

# Death and Modern Cosmology

October 26, 2013

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In the modern world the battle continues between the religious and the secular perspectives when it comes to the death of humans. In my estimation, both views miss the mark. The central findings of modern physics and cosmology can illuminate this debate and contribute to a resolution.

Christianity and Islam offer security in the denial of death as an end point and propose the soul as the significant and immaterial aspect of self that endures. Secular humanism offers contentment in the idealized comforts of the physical and social domains and suggests that when these two domains are fulfilled satisfactorily, death is essentially [existentially] irrelevant.

Fortunately modern physics, astrophysics and cosmology offer an intellectual path for understanding and resolving this debate between religion and secularism by identifying the two ways reality can be understood and how these views are in fact dynamically interrelated, not paradoxically isolated. The two views are the material perspective [matter, particle] and the energy perspective [field]. Importantly, in modern physics matter and energy are now known to be transforms of one another, alternative ways reality expresses itself – the one physical and the other non-physical or immaterial. This fundamentally interconnected pairing of “being” in physics contrasts with the isolated material versus the spiritual views in secular humanism and religion. Modern physics substantiates the fact that these two seemingly separate views are really just transforms of one another. Matter [the physical] emerges out of the concentration of energy, and energy [the immaterial] is liberated in the dissolution of matter. There is no beginning or end, just the dynamic and indivisible expression of reality in material and immaterial forms.

For most of human history, humans have understood themselves to be the center of attention on a sphere [the Earth] that is the center of the Universe. In this worldview, it is easy to posit a God or gods that make humans on Earth the focus of attention even to the point of recording their every move and judging them individually at their death for their worthiness to enter an other-worldly Heaven. It is even possible to conceive of this God sending agents into the human world to guide humans on how to best achieve a heavenly afterlife of sublime and eternal existence of the soul.

Such a view persists in the 21<sup>st</sup> century as promulgated by religions that arose in the period when humans and the Earth were assumed to be absolutely central in all of existence. The scientific discoveries of the last two centuries have crushed this geocentric and anthropocentric worldview upon which all modern western religions are based. The extent of this crushing is impressive!

First we discovered the Sun as the center of the solar system with the Earth as just one of several planets orbiting the Sun. Second, we discovered that our Sun is one star in a small to medium size galaxy of 200,000,000,000 stars. Third, we discovered that our Milky Way Galaxy is one galaxy among at least 200,000,000,000 galaxies containing quadrillions of planets. Fourth, we discovered that the material system that we have discovered to be so vast is only 1/6<sup>th</sup> of all the matter in the universe [Dark Matter constituting 5/6<sup>th</sup> of the matter in the Universe]. Fifth, we discovered that the Universe is mostly made up of immaterial energy – at least 70% of all of existence including Dark Energy. Sixth, we have discovered that matter in the Universe is concentrated in one region suggesting – along with many other factors – that our Universe is one of many interacting universes in a Multiverse of truly unimaginable scope.

Now, let's try to get a handle on what this expansion of the scope of existence indicates for what should be our modern worldview based on science. Consider at the outset that we regard our Earth as huge and that it is in fact about 8,000 miles in diameter. Now, look at our solar system, which is about 1.4 light years in diameter. Keep in mind that a light year is equal to the distance covered by the speed of light [186,000 miles per second] in a year. With about 31.5 million seconds in a year, a single light year represents a distance of about 5.7 trillion miles. So, the diameter of the Earth in relation to the diameter of the solar system [8,000 mi. vs. 5,700,000,000,000 mi.] means our solar system is about 712,500,000,000 times the size of the Earth. At this scale we can barely conceive of how almost infinitesimally small the Earth is. But at this point we have only taken one small step in what constitutes about a ten mile trek – just to get to a sense of the next level in scale of the Universe – the size of the Milky Way galaxy, which is about 100,000 light years in diameter and which contains over 200 billion solar systems. And beyond the Milky Way galaxy, we have probably six more increases in scale to go, each geometrically greater in its effect before we get to the diameter of the “observable” Universe. Suffice it to say, at the scale of the Universe, it is impossible to find the Earth with the equivalent of our most powerful, space based telescopes. Seven billion humans as a species or particularly as individuals barely rise to the level of the Planck constant [the theoretically smallest subatomic particle in size] when considered at the scale of the known Universe.

