter and viruses. These quotes are taken from his collection of discourses *Microvitum in a Nutshell*.

In his first discourse on microvita, P. R. Sarkar defines a virus as a crude order of microvita:

"So these microvita may be broadly divided into three categories: coming within the scope of a microscope; not coming within the scope of a microscope but coming within the scope of perception as a result of their expression, as a

result of their actional vibration; and—the third—not coming within the scope of common perception but coming within the scope of a special type of perception which is actually reflection of conception within the periphery of perception. And such perception—that special type of perception—may be felt or realized by persons having highly developed minds, having spiritually-oriented minds.”⁸

“Regarding those who are of cruder order and that may come within the scope of a microscope, people say, “Give it the name virus.” They say, “This disease is of virus creation, of virus origin.” Like this. But “virus” is a vague term. The better term will be “microvita”, and not “virus”.”⁸

From Question 11 of “Questions and Answers about Microvita”: “What is the structural formula of microvita?”⁹

Answer: “People are under the impression that something called a “virus” is the minutest living being. But virus is a vague term; there is in fact nothing like a virus—thus the question of it being a living being does not arise. Microvita is the minutest entity. The collection of microvita forms a carbon atom. As a microvita is the minutest entity, it cannot have a structure like that of an atom or a solar system. As a microvita is a singular entity, it has no structure. By nature it is more energy than matter, so it travels and moves through inferences, whereas other entities cannot move through inferences.”

From Question 23: “What is the silver line between the quinquemental (5-element, i.e. etherial, aerial, luminous, liquid and solid) universe and idea—that is, between the initial stage of matter and microvita?”¹⁰

Answer: “Microvita are the initial stage of matter. Although they are matter, they are very, very subtle. All of a sudden microvita are transmuted into matter and matter is transmuted into microvita. For investigating the initial stage of matter, research is not possible in physical laboratories, but it is possible in the human mind and human soul. Microvita is closer to the realm of ideas than matter.”

“Then, what is the silver line of demarcation between matter and idea? Of that silver line, the outside is matter and the other side, the inner side, is idea. That is, this silver line is made of the initial stage of matter and the cruder stage of idea. If you consider that the atom is the

constituent of matter, likewise idea is the constituent of microvita.”

“If matter maintains a close proximity to microvita, microvita maintains a close proximity to idea. Here is the line of demarcation. That is, if you powder down atoms then you get microvita, but if microvita could be powdered down you would get idea. Just as atoms are not perceived by the naked eye, but only by experimental results, similar is the case with microvita. But while atomic research can be done in physical laboratories, microvita research can only be done in the human mind and soul.”

“So, microvita are the initial stage of matter. Microvita are the silver line between idea and matter, though they are closer to the realm of ideas than matter.”¹⁰

Here are two of P. R. Sarkar’s quotes about microvita forming atoms: 1) “A single microvita is insufficient to form one carbon atom, but when billions of microvita get solidified, a carbon atom is formed – generally or naturally of heterogeneous nature, and under special circumstances of homogeneous nature.” And 2) “Billions of microvita produce a single carbon atom. That is why it cannot be said that everything comes from carbon atoms. Rather, the carbon atoms come from microvita. Not only carbon atoms, but all other kinds of atoms are the creation of microvita.”¹¹

Here is what P.R. Sarkar says about microvita in relation to creating the universe and life: “Now, what is the root cause of this universe? Which is the starting point of life or vitality? These microvita are the carriers of life in different stars, planets and satellites – not carbon atoms or carbon molecules. These living creatures with their mysterious movement create minds and bodies, living bodies in different celestial bodies, and they also destroy minds and physical bodies, or developed or undeveloped corpora, in any corner of this universe. So the root cause of life is not the unicellular protozoa or unit protoplasmic cell, but this unit microvita.”⁸

A Proposed Experiment to Test the Microvita Hypothesis

A scientifically-controlled experiment to test P. R. Sarkar’s microvita hypothesis for the origin of DNA or RNA-containing viruses has been proposed¹² as follows (the appearance of

protozoic life could occur during a second stage of the experiment):

1. An amount of radioactive material is prepared and shielded so that no radiation from the radioactive material can penetrate this shielding. But microvita are presumed to be able to get through this shielding.
2. A sealed test tube is prepared containing sterile biochemical ingredients and chemical energy sources that could be used to construct DNA or RNA-containing viruses. Microvita from the radioactive source material are assumed to be able to enter this test tube.

