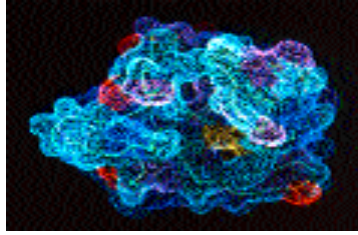


The Revealing Science of God



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By Harry Braun

Science and religion both seek to provide an explanation as to how things got to be as they are. Both approaches seek to answer the most basic questions of who, or what, created us and why? Biblical Scripture indicates a Creationist view whereby human beings and other plants and animals were created in a matter of days by a human-like God approximately six thousand years ago. Scientists have revealed a very different explanation of the origin of the universe that begins with the Big Bang, which occurred roughly 14 billion years ago.

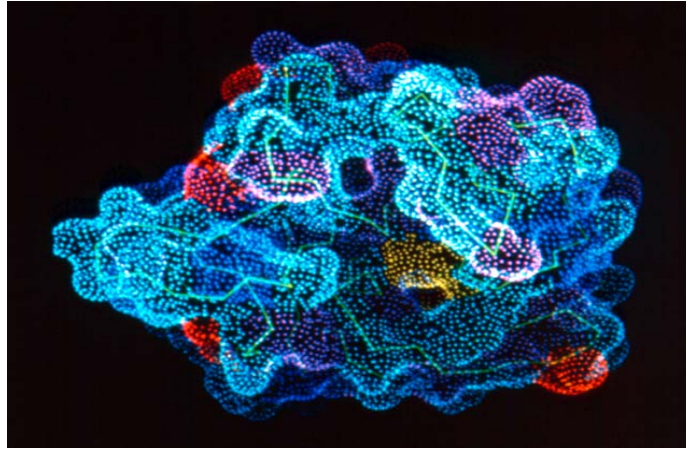
While no one in the peer-review scientific community has yet proven exactly how living organisms evolved out of non-living matter, it is proven is that the original life forms were not human beings or plants, but protein-scale "nanobes" that are the key elements of all life and metabolism. It was the nanobes that evolved and created the microbes, and eventually, each and every human being. As such, they are indeed our biological creators. *This is not a theory.* It is a fundamental understanding of biochemistry that all mammals (including humans) as well as all bacteria and viruses have nanobial-scale proteins at the heart of their molecular structure and metabolism. There are no exceptions.

Clay



The crust of the Earth is rock, but as it breaks down into smaller fragments and particles it evolves into soil, sand, silt and clay. Clays are the smallest and finest of the mineral particles, and they are typically made up of silicate crystals that can take the shape of well-formed hexagonal structures that are the basis of biological molecules. Such crystals could have served as the template upon which the biological molecules could form their similar hexagonal structures. Graham Cairns-Smith of Scotland's University of Glasgow suggests that clays are "proto-organisms" that could have served as the pattern for living systems. He notes that metals in clay lattices can form complexes with the precursors of proteins and DNA. These lattices provide the molecular structure that is necessary to store the energy needed to catalyze chemical reactions, and most importantly, to reproduce. In a paper titled "Clay" published in the April 1979 issue of *Scientific American*, Georges Millot, who is a member of the French Academy of Sciences and professor of geology at the Universite Louis Pasteur in Strasbourg, also confirms the unique electrochemical properties and geometric structure of clay. Millot believes these specialized properties may have played an important part in allowing amino acids to evolve into the long peptide chains that make up one of the key biological structures: *the proteins*.

Our Biological Creators



*A supercomputer image of a protein-scale nanobe.
Provided courtesy of Scripps Molecular Biology Laboratory*

It is now well established that protein molecules are indeed the building blocks of life. Depending upon their configuration, proteins can become the structural material from which living tissue is made; they can become the hormones that regulate all chemical behavior in the body; or they can become the all-important enzymes that are critical to life -- because they mediate virtually all of the biochemical reactions in living organisms. Proteins store our memories, and they represent a critical link in the origin of life. Indeed, the nanobes are the critical link in the origin of life; they are the "spirit" and "soul" of every living organism because they stand at the threshold of life where chemistry becomes biology. They are the master engineers that created and operate the brain and nervous system of human beings, as well as every other animal who has ever lived, from the first marine organisms to the dinosaurs. It is why in a biological sense, they are indeed our creators.

