

MIND AND MATTER

(Compiled of articles from *The Mystic's Vision* by Swami Abhayananda.
Arranged and published 8-2-2018; last revised 4-9-20)

Idealism And Materialism

These days, one doesn't often hear the terms, *Idealism* or *Materialism* bandied about, but these two traditionally opposing philosophical worldviews were once topics of heated concern. These two starkly differing views of the nature of reality have been at odds with each other for twenty-five centuries beginning with Pythagorus, Xenophanes, Anaxagorus and Socrates on the idealist side, and Thales, Leucippus, and Democritus on the materialist side. For centuries, idealists held that *Mind* is the primary reality of which matter is an evolute; materialists held that *Matter* is the primary reality of which mind is an evolute. Science gathered its forces solidly on the materialist side, while the spiritual philosophers and Mystics stood squarely on the side of idealism. Every mystic who ever lived has declared the idealistic viewpoint, stating that the ultimate reality underlying all phenomena is unquestionably noumenal; i.e., a transcendent Mind. There are no materialists among mystics.

Idealism suggests that the universe is of the nature of an *idea*; that its substance is *thought*—the thought of the one eternal Mind. Mysticism, therefore, is an idealist point of view which also asserts the possibility of the *direct* apperception of the ultimate reality in a rare, profound, and purely introspective experience, wherein an intimate knowledge of the noumenal Source and the nature of the universe and human existence is acquired. This “mystical experience”, say those who have known it, reveals the formless noumenal Source, the groundless Ground of all physical and mental phenomena, which is seen to constitute everyone's original and eternal identity. Such an experience seems to have been first spoken of in the West in ancient Greece among the populace taking part in the “mystery religions” such as the Eleusinian and Orphic mysteries (whence mysticism gets its name); and later formed the basis of the philosophical position of such seers as Socrates and his lineage of disciples, Plato, Philo Judaeus, and Plotinus. In the East, mysticism made its appearance in the writings of Lao Tze, the Upanishads, and the early Buddhist texts, and later in the Middle East with

the teachings of Hermeticism, and the rise of Christianity and Gnosticism, all of whose central figures claimed an intimate, mystical knowledge of the noumenal Source.

The materialism of the early Greeks, such as Leucippus and Democritus, on the other hand, tended to regard all of reality as consisting of small indestructible particulate entities, called *atoms*, which aggregated together to form all the varied shapes and individual beings that are perceived through the senses. While materialistic science may be said to have originated with the early Greek philosophers cited above, it had to struggle in the West for many centuries against the strictures of religious doctrine, and only began its cultural ascendancy in the West from the sixteenth century onward, influenced by such philosophers as Francis Bacon, Thomas Hobbes, John Locke, David Hume, and Immanuel Kant, and the works and accomplishments of scientists such as Galileo, Isaac Newton, and Johannes Kepler. By the twentieth century, the empirical method, associated with the materialistic viewpoint, had become synonymous with science. From that time forward an emergent ‘scientism’ became the established ‘religion’ of our Western civilization. And, while there were always a few maverick idealists among the ranks of scientists, the vocal majority utterly rejected the slightest hint of mysticism or idealism, confirming their faith in a solely material reality, and held as firm doctrine that the universe came into being and is sustained through “natural,” that is to say, purely material, processes.

Today, however, our understanding has changed; the materialism of the ancients no longer has a role in the modern world. The philosophical position of materialism was once regarded as diametrically opposed to the position of idealism, but today, we have come so far in revising our understanding of the nature and substance of Matter that the positions of materialism and idealism no longer seem so distant from one another. In the 1930’s, as developments in the newly formulated Quantum theory began to reveal some of the more unexpected aspects of Matter, one scientist, by the name of James Jeans, foresaw the coming changes that these developments in physics would bring to our philosophical views, and, understanding that the distinction between materialism and idealism was rapidly diminishing, he wrote in his book, *Physics And Philosophy*, the following:

“A ...revolution has occurred in physics in recent years. Its consequences extend far beyond physics, and in particular they affect our general view of the world in which our lives are cast. In a word, they affect philosophy. The

philosophy of any period is always largely interwoven with the science of the period, so that any fundamental change in science must produce reactions in philosophy. This is especially so in the present case, where the changes in physics itself are of a distinctly philosophical hue; a direct questioning of nature by experiment has shown the philosophical background hitherto assumed by physics to have been faulty. The necessary emendations have naturally affected the scientific basis of philosophy and, through it, our approach to the philosophical problems of everyday life. Are we, for instance, automata or are we free agents capable of influencing the course of events by our volitions? Is the world material or mental in its ultimate nature? Or is it both? If so, is matter or mind the more fundamental? Is mind a creation of matter or matter a creation of mind? Is the world we perceive in space and time the world of ultimate reality, or is it only a curtain veiling a deeper reality beyond? ¹

And in his book, *The Mysterious Universe*, Jeans suggested that recent scientific discoveries show that:

the stream of knowledge is heading toward a non-mechanical reality. *The universe begins to look more like a great thought than like a great machine.* Mind no longer appears as an accidental intruder into the realm of matter; we are beginning to suspect that we ought rather to hail it as *the creator and governor of the realm of matter*— not of course our individual minds, but the Mind in which the atoms (out of which our individual minds have grown) exist as thoughts.” ²

And in his lecture to the British Association for the Advancement of Science in 1934, entitled, “The New World Picture of Modern Science”: he said:

The new physics obviously carries many philosophical implications, but these are not easy to describe in words. They cannot be summed up in the crisp, snappy. sentences beloved of scientific journalism, such as that materialism is dead, or, that matter is no more. The situation is rather that both materialism and matter need to be redefined in the light of our new knowledge. When this has been done, the materialist must decide for himself whether the only kind of materialism which science now permits can be suitably labeled materialism, and whether what remains of matter should be labeled as matter or as something else; it is mainly a question of terminology.