Experimental Prediction: When the shielded radioactive material is brought near to the test tube, biochemical viruses will be newly formed in the test tube.

Experimental Control: When the shielded radioactive material is moved sufficiently away from the test tube, biological viruses will not be formed in the test tube. This would confirm that the source of the viruses is the radioactive material. This back-and-forth shifting of the radioactive material can be systematically repeated, with corresponding results.

Because positive results for the microvita experiment could have profound implications for our understanding of the nature of the universe and the origin of life, it is recommended that variations of the proposed experiment be carried out in several laboratories by qualified microbiologists and molecular biologists. The idea is that microvita from the radioactive source enter the test tube and start forming viruses from the chemicals present. There is a strong expectation based on the microvita hypothesis that DNA and RNA-carrying viruses will appear in the sterile chemical environments. The appearance of new viruses with different masses can be detected by mass spectroscopy applied systematically to the test tube contents. The proposed experiment has not yet been carried out. A confirmed positive result would be a major experimental outcome, having a rapid world-wide impact on biology as well as physics. A positive result, the creation of a DNA or RNA-containing virus from its chemical ingredients, would go far beyond current scientific expectations or understanding, although these results could be explained later by a developing microvita theory.

Implications of Positive Experimental Results

First, a positive experimental result would show that the coded information for the DNA and RNA in the viruses was related to previous radioactivity outside the test tube.

Logically, the DNA and RNA codes must have existed in the atoms of the radioactive material. Let us assume that it is microvita composing the atoms that carry these DNA and RNA codes and that some of those microvita were released during radioactive decays. These DNA and RNA codes must have been received by the atoms when the atoms were first formed from billions of microvita.

The first protons and neutrons (which later formed atoms) were formed in the first few seconds of the hot dense state of the Big Bang, which must have been composed of only microvita and energy (or microvita carrying energy) before the formation of the first physical particles. The DNA and RNA codes for these future viruses may have been created by a non-physical Cosmic Mind distinct from the created universe/Big Bang. These Cosmic-Mind-created codes for the viruses were then loaded onto microvita that produced the Big Bang during the universe’s formation. Later these DNA and RNA-code-carrying microvita formed protons and neutrons (and other physical particles) and finally atoms and molecules.

Is there another possible explanation, other than a Cosmic Mind, for the existence of specific DNA and RNA codings, following the Universal Genetic Code (UGC), to be built into radioactive atoms that produce viruses? According to present biological thinking, the UGC could not develop until much later in the history of the universe, during the development of the first DNA and protein molecules, which would have been long after the formation of atoms. Present biological thinking can’t explain the existence of the UGC or DNA and RNA existing in individual atoms. A Cosmic Mind would be needed to accomplish this feat of putting the UGC into individual atoms.

A Proposed 2-Stage Process for the Origin of Life with Microvita

A main theme of this article is that there is an experimental approach for the laboratory

generation of RNA- and DNA-carrying viruses that follow the UGC, based on the hypothesis of microvita. Such viruses would be generated within a sterile test tube of chemical ingredients for viruses. The source of these viruses would be microvita released from a shielded radioactive material near the test tube. Let us continue to assume that this experiment is successful in generated such test-tube viruses. Although viruses have much in common with living cells, the created test-tube viruses (like any other viruses) would not themselves be considered scientifically to be alive. Let us consider the stage of experimentally creating RNA and DNA-containing viruses in a test tube as Stage 1 in a 2-stage process of creation of living cells. Stage 2 would be the creation of actual living cells from these microvita-created viruses produced in Stage 1. In his discourses, P.R. Sarkar does not state explicitly how living cells are formed from viruses or from microvita. Other hypotheses for the origin of viruses and living cells via microvita can also be proposed and tested.