Microscopes have revealed a microbial universe within living cells that ultimately provides a pathway to the protein-scale nanobial world. This is because it has now been well established that virtually all of the biochemical reactions necessary for life could not take place without the nanobial enzymes who manage and maintain the molecular machines of life. Even the DNA code, in all its complexity, is a four digit computer code that contains the precise instructions to manufacture the wide-range of nanobial proteins and/or enzymes that are an essential prerequisite for metabolism. Indeed, the DNA is not able to function as a biocomputer without its nanobial operators.

Origins of Life

Jesus Christ and other prophets of the day had no concept of the microbial or nanobial world. Electron microscopes and Scanning Tunneling "nanoscopes" would not be invented until the 20th Century. Even when microbes were observed with microscopes in the 17th Century, they were considered mindless little "bugs" who just happened to be everywhere there was life. Nanobes were first observed in the 1830s, but little was known about their evolution prior to the 1970s. This was because the surface imprints of microbial or nanobial fossils provided virtually no information about their origin or their internal molecular structure.

While no one knows exactly how life first evolved on the Earth, it is now clear that life did not begin with a fully formed human being, or even bacteria or other microbes. Rather, life began on the earth when amino acid molecules formed into proteins or "nanobes," which are the critical building blocks of all living organisms. Evolution, which simply means change, is an observable fact (i.e., each offspring has a unique genetic combination of its parents and is therefore different from both). However, how life originated is still very much a matter of speculation.

The traditional scientific theory of how life began holds that amino acids were synthesized as a result of having the primordial elements of hydrogen, carbon, oxygen and nitrogen "cooked" by solar energy for roughly 500 million years. The clay theory provides a potentially significant insight into how such organic molecules may have initially evolved on the primitive Earth. Indeed, because clays have the capability to store energy (in the form of energized electrons) for later use in chemical reactions, Lelia Coyne, one of the senior scientists at NASA's Ames Research Center in California, believes that clay particles may have served as the necessary template and/or catalyst for the evolution of living molecules.

In the case of every living organism on the Earth, the "Creator" is a vast and ancient molecular organism that is more than 4 billion years old. This entity may still be alive and well because it and its descendants have engineered and mass-produced every living organism since that time, from the smallest virus to the human brain and nervous system, which is perhaps the most complex structure in the universe. Given their astonishing array of activities, the earth's nanobial "founding fathers" appear to be a highly advanced civilization that started with a single, original protein (Adam?), which figured out how to utilize ribonucleic acids (RNA) to reproduce itself (thereby producing a kind of Eve). Along the way, there were many opportunities for experimental changes that have eventually resulted in the current generation of humans, which are the latest modifications in a multi-billion year old nanobial assembly line. One thing is now clear, the nanobes are indeed our biological creators, and they could certainly be viewed as the "spirit" or "life force" of every living organism.

Intelligent Design

Those who believe that evolution is only a theory or that intelligent design is contrary to the scientific understanding of evolution are both wrong. Evolution was only a theory when it was first proposed by Charles Darwin in 1859, but it is now a well established scientific fact. Evolution simply means change, and it occurs every time a baby is born with a unique set of DNA instructions from each of its parents, and is therefore different. However, the origin of life is still a theory, it is certainly reasonable for people to believe that the structure of the human eye or brain is far too complex a system to have been created by random chance. A watch does indeed imply a watchmaker. These observations are the central theme behind a revised and highly controversial Creationist viewpoint referred to as "intelligent design." Ultimately, the Creationists argue, God created life. Nevertheless, that does not answer the more fundamental question: *Who – or what is God?*

Prophets like Moses, Jesus and Muhammad lived at a time when there was no knowledge of microbes or nanobes, so they had to do the best they could with the information they had at the time to explain how life began and what happens after a person, or other animal dies. While the Scriptures in Bible obviously make no references to molecular biology, there is a remarkable similarity in original Aramaic manuscripts found in the archives of the Vatican, referred to as *The Essene Gospel of Peace*. The Essenes were an ancient Jewish sect that could read and write, and translations are now available on the internet, which quote Jesus as referring to "angles" in the air, water and food that are critical to healing and health.

Molecular Biology

In a landmark paper, *Archaeobacteria*, published in *Scientific American* in June of 1981 by a highly distinguished microbiology professor, Carl R. Woese, who pointed out that molecular biologists were no longer just limited to the limited geologic fossil record. By carefully analyzing the amino acid sequences within a cell's proteins and the nucleotide sequences of its nucleic acids (i.e., DNA and RNA), it is now possible to provide a remarkably accurate picture of any organism's genetic and molecular origin. This record provides far more information than geologic fossils ever could because it gives a detailed picture of the evolution of the internal molecular structures, with no "missing links." This living molecular record reaches back to a time long before the oldest fossils, *to a period when a common ancestor of all life existed.*

Professor Woese received the National Medal of Science because his work helped to change the way life is classified on the earth. Woese joined the University of Illinois faculty in 1964, after nine years in research positions at Yale University, where he received his undergraduate degree, General Electric Research Laboratory and the Pasteur Institute in Paris.