“What remains is in any case very different from the full-blooded matter and the forbidding materialism of the Victorian scientist. His objective and material universe is proved to consist of little more than constructs of our own minds. To this extent, then, modern physics has moved in the direction of philosophic idealism. Mind and matter, if not proved to be of similar nature, are at least found to be ingredients of one single system. There is no longer room for the kind of dualism which has haunted philosophy since the days of Descartes. ³

What then is Matter? We can easily state what it is not: it is *not* a phenomenal substance made of solid indestructible particles; we know that! But it not so easy to say what it *is*. ‘Mind’, ‘Matter’, ‘Energy’, ‘Space’—these are names we have given to certain elements of this transforming panorama of mental and physical perceptions in which we find ourselves; but it is no longer possible to say where one begins and the other ends, for it now appears that there is but one indivisible reality—“one system”, as Sir James Jeans describes it—of which Mind and Matter are both ingredients. Scientists today don’t know what to call it, and simply refer to it as “the universal continuum”. Those of a mystic bent do not hesitate to call it “God”, and to say, “We live in God. He is the only one, and He contains everything. He is alive and consciously awake, and everything moves and acts in unison with His will.”

“Matter”, it turns out, is a misnomer; there is only the one indivisible system, or God—appearing as distinct objects, as quanta, as scientists, as their laboratories, as distant stars, as bursts of celestial light. There is nothing that is not God. He is both Mind and the apparent objects of the world that we once thought of as Matter. Your body too is God; but more importantly, He is the very Consciousness that is aware *as* you! And it is that very awareness that is capable of directly experiencing through His illuminating Grace the clear and amazing truth that all this is God!

The question we now have to ask is: ‘If Matter and Mind are in fact indistinguishable ingredients in one indivisible system, then how does materialism differ from idealism?’ The long-held belief in the opposition of these two positions now appears to have been nothing but a long-held misunderstanding of the nature of Matter. The two positions, if not yet in total agreement, are at least no longer in clear opposition! But does this mean that, since materialism and idealism now seem to be compatible, science and mysticism are therefore also reconcilable?

No. Science and Mysticism are two very narrowly defined and mutually exclusive categories of knowledge. Science deals in tangibly objective sense data and does not comfortably extend to less tangible subjective mental states. The very definition of science limits its focus to only that which may be empirically verified. And that requirement assures that science will probably always tend to have a phenomenal bias and will grant little credence to noumena experienced in a subjective and unverifiable state of awareness.

Science and Mysticism represent knowledge obtained through two radically different methodologies: they can come up with common results, and, although unlikely, can agree on their implications; but they will always remain divergent methods of knowledge-gathering. Science represents the ordering of *external* observations of phenomena perceived by the senses in the normal waking state; mysticism represents the *internal* observation of noumena intuitively perceived by the mind in a highly extraordinary, but well documented, contemplative state. They are really two different *kinds* of knowledge, referred to as *science* and *gnosis*. *Science* is from the Latin *scientia* (knowledge), derived from *scire* (to know), and usually denotes the organization of objectively verifiable sense experience; *Gnosis* is a Greek word, also meaning knowledge, but denoting an inwardly “revealed” knowledge unavailable to empirical science.

The difficulty is that advocates of phenomenally based science not only refuse to acknowledge the validity and relevance of *gnosis*, but do not even recognize the possibility of its existence. Today, science is still so steeped in the antiquated materialistic perspective (based on a false understanding of what ‘matter’ is) that scientists and, through their influence, “educated” members of the public, routinely regard all those who hold to an idealistic view as unfortunate misguided members of the superstitious, ignorant and uneducated masses. Those who are labeled as *mystics* are held in especial disdain and are the subjects of frequent ridicule in our materialist-oriented culture. In the twentieth and twenty-first centuries, colleges and universities around the nation have been instilling this arrogant prejudice in the youth who flock to them for their one-sided technological educations. One has to wonder if we are not due at this time in our history for a return of the cultural pendulum to a fresh idealism, one that is informed by both science *and* gnosis.

It seems to me that we are now at a crucial period in our cultural history when the valid findings of Science need to be balanced with the equally valid findings of Gnosis. The two must be acknowledged as correctives to one another, as coequals in the endeavor to accumulate meaningful and relevant knowledge of our world and the nature of our own existence. It is necessary to make a real attempt to come to terms with these two very different ways of knowing, to bring clarity to the present differences between the worldview which each promulgates, to point out the areas of possible rapprochement, and perhaps light the way to a universally shared recognition of Science and Gnosis as *complementary* aspects of a comprehensive knowledge in a greatly expanded vision of the vast potentialities of human experience.

NOTES:

1. Sir James Jeans, *Physics And Philosophy*, Cambridge University Press, 1942; a full reprint of this book may be found at:
http://www-history.mcs.st-and.ac.uk/history/Extras/Jeans_Part_I.html
2. Sir James Jeans, *The Mysterious Universe*, New York, Macmillan Co., 1931, pp. 83-84.
3. Sir James Jeans, from his address to the British Association for the Advancement of Science, entitled, *The New World Picture of Modern Science*. A transcript of this talk may be found at:
http://www-history.mcs.st-andrews.ac.uk/BA_1934_J2.html

Where Consciousness Comes From

For a long time now, the emphasis in physics on empirical knowledge of physical reality in general and of subatomic matter in particular tended to diminish attention to the existence of non-material, non-objective aspects of reality, to the extent that such subjective realities as mind, thought, and consciousness were scarcely regarded as existing at all. Today, however, these subjective realities are not only acknowledged but studied and researched as valid subjects of interest. And since consciousness appears to be integrally related to thought or mind, various branches of science have focused on discovering the origin of consciousness. At first glance, the circumstantial evidence for the appearance of consciousness in simple life-forms would seem to imply the existence of consciousness going back to the earliest Paleolithic times, at least. However, some contemporary

neurobiologists have reached the conclusion that consciousness only came into existence with the advanced evolution of biological forms and is a product (an epiphenomenon) of complex neural activity in the brain; and that, being a manifestation of a material process, consciousness itself is nothing more than a *material* phenomenon.

There are others, however, who assert the primacy of Consciousness as the source and substance of the universal creative energy of which the entire universe of matter (including brains) is constituted. The strong inferential evidence of an intelligent source for the origin of the cosmos would seem to imply that an eternal Consciousness prefigured even the Big Bang. This position goes back thousands of years and is reflected in the various religious views of the origin of the cosmos by a conscious Creator, and in the Platonist philosophical tradition as well. That position was later reiterated in the philosophical view of René Descartes (1596-1650), who asserted that mind (spirit) and matter were two separate *kinds* of existents comprising man—both emanating from God (the divine Mind), but with differing characteristics. This was the basis of the well-known philosophy of Cartesian dualism, which holds that these two categories are inviolably separate and distinct entities: one, the Divine uncreated part of man (the mind or spirit); the other, the divinely created form-manifesting part (the body). Though this philosophy offered no essential modification to earlier Platonist thought, it was the product of a careful rational introspection that proved appealing and persuasive to many of its time.

