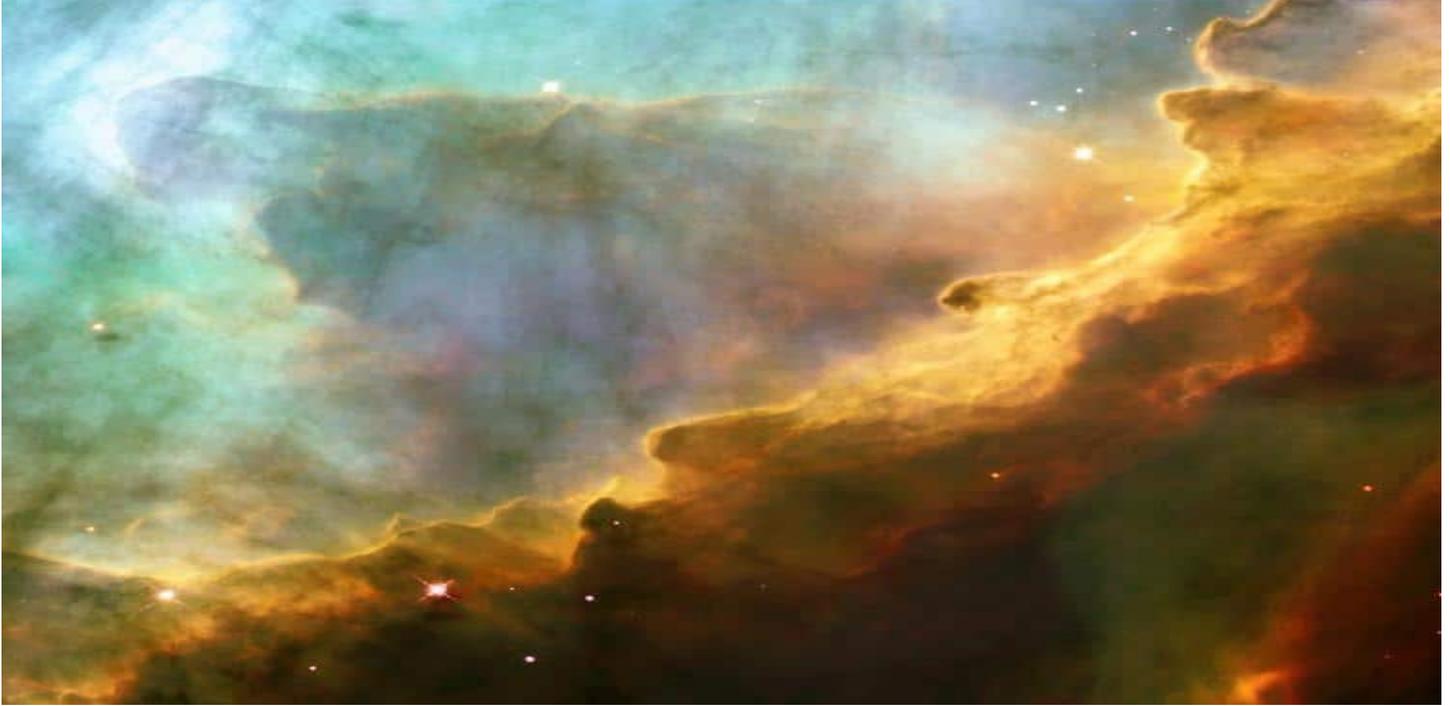


*Separate wanderers,
our errant courses have converged
and the usherings of cosmic ken
now lure us down some strange and newer paths.*

6,870 words

What is Life and Death? A New Outlook and Synthesis of Interdisciplinary Sciences

– Wallace Sife, Ph.D.



As Carl Sagan said, extraordinary claims require extraordinary evidence. This treatise offers a new and different viewpoint on life and death. It offers a step-by-step synthesis of interdisciplinary sciences, in putting together a radical new interpretation for your contemplation. In reading this bear in mind that it is a natural tendency to deny or scoff at facts that challenge or do not comfortably fit into our mental frameworks – even evidence-based information such as this. We all have unconscious schema of preexisting beliefs or prejudices, and too often reflexively reject any ideas that contradict them. A threat to our comfortable identity makes many people unreasonable under these conditions. The educated person who finds hubris from his own mind-set is like a prisoner who is pleased with his large cell.