In summary, this proposed 2-stage process for the creation of living protozoa by microvita is based on 1) the first stage (creation of viruses) being achieved experimentally under controlled laboratory conditions and 2) on a second stage, the creation of living cells from the DNA and RNA-carrying viruses that are created in Stage 1. In Stage 2, the RNA and DNA have already been formed with the viruses of Stage 1. Stage 2 consists of combining these RNA and DNA containing viruses to form the first living protozoic cells. RNA can be converted into DNA by an enzyme called reverse transcriptase, which could also be constructed by microvita released by a radioactive atom.

Viruses are well-known to be able to share their DNA with other viruses as well as with protozoic cells and even metazoic cells. This kind of mutual transfer of DNA and RNA between microorganisms is called lateral or horizontal gene transfer. This research has been carried out by molecular biologists such as James Shapiro¹³. It needs to be studied in view of the proposed Phase 2 of the creation of living cells from previously created DNA and RNA-carrying viruses from generated from microvita. No new DNA or RNA is created in this horizontal genetic transfer process. RNA and DNA are only transferred from one virus or cell to another. Horizontal gene transfer among viruses, assisted

by microvita to organize groups of DNA or RNA-rich viruses into living cells, could be the way that the first living cells are created from viruses, in Phase 2.

So it is possible that the Stage 2 process of protozoic cell creation can proceed using the viruses created from microvita in Stage 1, using new DNA and RNA generated from nearby radioactive atoms giving off microvita-carrying coded DNA and RNA. Using horizontal DNA and RNA transfer between these newly created viruses, the first living cells could be formed from viruses whose DNA and RNA have been shuffled by horizontal genetic transfer.

Summary of the Roles of Microvita in Cosmic Evolution that would Be Inferred from a Positive Experimental Outcome

1. Microvita were created within the Cosmic Mind before the Cosmic Mind created the universe.
2. The Big Bang that formed our universe was itself formed by microvita injected by and from the Cosmic Mind.
3. Microvita formed the hot, dense state of the expanding Big Bang universe before the formation of the first particles (quarks, protons, neutrons, electrons, etc.) from microvita.
4. Atoms formed in the early universe or distributed by exploding supernovae, then spread their microvita-composed atoms (including radioactive atoms) throughout the expanding universe through continuing cosmic evolutionary processes.
5. Later, microvita that are released from radioactive atoms develop into DNA/RNA-carrying viruses in suitable chemical environments.
6. These primordial viruses formed the first living protozoic cells with the help of microvita designed for the purpose.
7. Living cells evolve into different species with inputs into cellular nuclei of other radioactivity/microvita-derived DNA or RNA-carrying viruses.

Conclusions about Abiogenesis and a Cosmic Mind, Inferable from a Positive Experimental Outcome

Let's continue to assume that there was a definite positive experimental outcome of the proposed

microvita/radioactivity experiment. DNA or RNA-containing viruses developed in the test tube containing sterile precursor chemical ingredients. The microvita hypothesis predicts this positive experimental result. What general conclusions about abiogenesis can be drawn from the experiment?

1. The origin of life is not abiogenetic ("proceeding from non-life") but biogenetic ("proceeding from life".) Abiogenesis is only the idea that life develops from non-life. There is no scientific proof of its reality or factuality. On the other hand, the creation of RNA and DNA viruses from microvita released by radioactive atoms could be taken as factual, if the proposed experiment has a positive result. Microvita composing atoms are living entities, so that life (or at least DNA or RNA-carrying viruses, which are closely associated with living cells and could develop into living cells) WOULD come from life, even if it appears to come from non-life, if the proposed experiment comes out positive. Stage 2, the stage of the creation of living cells from microvita-produced viruses, would be a step (involving microvita) beyond the creation of the viruses themselves, which are not considered to be alive.