The overwhelming scientific materialism of the nineteenth century found no place, however, for the *soul*, and presumed to repair the conceptual mind-body split with the belief that all that exists is solely material, including mind; and that such a thing as ‘spirit’ or ‘soul’ does not exist. This seems still to be the position of contemporary materialist science. The scientific thesis (though rarely formally expressed) continues to be that there is no God, no soul, and that mind and consciousness are merely manifestations of the material activities of neurons and synapses in the brain.

In describing the origin of the cosmos, today’s materialist scientists start with the assumption of the *a priori* existence of a material object called a ‘singularity’, in which an infinitely dense mass of plasmic energy became somehow crammed into an infinitesimally minute speck of potentiality. Then, due to some random quantum fluctuations, that mass burst its bounds, exploding outwardly to become the expanding universe of space, time,

matter and invisible forces. This is the theoretical picture that current science paints. Scientists of a materialist bent do not even question what produced this singularity, i.e., why there is something rather than nothing, and how it happened to be. Furthermore, these materialistically inclined scientists are placed by this theory in the uncomfortable position of being required to explain how conscious life emerged or evolved from the cooled remains of this boiling soup of inanimate primal plasmic mass/energy.

Today, in the early part of this twenty-first century, despite the implausibility of their theory of the origin of the universe, scientists—Physicists, Cosmologists, and Neurophysicists—are busily pursuing the assumption that consciousness somehow arose a few million years ago as an ‘epiphenomenon’ of the self-organizing activity of brain cells and neurons; i.e., consciousness just popped out of biological tissue by some as yet unknown process of spontaneous manifestation, and is basically a phenomenon arising from the neurological activity of biological matter. Here is a statement of that theory by John Searle, a well-known contemporary professor of philosophy, who states that

Consciousness is a biological feature of the human and certain animal brains. It is caused by neurological processes and is as much a part of the natural biological order as any other biological feature. ¹

Others, more cautious, say merely that:

Consciousness indubitably exists, and it is connected to the brain in some intelligible way, but the nature of this connection necessarily eludes us. ²

Another says:

I doubt we will ever be able to show that consciousness is a logically necessary accompaniment to any material process, however complex. The most that we can ever hope to show is that, empirically, processes of a certain kind and complexity appear to have it. ³

Nonetheless, over the years leading up to the present, little progress has been made in the attempt to formulate a detailed and satisfactory theory of the material origin of consciousness. In the beginning of a recent book of

memoirs (2006) by Nobel prize-winning Neurobiologist, Erich Kandel, a hopeful and promising picture of future progress is offered:

The new biology of mind ...posits that consciousness is a biological process that will eventually be explained in terms of molecular signaling pathways used by interacting populations of nerve cells. ... The new science of mind attempts to penetrate the mystery of consciousness, including the ultimate mystery: how each person's brain creates the consciousness of a unique self and the sense of free will. ⁴

But then, in the latter part of the book, he admits that:

Understanding Consciousness is by far the most challenging task confronting science. ...Some scientists and philosophers of mind continue to find consciousness so inscrutable that they fear it can never be explained in physical terms. ⁵

What we do *not* understand is 'the hard problem' of consciousness—the mystery of how neural activity gives rise to subjective experience. ⁶

...Biological science can readily explain how the properties of a particular type of matter arise from the objective properties of the molecules of which it is made. What science lacks are rules for explaining how *subjective* properties (consciousness) arise from the properties of objects (interconnected nerve cells). ⁷

As I have stated repeatedly in the past, this search of materialistic science is a misguided one, and can only lead to a dead end; for in order to understand how consciousness arises in biological forms one must put first things first: consciousness does not inexplicably arise from neural activity in the brain; Consciousness is the intrinsic nature of the Divine Mind in which this universe exists, and that very Consciousness is implicit in the entire universal manifestation, being all-pervasive, and therefore naturally becoming evident in the evolutionary development of earth's biosphere. Once we understand that all forms in the universe are manifestations of the one universal Consciousness, we will then be able to better understand our own nature and understand our intimate relationship to the Consciousness of the universal Mind. The acknowledgement of the universality and divinity of our own conscious Self will eventually require a radical transformation in

the thinking of all men and women of science which, though it may take centuries in which to unfold, will usher in a truly golden era of Enlightenment.

Today, we look back on the contemporaries of Copernicus with the advantage of hindsight and wonder how the intelligentsia of that time could possibly have failed to perceive that the earth travels about the sun, and not vice versa. Once the truth is known, the errors of the past seem so obviously unsupportable. Once the light shines, the preceding darkness is clearly recognized. One day, when it is readily recognized and acknowledged that the world of space, time, matter and energy arise from the Divine Consciousness, men will wonder how it could possibly be that once seemingly intelligent people thought that consciousness was an epiphenomenal product of biological matter.

It must one day be universally understood that Consciousness is the primary, the original, reality—beyond time and space, and all manifestation; It is the eternal Ground and Identity of all that exists. It transcends the universe, while constituting its essence—as a dreaming mind transcends its dream-images, while constituting their essence. Consciousness is not contained within matter, nor is it the property of any individual being. It is not produced by any material process; but rather is the underlying Source of all matter and all processes. It is the fundamental nature of Being, the foundation of the phenomenal universe, the Light of the Projector which flashes its images in the space-time dimension which we know as ‘the world’. The projected human images on this screen are unable to perceive that Light, for they are in It and of It. They can only come to know that eternal Consciousness through the gift of a divinely produced revelation by which they will discover that their own consciousness is in essence the one Divine Self, the one eternal Consciousness that is the sole Being in all existence.

In that revelation they will realize that the phenomenal universe is made of a primal energy that is radiated or projected by the Light of the one Divine Consciousness.⁸

Jesus of Nazareth is one who experienced that divinely produced revelation, and realized the truth:

“Jesus said, ‘The world’s images are manifest to man, but the Light in them remains concealed; within the image is the Light of the Father. He becomes manifest as the images, but, as the Light, He is concealed’.”⁹

We may find a clue to this understanding by pondering the nature of our own minds, since, as has often been said, we are images of God. Consider the nature of our dreams: the consciousness of the dream-character is really the consciousness of the dreamer, is it not? And what of the body of the dream-character? Is it not a projected image produced by the dreamer’s mind, and consisting also of consciousness? By analyzing this clear analogy, one may begin to have a notion of how this universe came to be. But, of course, in order to know it fully, one must realize it for oneself; one’s mind must be illumined by the eternal Light itself and drawn into Its hidden depths. To obtain that grace, all men focus their minds on Him through prayer and contemplative longing, and He shines His Light on whom He will.