Back in 1675 Sir Isaac Newton tried to help enlighten and spur us by saying, “If I have seen further, it is by standing on the shoulders of giants”. Hopefully, this multifaceted comprehensive presentation will motivate you to consider some new perspectives. Now, centuries later we have the added advantage of there being so many new ideas and discoveries to learn from. We should also keep in mind the ancient parable of the blind men and the elephant. Each was convinced what the creature must be – solely from his own perspective. What would it require to help them agree?

In today’s amazing world of constant discoveries, many still wear blinders. We need to

*Relax our mind's restrictions and see things with new eyes;
let go the trained dimensions and syllogistic ties.
– A legitimate conviction too often may well be
a limited perspective that reality belies.*

Everything started with a singularity – an initial moment when time and space, and. What we now call the Big Bang initially exploded our singularity with unimaginable heat and acceleration, and now we are here on our own insular little Earth. But this is only after about 13.7 billion years of fantastic cosmic expansion, constant stellar births and

violently explosive deaths – gradually creating and blasting elements, particles, mysterious matter and energies, everywhere.

Essentially, everything that eventually developed, regardless of how incongruous or unexplainable it may at first seem, was created by our evolving cosmos. And in all probability, we are not the only advanced life form that resulted from all this. Now, with our ever-growing and improving sciences and technologies, extremely advanced capabilities and instruments are being designed and implemented to detect signs of probable extraterrestrial life. We now know that the life force is so phenomenally fecund and ubiquitous it evolves its presence in amazing ways and places. We see here, just on our small planet what has been estimated to be one trillion other forms of life – many far beyond what we could have imagined. This consists of all living things from microorganisms to the largest of animals. And all are potential predators and prey. Whatever life forms also exist out there – or are yet to evolve – we are all creatures of our universe, together.

With all our amazing new hardware, some astrophysicists have recently estimated that there are two trillion galaxies – and they are still counting. It boggles the mind to try to comprehend how many countless stars must have been created. And in unfathomable time they all exploded, creating and disbursing the increasingly complex atoms and combinations that eventually composed our nascent planet – and later, gradually evolving bodies. It is awesome that everything surrounding us, and we ourselves are literally made from universally random-scattered stardust.

Cosmology teaches us that all matter initially emerged from the Big Bang as newly created energies – some of which transformed to subatomic particles. And then hydrogen was forged. Gradually but inexorably, heavier elements were created by nuclear fusion within stars and their supernovae. And they in time each of them exploded, disbursing all their evolving matter in an ever-ongoing chain of cosmic detonations. From an all-encompassing viewpoint everything is related in so many complex ways because of this astounding derivation. We are only now starting to detect and perceive that change and evolution are the rule for all things – live or not – ever since that germinal first instant of our universe.

Until only very recently, astronomers thought that the universe was composed almost entirely of what is termed “baryonic matter” which is composed of the ordinary atoms that we all know and can detect. But even more lately, we have been finding a great deal of new indirect evidence that affirms there is much in the universe *that we can not see* – some very different form of substance. That is called “non-baryonic matter”.

And we continue to learn. We have now determined that all the observable stars, planets and galaxies that exist make up approximately a tiny 4% of the universe. That is astonishing. The remaining 96% is composed of things cosmologists can't observe, directly detect, or in many instances even comprehend (yet). These mysterious and invisible non-baryonic entities are called dark matter and dark energies. They can not be seen, and are only disclosed indirectly – if at all. Yet we now are certain that they are there, everywhere, and all around us.

In the 1930s astronomers first hypothesized dark matter. Later, we indirectly confirmed it because of its dominant gravitational effects on all visible heavenly bodies. This was a first, and we were just beginning to realize and see indirect evidence of a dark cosmic entity that could not otherwise be detected. At that time we had believed that the entire universe was being pulled inward by its incomprehensibly vast combined mass gravity. It all was slowly collapsing. That had actually briefly been the case, but in 1998 we were surprised to find that for the past 5-6 billion years (less than half of the age of the universe) some mysterious dark force had somehow reversed things. And ever since then this has been hurling it all outward, at ever-accelerating speeds. This inflationary energy is one of so many exotic newly discovered ones we can only indirectly detect, but not measure. As our sciences develop we are beginning to realize that our cosmos is saturated with many kinds of enigmatic energies and matter that are far beyond our perception. There is such a proliferation of new data concerning this that cosmologists have given it a collective name, “The Hidden Sector”.