In 1977, in collaboration with microbiologist Ralph S. Wolfe, professor Woese overturned one of the major assumptions of biology. Up until that time, all life on earth was classified to one of two primary lineages, the eukaryotes (animals, plants, fungi and certain unicellular organisms) and the prokaryotes (all of the remaining microscopic organisms). That long-accepted view was changed when Woese characterized the archaea, which are microorganisms that live in extreme environments without oxygen. These are the conditions thought to be reminiscent of the earth's early environment. Given these insights, Woese was subsequently elected into the National Academy of Sciences in 1988, and in 1992, he won microbiology's highest honor, the Leeuwenhoek Medal, given each decade by the Dutch Royal Academy of Science in the name of Antonie van Leeuwenhoek, the inventor of the microscope who discovered of the microbial world.

A Global Superorganism

While nanobes and microbes seem to be capable of acquiring, as well as storing, information in their molecular-scale nervous systems, it is not just the individual microbial or nanobial mind that is significant – but the potential collective effect of all of the earth's trillions of nanobes that interact in virtually every metabolic activity of living organisms. Thus, all of the nanobes on the earth may collectively make up a "Superorganism," with a global awareness.

The view of a microbial Superorganism was first advanced in 1789 by the Scottish scientist, James Hutton, who formally introduced the idea at a meeting of the Royal Society of Edinburgh. Since that time, many scientists have elaborated on Hutton's microbial Superorganism theory, and suggested that the countless trillions of microbes that make up a Superorganism on the earth all originated from a common ancestor some 4 billion years ago.

However, given the more recent understandings in molecular biology, it is increasingly clear that the essence of the Superorganism resides with the nanobes, who in turn build and operate the microbes. If this is the case, it means there was an original nanobe who figured out how to manufacture copies of itself, and thereby achieve a kind of biochemical immortality. This insight suggests that the original nanobe is, in effect, still alive, and it has grown into a global organism that has trillions of individual nanobial components. It is also apparent that this global organism is integrated into each and every living cell and organism. There is still much to learn, but the revealing science of God is well underway.

The Soul

When people examined the human body in ancient times, they could easily identify major organs that they could see with their eyes, but they could never find the "Spirit" or "Soul" that was generally regarded as the ultimate "life force" within living organisms. In fact, it was the molecular-scale (and therefore invisible) nanobes and the microbes they created that were the "spirits" that could bring good health or disease or death. In medieval Europe, the Black Death was thought to be an "act of God," but it is now known that it was an act of the microbes or more fundamentally, the nanobes. Given the remarkable scientific understanding of the molecular world, which has only been revealed in the past few decades, it is now clear that the nanobial proteins are indeed the essential molecules of life. Without these remarkably complex molecules, critical biological functions of memory and metabolism simply cannot take place.

The Bible

What is interesting about this nanobial explanation, is that it essentially agrees with many of the intelligent design assumptions, but not a literal interpretation of the Bible. However, with a more tolerant interpretation of the Bible, there are some remarkable insights. For example, the Bible states that God created Adam out of the earth.

Modern science clearly disregards this possibility that a fully-evolved human being was suddenly brought to life from soil or any other means, because all of the available evidence points to the fact that molecular-scale organisms first evolved, which then gave way to microbes, and then the more complex organisms of plants and animals. Nevertheless, as documented in this paper, investigators at NASA have used electron microscopes to observe that clay particles may have indeed played a critical role in acting as a molecular template for the architectural structure of the original protein molecules. Given the insight that the nanobial proteins are our biological creators, it is indeed accurate to say that humans are “made in the image of God,” because if one examines the human skin or other tissue on a molecular scale, one would clearly see the three-dimensional structure of the nanobes.

Nanobes are not simple little creatures. They are so complex that the most advanced supercomputer ever conceived, called Blue Gene, is now in the process of being developed by IBM to accurately characterize their three-dimensional folding structure and behavior. Within 5 to 10 years, this new generation of supercomputers will usher in an age of nanotechnology, which will allow individual atoms to be engineered, which will profoundly alter the nature of life as we know it.