NOTES:

1. John Searle, professor of philosophy at U.C. Berkeley, quoted by Richard Restak, *Mysteries of the Mind*, Washington D.C., National Geographic, 2000; pp. 71-72.
2. Colin McGinn, *The Mysterious Flame*, quoted in R. Restak, *Ibid.*; p. 85.
3. Jeffrey Satinover, *The Quantum Brain*, N.Y., John Wiley & Sons, 2001; p. 220.
4. Eric R. Kandel, *In Search of Memory: The Emergence of a New Science of Mind*, N.Y., W.W. Norton & Co., 2006; pp. 9-11.
5. Kandel, *Ibid.*; p. 377.
6. Kandel, *Ibid.*; p. 382.
7. Kandel, *Ibid.*; p. 381.
8. When God revealed Himself to me, I realized that He breathes the universe into existence and withdraws it again in a repeated cycle. In recent years, after this article was originally written in 2006, I have speculated in various writings that some fourteen billion years ago the divine breath of the Creator became manifest in time and space as a burst of high-frequency electromagnetic energy, or radiation—at levels of intensity in the *gamma* range or above—which scientists currently refer to as ‘the Big Bang’. This theory seems to me a likely one—much more likely than the materialist

theories of contemporary science—and is explained at length and in detail in several of my later articles, including ‘The Phenomenon of Light’, ‘How God Made The World’, ‘Recent Theological Developments’, and ‘First Light’—which may be found at my website: www.themysticsvision.com.

9. James Robinson, *The Gospel of Thomas*, 1977; 83, p. 135.

Where Matter Comes From

Over the centuries since the time of Jesus and Plotinus, many others have also experienced the unitive vision of God, but our metaphysical understanding has changed very little. What *has* changed is our understanding of the origin and nature of the material world.¹ Ancient Greek thinkers found the subject too daunting, and simply accounted for the existence of the material world by positing an unoriginated sea of Chaotic matter, which the divine Thought (*Logos, Sophia, Psyche*) then permeated, bringing organization and life into it by Its power. But the last few centuries of our current era have seen a worldwide focus on the discovery of the secrets of nature, most especially through the study of *physics* and *astronomy*. In the twentieth century, Hubble’s discovery that the universe is expanding led to the formulation of the concept of a definite *beginning* to our universe approximately fourteen billion years ago, and Einstein’s realization that energy and matter (mass) are interconvertible gave a solid explanation for the manner in which the universe of matter came into being, and impelled science into the forefront of a rare advancement in our philosophical understanding.

Most of us, when asked, “What is matter made of?” would answer, “It is made of elementary wave-particles, such as quarks—which constitute protons and neutrons—and leptons such as electrons and neutrinos. But if we were asked, “What are these various particles made of?”, we might answer, “No one knows.” However, that would be incorrect. Physicists know very well that all these wave-particles are made of energy—electromagnetic energy—or more succinctly, light-energy. *All matter*, in fact, the entire universe, came from the initial burst of *Light* that we refer to as “the Big Bang”.² The question of where that universe-originating light-energy came from, however, is still a controversial matter of opinion.

Clearly, there was a sudden immense burst of electromagnetic energy where prior to it there had been nothing; and that energy coalesced into the

wave-particles that make up our material world. Philosophers can no longer hold to the notion of an eternal *universe*; there *was* a creation moment, and the ultimate ‘stuff’ of the universe is now revealed: it was light—an inconceivably large burst of high-frequency light (which we refer to as ‘electromagnetic radiation’)—that almost immediately began converting to material wave-particles.³ Up to the point of that empirical discovery, philosophers speculating on the origin of matter were free to imagine many possible scenarios; but now speculation is dead. Matter is converted light; that matter and light-energy are interconvertible is a proven fact. And material particles, when collided at high velocity, convert back into light (photons). Since Einstein, what previously had seemed two different things—energy and matter—were now seen to be one.

Though so much of what passes as ‘science’ today is merely the passing fashion of the moment or a speculative theory that can never be substantiated, the current understanding among scientists that all matter is an evolute of an original light is one which seems to allow of no possible future refutation. That energy and matter are interconvertible, and that the light-energy of the so-called ‘Big Bang’ of fourteen billion years ago transformed into the quarks and leptons that make up the entire world of matter is a discovery that is so incontrovertible, so uncontestable, as to effectively put an end to all future speculation as to what our world is made of.

And so, for the first time in history, after centuries of philosophical inquiry and intense scientific exploration, we now know with certainty exactly what the material world is made of. Physicists have announced it, astronomers have proclaimed it, and technicians have proven it without a doubt in their laboratories; and yet hardly anyone in the world seems to be aware of the fact that *everything is made of light*. Even those physicists who describe how the primordial photons of light transformed themselves into material particles do not seem to fully grasp the significance of the fact that *everything in the universe is made of light*.⁴

Despite the fact that scientific thinkers believe that that pristine burst of light was a ‘natural’ phenomenon (whatever that means), and spiritually oriented people are certain that the light came directly from God, the fact remains that an unimaginably immense blast of high-energy light flashed at the dawn of time in a nascent universe, and each photon of that light became a matter-

antimatter pair that contributed to make the phenomenal universe of form and substance that we live in today, where *everything is made of that light*.⁵

Everyone has heard of the ‘Big Bang’, and of how all forms of energy and all material particles were produced from that initial ‘fireball’ of high-energy photons; and yet, in the minds of many, there is still the burning question: ‘Where did that abundance of light come from?’ Scientists have concluded that the light from which the world of matter is made had to have come from the explosion of an unstable super-dense chunk of matter which they call a “singularity”, while people of religious or spiritual beliefs have understood since the most ancient of times that that light was caused by an act of God. That the matter that constitutes this physical universe was produced by an initial high-energy burst of Light around fourteen billion years ago is accepted by the entire scientific community; the empirical evidence for this conclusion is formidable and incontestable.