2. The primordial DNA and RNA-containing viruses whose DNA and RNA sequences are carried by microvita, were generated by a Cosmic Mind that created the microvita. Billions of microvita formed individual atoms during and following the Big Bang. These atoms composed of microvita then spread their specific DNA and RNA sequences along with the UGC throughout the universe by normal cosmological processes. Finally, radioactive atoms release microvita to form viruses and then living cells in appropriate chemical environments.

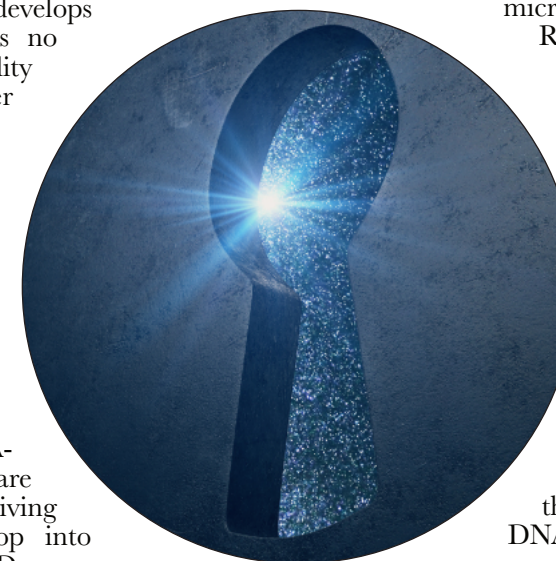
Putting the Cosmic Mind Back into Science

Tracing backward the path of microvita from their being released by radioactive atoms to form viruses, the path leads inexorably to a Cosmic Mind where these microvita were first designed and filled with DNA and RNA codes for creating future viruses and living beings in the universe.

The highly specific individual microvita-carried DNA and RNA codes all utilize the same UGC. This UGC is followed to convert sequences of DNA and RNA into sequences of amino acid composing the proteins that created billions and billions of different viruses and later many different protozoic cells in the universe. This could not possibly have happened by chance. There must have been a cosmic designer that could foresee how these DNA and RNA-coded microvita would form viruses and then living beings in the distant future. That cosmic designer was the Cosmic Mind. One scientific question for future

scientists will be "How did the Cosmic Mind design all those DNA and RNA codes carried by microvita into the physical universe during the Big Bang?" This brings the Cosmic Mind to the focal point of the scientific enterprise of the future, where new scientific answers may be found to the extent that human minds, made more subtle by physical/psychical/intuitional practices, are capable of making such discoveries. After all, if the microvita hypothesis proves correct, quantum theory and other theories of physics and chemistry are also works of the Cosmic Mind, as are all the expressed phenomena of the universe, which are various expressions of microvita and energy.

In the medieval period of Western civilization, natural philosophers believed and



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assumed that the natural world was the expression of God's activities in the world. They believed that studying the natural world was a way to study and understand God and God's laws. Later, God was gradually pushed out of the scientific picture as modern science developed and replaced natural philosophy. In physics, God was replaced by natural laws which presumably did not require anyone or anything to formulate them. Natural laws just ARE, and God was left out of the discussion as unneeded for doing science. Now a Cosmic Mind is squarely back in the scientific picture, because if the microvita hypothesis is correct, DNA/RNA-guided life like ours cannot be produced without a Cosmic Mind, acting outside the universe, to create from Cosmic-Mind-designed microvita our universe and the life that it contains, including ourselves.

Where Did the Cosmic Mind and the Universe Come From?

According to the yogic philosophical system Ananda Marga ("Path of Bliss") taught by P. R. Sarkar¹⁴, the non-created original entity that creates or evolves everything else is an infinite Supreme Consciousness. This infinite Supreme Consciousness has an infinite creative power to give qualities to its own Consciousness to create a Cosmic Mind within a portion of its Consciousness. This Cosmic Mind has awareness of its own existence and awareness of its doership or actional powers expressed in the subjective portion of the Cosmic Mind. The Cosmic Mind also has awareness of all its created mental objects that are contained in the objective portion of the Cosmic Mind (similar to the way a human mind has subjective and objective awareness of some of the mind's contents.) The physical universe is first created as a thought projection of the Cosmic Mind within the objective portion of the Cosmic Mind. Microvita carrying DNA and RNA code sequences are also created in the objective portion of the Cosmic Mind. These microvita are emanated into a Big Bang cosmic thought projection that is initiated within the objective portion of the Cosmic Mind. Within the Cosmic Mind, the Big Bang is composed of cosmic thought-waves that have the characteristics of the physical world, i.e. mental vibrations of etherial, aerial, luminous, liquid and solid physical factors of the universe. The Big Bang, while remaining within the Cosmic