When we understand the scope of existence in the scientifically based, modern cosmological worldview, humans collectively, much less individually, essentially disappear as physical entities. In this modern cosmological framework, individual humans are about as far removed from physical centrality in the physical Universe as any material entity can get. In just a few hundred years, humans have traveled from being the pinnacle species at the center of all existence to being of no physical consequence whatsoever.

Now, in light of this condition of total insignificance for humans at the physical level, how do we support the notion that God is so keenly interested in the specific actions of each one of us as our major religions claim? Oh yes, God is infinite; but the concept of a personal God seems almost infinitely unlikely in what we now know to be the vast scale of the physical Universe, whether we imagine God to be either a physical or spiritual agent.

So, what is the alternative? Are we left in a state where our lives are totally meaningless? The answer is “No,” and interestingly as it was physics and cosmology that took us to physical nothingness, it is physics and cosmology that offer a very significant alternative – derived from the non-physical energy perspective, the other side in the fundamental material-immaterial dynamic.

Energy is everywhere all the time, a total system that is without any division – being present in only different densities and kinds of concentrations. Energy is an infinite field phenomenon that pervades all of what constitutes the “emptiness” of space. From an energy perspective, there is no separation between “things” because there is only one “thing” totally interconnected at whatever level or scope we consider. From a material/physical perspective we find entities separated by space and time at all levels, but the separateness of these entities disappears in the energy view where all “entities” share in and are connected and are part of both a larger and smaller infinitely interrelated reality. Separateness and individuality ultimately dissolve and are illusory from an energy or immaterial field point of view.

Energy and matter are transforms of one another – inseparable in an essentially infinite reality. While we die in the material sense at our individual deaths, we only transform in the dynamic material – immaterial understanding that has emerged in the view of modern physics and cosmology. As individuals we participate in the infinite universe at both the material and immaterial levels as matter and energy, which are merely different expressions in existence. We never were separate from this dynamic and we can never become separated from it. Our material death is just a realization of this totally participatory transformative process. We are always both material [matter] and immaterial

[energy], seemingly separate entities and yet ever part of a much greater and infinitely shared identity. Death is just part of the transformative process as we shift as an expression in this dynamic matter-energy interchange. We continue to exist in the sense that we continue to participate through this dynamic. We are composed of star dust – the stuff of supernova explosions, one of the most impressive examples of the transformative matter-energy dynamic.

From the material perspective, physical death is the final experience of separation – the disappearance of the self, the realization of the void. From the energy perspective, death is the transition to the infinite immaterial self, nirvana. From the matter-energy dynamic perspective, death is both the release of the material into an infinite recycling system of continued physical participation and the release of energy into the domain of infinite identity.

To the degree we are aware of the fundamental matter-energy dynamic and participate in life in terms of this awareness, we are enlightened. It follows that to the degree our societies and cultures stage life for their citizens from within this awareness, they are enlightened. Enlightened cultures have achieved the proper balance between knowing life physically/objectively and knowing life spiritually/subjectively. For humans, existence is both material and spiritual and the challenge is not to deny either aspect of this dynamic but to live to the fullest within this dynamic awareness.

God, gods and dogmatic religions are based on an old centrist human worldview that has lost touch with the fundamental matter-energy dynamic and that lacks the ability to assist humans to discover the awareness that can lead to enlightenment. And in their limitations, literalist religions contribute to the inability of societies and cultures to bring humanity to awareness and an enlightened/balanced condition.

Secular humanism escapes materialism only in its support for values that encourage quality social relations. It dwells in the limbo somewhere between the material and energetic perspectives resolving only part of the tension between these competing viewpoints. It misses the implications for understanding physical death that are available in the fully participatory, infinitely interconnected energy perspective.

In Dynamic Humanism [2007], I explore from a social and psychological perspective the same dynamic that physics and cosmology have discovered in the matter-energy transformative interrelationship. It is only necessary to substitute a material – spiritual dynamic for the matter – energy dynamic to discover the same interplay with the same implications is at work.