Physicists and cosmologists of integrity have declared that this is as far as science can reach, that to extrapolate farther back than that would be nothing more than conjecture and supposition—certainly not science. Nonetheless, some scientists have reached beyond the empirical evidence into the realm of unfounded speculative theory and have declared that the *cause* of that burst of Light was the explosion of a submicroscopic speck of matter that existed prior to the manifestation of the universe, a speck that contained all the mass of the universe within it. And often this is declared with a straight face.

On the other hand, those who have experience of God’s presence, regard science’s discovery that an ancient originating Light was the source of the entire material universe to be a delightful confirmation of the Divine Creation that has been famously heralded by the wise of ages long past. It is clear, however, that neither the speculation of the theoretical scientists nor the tradition of the religions is subject to incontrovertible proof; we can only weigh the two positions and see which seems to us the more credible.

Can we really accept that a tiny rock is the ultimate creative Force from which sprang the entire vast living universe? Or perhaps the tiny rock is not the Creator, but rather the Creator, having decided to make a universe, first put the whole thing into a tiny speck, and then had it all burst forth somehow. Did *life* exist in the rock prior to its existence in the universe, or did life spontaneously arise once the rock exploded? Well, you see how

difficult it would be to defend such an originating principle. But such difficulties do not arise if we assume that the same God whom we know in our hearts was also the originator and fabricator of the universe and all its living variety.

If we accept that an all-pervasive Spirit ('God' for short) breathed forth or otherwise manifested an immense burst of light-energy that possesses the capacity and propensity to 'evolve' into wave-particles in time and space, constituting the elements of our universe, then why couldn't He have similarly predisposed the resulting matter to produce living bodies by a further evolutionary development? And why couldn't those first primeval living bodies, such as bacteria and eukaryotes, be predisposed to evolve further into larger creatures, such as fish and fowl, mammals, primates, and eventually humans? ⁶ Somewhere along that chain of evolution, why couldn't consciousness and self-awareness emerge as well from the initial predisposition programmed into that divine light from the very beginning?

How could we possibly doubt that that *Light* is a miraculous energy that proceeds from the power of God? At its highest frequencies—such as that produced in its original appearance that we call 'the Big Bang'—it has the ability to convert to electrically charged wave-particles that make up the atoms of every known or unknown substance that has existed through time, and provides the energy of every known or unknown invisible force or field of force appearing in the universe at both the microscopic and the macroscopic level. That is to say that, not only did that Light produce all the matter in the universe, but it produced the force of gravity, the so-called weak and strong forces that bind matter into cohesive entities, and all the electric and magnetic forces that exist in every wave-particle and produce so many effects on earth and beyond. These electrical charges are not only produced in every particle of matter, constituting its properties, but they also constitute every chemical reaction governing our digestion and metabolism, and every electrical impulse such as the firing of axons in our system of nerves, the firing of neurons in our brain, the beating of our heart, and the blinking of our eye. Everything—every visible or invisible thing and every perceivable or imperceptible variety of energy owes its existence to that initial Light. How can we believe, as some scientists profess to believe, that the Light, containing in its potentiality an entire universe such as this one, is the result of a random accident?

And yet, in the view of some materialistic scientists, this efficient mechanism of matter-energy interactions provides evidence that every bit of the functioning of man and the universe can be accounted for without the need to postulate a supernatural origin or underlying spiritual support. By some process of selective reasoning, they are able to ignore the question of where that light came from, how it manifested, and how it happened to distribute itself as discreet particles and electrical charges in just the proper “fine-tuned” relationships to form so inconceivably complex a cosmos of form and awareness.

Be that as it may, it is certain that any physical or metaphysical theory framed in the twenty-first century must begin with the certain premise that the origin of all matter is light—regardless of whatever one might speculate was the cause of that burst of light. And, even if it had not been revealed to every enlightened soul that the material world is a manifestation of Divine energy, if we were to apply the rule of Ockham’s razor, which suggests that we shave away unnecessary assumptions, the simplest and most obvious attributable cause of that burst of light is the Divine Creator. The assumption that the explosion of an unstable and super-dense chunk of matter (a singularity) was the cause is simply an unwarranted, irrational, and unjustified supposition.

But those of a materialist bent could scarcely be expected to concede that that Light came from a supernatural Source; they could be expected rather to fight against this notion with all the powers of their imagination. “The light resulted from the explosion of a single densely compacted speck of matter,” they said; “a ‘singularity’”. Nevermind that it was now necessary to explain where *that* came from. For these people, that was the end of the line, the final explanation. Their position is reminiscent of the dismissive attitude of those people who held that the world was supported by a giant turtle, and who, when asked ‘What supports the turtle?’ answered, “It’s turtles all the way down.”

Today, it is common knowledge that all wave-particles of matter were born from the high-frequency electromagnetic energy released in the ‘Big Bang’ event of fourteen billion years ago; and that it was those wave-particles that evolved into the stars, our world, and all that we know as matter and energy. However, an important question arises: ‘Did the qualities of life and consciousness exist intrinsically in the light-energy and in the wave-particles that arose from it [as many scientists believe], or was there an

infusion or *suffusion* of a divine consciousness into that primordial matter that served to purposely organize and arrange those wave-particles toward the presently evolved state of life and consciousness that we know and experience today?’ And what should we call such a principle? Anaxagorus called it “Thought”; Heraclitus, and later Philo, called it “Logos”; the author of *The Wisdom of Solomon* called it “Sophia”, or “Wisdom”; Plotinus called it “Psyche”, or “Soul”.

No matter what word we use to denote this principle, it is necessarily a divine, consciously governing and organizing Spirit akin to the “Thought” or “Will” of God, acting in and through all the sensible universe. There are no other alternatives: for either that initial Light itself was and is purposeful, living and conscious, or that purposeful living Consciousness acts within and through that light but is distinct from it. And since both light-energy and matter in its pre-organic state seem to be inert, we must assume that they are also not conscious, nor do they intrinsically contain the seed of consciousness. It would seem, therefore, that we are forced by the evidence to conclude that an invisible living Consciousness operates *within* and throughout the material universe, guiding its operations, advancing its evolution, and bringing Its own life and consciousness to light in the living creatures appearing on at least one planetary body orbiting the star we call the Sun.