Mind, emerges from a singularity point within the objective Cosmic Mind. The Big Bang creates physical space-time (existing as thought waves within the Cosmic Mind) as it expands from its singularity point to form the physical universe. The expanding Big Bang is composed of microvita produced in the Cosmic Mind for this purpose. These microvita later form atoms as the Big Bang expands and cools its matter/energy contents.

Summarizing, the eternally existing Supreme Consciousness creates Cosmic Mind, which creates microvita, which forms matter and with it the physical universe. Matter is therefore composed of microvita which are composed of ideas from Cosmic Mind such as particular DNA or RNA codes sequences for future genes. As atoms release microvita through radioactivity, the released microvita express as DNA and RNA-carrying viruses. In the proposed second phase, these viruses are organized by microvita to express both the physical and the mental qualities of protozoic cells that evolve from viruses evolving from microvita. So as the universe evolves, matter is transformed (via microvita) into living beings with undeveloped minds. Undeveloped bodies and minds of protozoa are transformed through further evolutionary processes over many lifetimes into developed bodies and minds. Also after a long evolutionary journey, human beings with developed human minds ultimately merge back into the Infinite Consciousness from which they were originally derived.

The Microvita Hypothesis Supports a Universal Cosmic Theism

Microvita hypothesis is theistic because microvita are formed in a Cosmic Mind that is the creation of an Infinite Consciousness which can also be called God (where God is defined as the super-intelligent creator of the universe and all life in it.) Microvita are then are injected into the physical world during the Big Bang (or another universe-creating process if the Big Bang theory turns out not to be correct) to form atoms and to spread life in the universe. The existence of microvita as scientific entities (having measurable quantitative and qualitative differences) would require that a Cosmic Mind be introduced into science as the source of these superintelligently-conceived microvita. The infinite Supreme

Consciousness with a Cosmic Mind controls and evolves the universe rationally and systematically in a style which can be called nature. This is nothing like a human-conceived miracle-working God that blocks scientific thinking and intellectual progress by supposedly providing miraculous solutions to difficult scientific problems as a God-of-the-Gaps. Rather, the concept of a Supreme Consciousness utilizing its Cosmic Mind to create microvita that spread the diversity of life and minds in the universe as expressions of infinite love, knowledge and creative potential should stimulate new expressions of rational, non-dogmatic and intuitional expansion of human intellect and greater understanding of Consciousness, the universe and ourselves. In the future, a scientifically-based Cosmic Theism grounded in Universal Consciousness could result from successful microvita research.

Conclusion – The Next Steps

After many years of research, the roles of viruses in life processes including evolution are still coming to be better understood. One pioneering virologist, Luis P. Villarreal summarized his view of viruses: "Viruses are the unending front of evolution. We need to give them that descriptor officially, as opposed to just treating viruses as some transient mutational phenomenon. They continue to shape the trajectory of life on the planet, including that of humans. Yet it's never admitted that this is the front of biological evolution and that it affects human survival."¹⁵

The new concept of microvita may help clarify both the origin and role of viruses in the evolution of life. P.R. Sarkar declared in his first discourse on microvita in 1986, "Now, there should be extensive research work regarding this microvita or these microvita. Our task is gigantic and we are to start our research work regarding these microvita immediately without any further delay, otherwise many problems in modern society will not be solved in a nice way."⁸ The present article, introducing the concept of microvita in an experimental context, may help to stimulate a practical reconceptualization of the origin of life and the universe and may help to advance microvita research a few steps, perhaps with the support of the readers of this article.

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