That leads to the ultimate question: *Where is all of this leading?*

Molecular Medicine

This generation stands at the threshold of unprecedented developments in science, medicine and technology. Moreover, given the exponential explosion of knowledge in the areas of science in general, and molecular biology and computer science in particular; the stunning rate of progress in biotechnology and nanotechnology is rapidly accelerating. As a result, more will be learned in the next ten years of medical science than has been learned from the beginning of time until now.

Research professors, graduate students and investigators at private companies worldwide are working intensively to take advantage of the information provided by the Human Genome Project, and the final new biological frontier, Proteomics, which is the rapidly evolving science of understanding, characterizing and engineering the architecture of proteins. It is why medical researchers are on the threshold of an era of molecular medicine that will make a biological transition to renewable resources inevitable, assuming civilization is not lost due the climate change-induced chaos that will result from the failure of major agricultural food production systems due to droughts, floods and soil erosion.

This is no small consideration. In the past, roughly half of the food consumed came from the oceans, but the most recent scientific studies published in *Nature* (May 15, 2003) have documented that the global ocean ecosystems are now more than 90 percent dead from a combination of pollution and unregulated destructive fishing practices, and the remaining marine organisms are rapidly being driven into extinction. For a more detailed analysis of this problem, refer to the “Ocean Ecosystem Destruction” paper that is posted on the PhoenixProjectFoundation.US website. These remarkable developments underscore the extraordinary irony of the Exponential Age in which we live, whereby both utopia and oblivion are evolving exponentially and simultaneously. Assuming “oblivion” is defined as the destruction of the earth’s primary ecosystems and agricultural life-support systems, then “utopia” could be defined as humanity having made a successful transition to renewable energy and biological resources.

Designer Genes: From Here to Eternity

The ability to understand and change the genetic and amino acid codes that make up the molecules of life will surely be one of the most significant developments in human history, if not in the history of life itself. Research into the molecules of life is already having a profound global impact on medicine and medical research. Investigators are currently focused on repairing or replacing defective genes that cause disease. But in the not too distant future, protein-scale “biochips” will be able to engineer “designer genes” that will not only allow individuals to eliminate their biological mechanisms of aging and disease, but they will be able to select their molecular structure at will with atomic (i.e., atom by atom) precision.

Thus, regardless of what genes they inherited, it will be possible for individuals to choose their physical characteristics, such as hair color, physical size, sex, or species. And if they don’t like any aspect of their molecular structure, they will be able to change it at will, just as easily as we now change text in a document on our computers, and then save the changes. We are, in fact, witnessing the evolution of a new species: *Homo Immortalis*, which will be the ultimate result of the biocybernetic integration and evolution of computers, robotics, and molecular biology.

Homo Immortalis

Nanotechnology, which the nanobots have mastered over the past 4 billion years, will result in the development of protein-scale “biochips” that will direct “designer genes” to eliminate defective genes and the molecules that cause aging and disease. With an unlimited lifespan, Homo Sapiens will have evolved into a new species: *Homo Immortalis*. It is hard to imagine a more insightful and enlightened definition of utopia, and remarkable transformation is inevitable unless civilization is destroyed from an oblivion scenario of climate changed-induced mass-starvation and extinction. This underscores why an industrial “transition of substance” from fossil and nuclear fuels to a solar hydrogen economy needs to be undertaken with wartime-speed. Ultimately, the passengers aboard *Spaceship Earth* are like the passengers aboard the *Titanic*, and as such, there is only a limited amount of time left to “change course.”

About the Author

Harry Braun is author of *The Phoenix Project*, which traces the evolution of hydrogen in the universe, and discussed the issues of science and God in the Chapter 8 titled: From Here to Eternity. Harry has worked as an energy and environmental analyst for the past 30 years, and is the Chairman & CEO of Sustainable Partners International (SPI), a systems integration firm that is involved in hydrogen research and wind energy projects. Harry is also the Chairman of the Phoenix Project Foundation and the Phoenix Project Political Action Committee. For the past 20 years, he has been a member of Alcor Life Extension Foundation (alcor.org), a non-profit cryobiology laboratory that freezes and cares for people when they die in the hope that they can be regenerated in the future into a biocybernetic “designer gene” era. For a more detailed discussion of this molecular evolution, refer to Chapters 4 (*Hydrogen*) and 8 (*Utopia: From Here to Eternity*) of *The Phoenix Project*, which was published in 2000 by SPI.



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