Philosophers and sages from the beginning of time have declared that, in addition to the light from which all ‘things’ are made, there must be a conscious deliberate force at work in the world that functions as the organizing principle of design, and as the source of life and awareness—a conscious force which has been referred to as “Spirit” or “Soul”. Materialists deny that such a universal principle exists—even though by doing so, they tend to deny the existence of their own intelligence; while the mystics, seers, and all the worshipers of a transcendent-immanent God affirm the principle of a divine “soul”, and stake their lives and actions upon it, living to give expression to the Divine source within them.

That the universe began in a sudden burst of light is unquestioned; but that light did not burst forth from a “singularity” into which all the matter of the universe had been compressed. Rather, that initial abundance of light burst forth from another kind of ‘singularity’: the energy potential of the eternal Mind, who is both the universe’s Creator and the universal Soul pervading

it. Who else could produce an Energy that transforms itself into substantial forms as material particles along with the purposeful forces required to establish such a universe? Who else could pervade that universe as Mind, and animate each fully evolved form with a living consciousness? Who else could fill the universe with His own Consciousness, imbuing living beings with distinct identities and an individualized self-awareness?

Clearly, that eternal Mind or Spirit that we call ‘God’ is the source and power of all that is. He has produced all these bodies and their evolutionary developments from His all-powerful light; and He is the inner Soul permeating all matter which we identify within ourselves as ‘I’. Indeed, all is He, and all glory is His. What else might we imagine exists? Who else might we imagine ourselves to be?

All the material universe and all the forces operating within it are evolved from His outspreading light, breathed forth nearly fifteen billion years ago. Yet this immense burst of light-energy would have remained but a teeming chaotic mass, random and lifeless, without His conscious direction, without His indwelling Spirit. His manifestation of a material universe is plainly evident to us; but His guiding Spirit is subtle and hidden from our view. We may infer the existence of that subtle Spirit by observing Its effects in the universe and in ourselves; but It is known directly and with certainty only when He reveals Himself as our inner Self.

So, as I hope I have made evident, there are *two* different ways in which the one Creator-God manifests: (1) As the Mind, Spirit, or Soul that permeates all matter and which constitutes the limited mind, or soul, of each individual sentient being; and (2) As the producer of the light-energy that transforms into the material particles that make up the physical universe. So that, with these two aspects of Himself, He constitutes both matter and Spirit, both body and soul; thereby constituting all that exists. Though some might object philosophically to what appears to be a dualistic perspective, I would point out to those objectors that, since both the substance of the material universe and the indwelling Mind, or Spirit, both derive from one and the same supreme Being, there is, in fact, no duality, but rather an undeniable Nonduality—or, if you prefer, a Unity. That the one God manifests in these two different ways does nothing to detract from His singularity.

There is one other issue I wish to resolve: and that is whether the light-energy that the Creator produces to form the material universe is His own substance or a second substance other than Himself. I maintain that the great burst of light-energy which formed the vast universe is a projection of His own power and is therefore identical with His own essential Being. He did not borrow some other substance to make the physical cosmos; from where would He borrow it? No; He breathed forth that active light-energy from Himself. Though the universe is *not synonymous with* the supreme Consciousness, it is a projection of His inherent power and does not belong to any other category than Himself. It emanates from Him and is therefore of His Being.

Both the light-energy that transforms into the material universe and the indwelling Spirit, or Soul, derive from the same Divinity; and yet they are not the same. They are different in quality and characteristics and are distinct and obviously separable from one another. Though His Light-Energy is eternally inherent in His Divine Being, the *forms* that evolve from His light-energy are subject to entropy and dissolution. They appear for a brief time; and when those material forms cease to function as viable entities, the indwelling Spirit departs. The forms of His light-energy are therefore transient and subject to decay and dissolution; while His Creative Energy, along with the Spirit, or Soul, continues to exist eternally. It is immortal.

Now, to the question of *how* the Spirit, the Soul, the Divine Consciousness “permeates” the material world: Some ancient philosophers posited a *pneuma* that the Creator breathed into man exclusively, constituting the human soul; others suggested that the Divine Consciousness fills the entire universe as a numinous and all-pervading intelligence. Accumulated evidence—both from empirical and mystical sources—supports the latter premise. An all-pervasive consciousness may be inferred from the “fine-tuning” effects evident throughout the cosmos, though such an all-pervading Intelligence remains undetected by our technological instruments. It is witnessed directly, however, by the human mind, or soul, during what we call “mystical” experience.

During the “mystical” experience, the individual mind (or soul) is drawn into union with God, the Divine Consciousness, and perceives through and as that Divine Consciousness, seeing from the perspective of that Divine Consciousness. While seeing from God’s perspective, the all-pervasiveness

of the Divine Mind is experienced and known. In such awareness, that Divine Consciousness is revealed to the soul as both the initiator of the creative act of universal manifestation *as well as* the living Spirit pervading it. Though this knowledge (*gnosis*) is not what we consider to be 'empirical' knowledge, it *is* experiential knowledge. It is knowledge obtained from a transcendent perspective and carries a certainty for the experiencer far above any mere temporal knowledge.

'Very well,' you may say; 'but just *how* does the Divine Consciousness pervade the material universe? How can I picture it or form a conception of it?'

I don't believe it can be pictured, since that Divine Consciousness is an invisible and noumenal reality. But we can conceive of it by way of analogy: He is present within this world as our individual consciousness is present within our thoughts and dreams. Our thoughts and dreams are within our minds; and because of that, they are permeated by our own consciousness. In this same way, God is present within ourselves and within this world, because this world exists within Him.

This universe, fostered by His light, exists *within* Him. He is all-encompassing. When the "Great Radiance" of God's light burst forth as an expanding universe of time and space, of substance and form, where must that 'Radiance' have occurred? It had to have occurred in the Mind of God! Where else could you put a universe when there is nothing outside of that Divine Mind, when nothing exists or *can* exist but that all-encompassing Mind?

And so, without the need for an "infusion" of the spark of life and consciousness, this world, by virtue of its presence in the Mind of God, is naturally and effortlessly suffused with His conscious living presence. And what we speak of as the 'soul' of individuals is simply the embodied expression of His all-encompassing conscious presence. The inclusion of the universe within the Divine Mind obviates the need for an *infusion* of God's presence as 'soul', since His life and consciousness are inherently the very Ground, substance, and support of the world, and constitute its very being. It is this realization that prompted St. Paul to declare, "In Him we live and move and have our being."

Some people speak of “intelligent design” in the universe, as though God were similar to a human craftsman or architect who had thought out and prepared a blueprint prior to building the universe. But a little reflection on the nature of God reveals that He is neither a maker of blueprints nor a builder. What He *is* is an unfathomable Intelligence, the all-pervading Mind in which the universe exists, and by whose power it operates. God does not stand apart from the universe, like a builder fashioning a building; He does not “fine-tune” the universe as an object separate from Himself; rather, the universe exists within the Mind of God, and every single speck of it is controlled and coordinated by His will.

Though we have given names to all the various forces comprising our universe, such as ‘electromagnetic fields’, the ‘force of gravity’, the ‘strong’ force, and the ‘weak’ force; all these are simply manifestations of the cohesion inherent in His Mind-born creation. We have also named the material particles mysteriously formed from His light, such as ‘quarks’, ‘protons’, and ‘electrons’; but these also are simply the evidence of the scintillating effusion of His imagination. Only in these last centuries have scientific investigators come to understand just how inconceivably evanescent and indescribable these sub-microscopic particles really are.

As dream-stuff responds to our human will, the stuff of this universe, produced from Himself, responds to His will. And, since He transcends the confines of space and time, those evolutionary changes that, from our human perspective, require eons for their accomplishment, He accomplishes in an instant. Because His Consciousness is all-pervading, all things move together of one accord; assent is given throughout the universe to every falling grain. What appears to our eyes to be random and uncaused is, in fact, the unfoldment of His will.

Consider: If an invisible and omnipotent Mind caused the decay of one particle of uranium and left a second particle intact, would it not appear to those witnessing it that what had occurred was the random spontaneous decay of a particle? And if that same invisible and omnipotent Mind caused a gene in a strand of DNA to mutate, would it not appear to those examining that DNA that what had occurred was the random mutation of a gene? How would one be able to distinguish such a caused event from a random one? All is occurring within that one Consciousness. He has only to breathe, and a million worlds begin and end; and in this breathing, all that is contained within this universe is nourished and sustained.

This body that you regard as your own is actually His—as pebbles are the earth’s, as waves are the ocean’s. In accord with His purpose, the sun daily stirs the waters of your heart, and the vapor of your love flies to the four corners of the world; while at night the moon stills you, and the cold darkness is your bed. All is in accordance with His design. He is the life-pulse of every creature; and when the clanging bells of joy exult within you, it is His joy; the fire of song that inspires you is also His. Even the obscuring dust of unknowing that blinds us to His presence is brought by Him. He is in the clouds and in the gritty soil; and if you bend over a pool of clear water, you may see on the water’s surface the reflection of His face.

How does He pervade every particle of this universe? He is the Mind from which the universe took birth, and the universe exists within Him.⁷ All is contained in Him. In Him, there is no I or Thou, no now or then. In Him, life and death are undifferentiated. And that transcendent deathless Self is our eternal identity. So, you see, there is nothing to vanquish, nothing to lament, and nothing on which to pride oneself. In Him, and by Him, all is accomplished in an instant.

NOTES AND REFERENCES:

1. Of course, not everyone agrees with the notion of a material universe. Some believe it was never created. Since there is no way to prove the existence of the universe outside of our mental perceptions of it, every few centuries someone frames the theory that the entire physical universe has no actual being outside that interior perception, that it exists solely in the human mind. It is a theory that has been postulated by the eighth century Indian mystic-philosopher, Shankara; by certain Buddhist philosophers; by the eighteenth-century English philosopher, George Berkeley; and by certain popular modern thinkers. But it is a theory that is at once contradicted by the fact that man (*homo sapiens*) did not exist prior to two million years ago—modern humans (*homo sapiens sapiens*) did not exist until around 200,000 years ago; and life, even in its most rudimentary stage, did not exist on this planet prior to around four billion years ago. However, the universe itself is around fourteen billion years old—clearly older than man—and therefore could not have been *originated* in the mind of man, or in the consciousness of any living creature, since the nature of time does not allow an effect to precede its cause. The only continuous consciousness capable of producing the appearance of the universe is that of the eternal Mind of God. Therefore,

the theory of a humanly subjective production of the phenomenal universe will not be considered here.

2. According to the current scientific evidence, around fourteen billion years ago the universe was created by a great burst of light that some call “the Big Bang” and others prefer to call “the Great Radiance”. In order to produce an entire universe as vast as this one, that light had to have been at the highest end of the energy spectrum. The most energetic light in the electromagnetic spectrum is that with the highest frequency, and shortest wavelength; that radiation is referred to as “gamma-rays”, a term coined by Ernest Rutherford in 1903.

3. Gamma-rays, or gamma radiation, is radiation that reaches a frequency of 10 exahertz, or 10^{19} Hz, with a wavelength less than 10 picometers, and energies from 400 GeV (billion electron volts) to 10 TeV (trillion electron Volts). Since energy and mass are interconvertible ($E=mc^2$), energy converts to mass, and mass converts to energy. In that immense “fireball” at the beginning of time, trillions upon trillions of photons of gamma radiation collided, and each of these photons converted to a particle-antiparticle pair. So long as the energy of the photon is equal to or exceeds the mass of the particles produced, this conversion occurs. The reverse process also occurred: for example, the mass of an electron-positron pair equals 1.02 MeV (million electron volts); when such a pair collides, it is annihilated, and in its place are two photons of at least 0.51 MeV each. In “the Great Radiance”, particle-antiparticle creation and annihilation were occurring at once on a grand scale. A full explanation of this process in the creation of the material universe may be found in my earlier book, *Body And Soul*; and for a more expertly scientific explanation, see Michael Zeilik, *Astronomy: The Evolving Universe*, Cambridge University Press, 2002, ninth edition; pp.470-475.

4. The medieval English philosopher, Robert Grosseteste (1175-1253) theorized that primeval matter was expanded to form the universe by the impetus of light. But he had not the benefit of the knowledge introduced much later by Einstein that light and matter are alternate forms of the same thing. Regarding light and matter as two distinct categories, he understood that light, since it “diffuses itself in every direction,” provides a likely medium for the extension of matter in all dimensions.

“Thus light, which is the first form created in first matter, multiplied itself by its very nature an infinite number of times on all sides and spread itself out uniformly in every direction. In this way it proceeded in the beginning of time to extend matter which it could not leave behind, by drawing it out along with itself into a mass the size of the material universe.”
 (Robert Grosseteste, *On Light*, trans. From the Latin by Clare C. Ried, Milwaukee, Wisconsin, Marquette University Press, 1942, 2000; p. 11.)

From our vantage point today, it seems quite amazing that Grosseteste came so close to anticipating the astrophysics that only emerged seven hundred years after him. His theory influenced his Oxford student, Roger Bacon (1214-1292) as well, though both still held to an Aristotelian cosmology consisting of spheres within spheres. Neither could guess that it was the light from the Divine that actually transformed or converted into the material particles that constitute the universe of form, and which, through its expansion gave birth to space and time.

5. When gamma radiation photons collide, they convert to matter, becoming a particle-antiparticle pair, such as a proton and an antiproton, or an electron and a positron. These two members of a symmetrical pair possess opposite electric charges, and annihilate upon contact, turning back once again to light (photons). One would expect that, this being the case, every matter-antimatter pair would have annihilated over the course of time, and that consequently there would be no material universe. However, there *is* a material universe. And so, we must assume there was an asymmetry that found its way into this process, sparing approximately one matter particle in every 10 billion produced, which matter particles now constitute what is our material universe. Why and how this asymmetry should exist, however, has not yet been explained.

6. Many believe, as the respected Biologist, Michael Behe, believes, that the propensity for ‘life’ was pre-programmed into the evolution of matter from the beginning:

“I am not saying the origin of life was simply an extremely improbable accident. I am saying the origin of life was deliberately, purposely arranged, just as the fundamental laws and constants and many other anthropic features of nature were deliberately,

purposefully arranged. But in what I'll call the "extended fine-tuning" view, the origin of life is merely an additional planned feature, culminating in intelligent life. The origin of life is simply closer to the very same goal that the other, more distant anthropic features (laws, chemical properties, and so forth) were also put in place to bring about." (Michael J. Behe, *The Edge of Evolution*, New York, Free Press, 2008; p. 216.).

7. For another perspective on the question of the constituency of the universe, please see my Article, "All This Is God."

From Light To Universe

Cosmologists and astrophysicists tell us that the temperature of the Cosmic Background Radiation (CBR) throughout the universe is currently 2.7 degrees Kelvin. Extrapolating from that current temperature allows scientists to roll back the clock to surmise the temperature of the universe at the moment it originated—what we refer to as the Big Bang, or Great Radiance. No one was there to see the moment the universe originated, but, from the evidence provided by the Cosmic Background Radiation that remains today, it is surmised that the universe began as a great burst of Light, sometimes referred to as "the primeval fireball" for lack of a better term. No one knows just what this primeval fireball was like—except that it consisted primarily of photons (particles of high-frequency electromagnetic radiation), that it was very hot (more than 10^{12} degrees Kelvin), and that it was rapidly expanding and cooling to become the material universe we know today.

Now, putting aside for a moment, the question of where such a great burst of Light may have come from, most people are easily able to imagine that the origin of the universe appeared as a great Light in the form of a "primeval fireball". Such a "fireball" is quite easy to imagine; but few, it seems to me, understand the process by which that Light, that high-frequency radiation, *became* the material objects of our world. This process, though understood by so few, is really easy to understand once it is explained. And once it is understood, you will have the key to comprehending the formation of our entire universe of forms.

Here is how it is explained by distinguished professor of Astronomy, Michael Zeilik, in his widely used college textbook, *Astronomy: The Evolving Universe*:

At some time in the primeval fireball, the energy of photons was so high that their collisions produced particles. This process occurs when the energy in the colliding photons equals or exceeds the mass of the particles produced. Sounds bizarre?

The result comes directly from Einstein's relation between matter and energy ($E=mc^2$). It does not restrict the *direction* of the transformation: matter can become energy, or energy can become matter.¹

So, given a couple of colliding photons with enough energy, they can easily produce a particle of matter or antimatter². It is not magic; but it is nevertheless amazing: Photons (packets of Light), by colliding with one another, spontaneously transform into particles of matter or antimatter.³ Photons of electromagnetic radiation at a frequency in the gamma range such as existed in great density in the first moments of the Big Bang had sufficient energy to transform into matter or antimatter particles simply by running into each other. In countless such collisions, the photons were mutually annihilated, and, in their place, was a proton, or neutron, or electron, depending on the volume of energy they contained. In the early maelstrom of high-frequency radiation at the time of the universe's creation, there was a continual transformation back and forth, from energy (photons) to matter (elementary particles) and from matter back again to energy, as the photonic collisions continued. But as the universe expanded, and the temperature of its contents cooled, the radiation and the matter became stabilized and compartmentalized as separate and continuous states: matter and energy—disguising the fact that matter and energy consist of but one common and identical Light.

The universe wasn't made in a day, or even seven days; but there were several distinct stages in the production of the material of our phenomenal universe: Professor Zeilik divides the production of matter/antimatter in the early universe into four eras: a **heavy-particle era**, a **light-particle era**, a **radiation era**, and a **matter era**. The earliest period, the **heavy-particle era**, is that period when the temperature of the universe was greater than 10^{12} degrees Kelvin, and the production of massive particles and antiparticles dominated. The **light-particle era** was when the temperature had reduced to around 10^{12} degrees Kelvin, and particles of lighter mass (such as electrons,

and neutrinos) were produced. The **radiation era** occurred when the temperature dropped to the point where the photons no longer had the energy to create new particles. Radiation was then the main form of energy. The **matter era** is the era in which we now live, when the energy of matter (as the amount of mass, in a cubic meter of space) is about a thousand times greater than that of radiation.

So, all matter (and antimatter as well) that forms our current universe came from that original high-frequency light—is, in fact, that light itself in a transformed state! And this brings us back to the consideration of the question, “Where did that originating Light come from?” But you probably already know the answer to that question. And you probably also know that, since that Light was produced by and lives *within* the Divine Consciousness, that Light contains the animating power and life-giving Consciousness of its all-powerful Source, to whom belongs all praise now and forevermore.

NOTES:

1. Michael Zeilik, *Astronomy: The Evolving Universe*, 9th edition, Cambridge, Cambridge University Press, 2002; p.471.
2. Antimatter has the same properties as regular matter except that it has the opposite electrical charge. When a particle of matter and a particle of antimatter collide, they annihilate, and in their place is an equivalent amount of energy in the form of a photon. From light to matter, from matter to light.
3. If there is magic, it is in the originating Light that can appear now as energy, now as matter. This is the secret of creation; this is how everything in the universe, including our own bodies, was created from the great Light.

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