We are living in a very exciting new age of discovery and hypothesization, now realizing that there is such unimaginable and flabbergasting additional reality all around us. And we now are further amazed to confirm that more than 95% of the energy in the universe is in forms that have never been directly observed or detected. Because of these and so many other provoking discoveries scientists are beginning to envision and propose radical new theories, ideas and perspectives that were not possible before. This comprehensive discourse you are now reading is one example of that kind of outgrowth. It shows a completely new way of connecting the dots to see the larger

picture. Our advancement requires radical change and an open-minded willingness to accept new juxtapositions of insight. More than ever, we must now be open to thinking “outside the box” of our old ways of reasoning.

Everything is slowly but inevitably changing. In addition to our physical bodies, our brains and minds are also evolving and expanding, particularly with scientific knowledge that we have gleaned and developed only relatively recently. In cosmic time we have only just emerged from our savannahs, forests and caves. It is basic to our nature to contemplate the analytical heritage from our ancient philosophers, and so many more of us are now diligently questioning who and what we are. Our natural human outreach is being even more stimulated and extended by very rapidly evolving state-of-the-art means of research and communication that began with our very recent invention of computers and the Internet. Change and evolution is in everything, including our technologies and ways of thinking.

All that is resulting in an ongoing eruption of new learning about ourselves and our relationship with the cosmos that created us. Ideas and perceptions are developing so fast that it can be said that man has indeed, just entered a new epoch – the information age. In our search for better comprehension of the workings of our universe we only recently theorized and then proved that matter can be converted to energy. How that has changed our lives! And we have also learned that the reverse is true; energy can be converted into matter. All this is truly amazing, and in some ways humbling. On a cosmic scale, we are so tiny and insignificant. And yet we are not.

Since classical times, one of our greatest intellectual challenges has been to try to comprehend what life and existence is. But here, in this exposition, we are using only science as a means for a different perspective – its essence. This brief discourse will not consider historical studies or theologies. Rather than utilizing established philosophical, religious or mystical points of view, we will examine only what modern science, discovery and logic are now showing us about that. This is a completely new and different way of looking at the meaning of life and death. This is analogous to a gadfly being let loose among today’s students, scholars and scientists. Socrates, we now salute you! So much fresh information and data are coming in at such prodigious rates that it would be folly to remain rigid and not flex with new outlooks and the concepts they can generate.

We now accept that one of the fundamental laws of physics is the conservation of matter and energy. $E=mc^2$. This confirms that neither of these can be created or destroyed. As previously mentioned, they can transition from one form to the other. And we are also recently discovering and learning that there are many other dimensions that we can not directly perceive, along with so much dark matter that is invisible to us. Additionally, we are beginning to comprehend that there is a multitude of enigmatic newly discovered energies surrounding us, everywhere.

To add to that wonder, with advanced technologies we are now observing that new “spontaneous matter” is being created – as if out of nothing – empty space. But that is an illusion and can’t happen. Since energy and matter are expressions of each other, one of those many undetectable “dark” energies somehow must be transformed into that new matter. This is the only way it can happen. And to our amazement, we now also have come to realize there is no such thing as empty space, anywhere, despite what we always believed and intuited. In cosmology there can be no such thing as nothingness. That concept is an anathema to science.

Our latest observations and speculations are revealing that all space is filled with wondrous energies and exotic non-baryonic things that we can not directly detect at this time – or probably may never be able to. All these recent discoveries and theories are changing our older perceptions of the universe – and, hopefully, many of our obstinate preconceptions and attitudes. But mankind has always created stumbling blocks for itself. We tend to crave and invent simple patterns and uncomplicated, non-threatening solutions to things, regardless of the evidence to the contrary. There is so much to be learned from our history, which shows us that this attitude resulted in dogmatic laws, persecutions, murderous inquisitions, jihads and hateful attitudes. These all retarded or even inhibited discovery and intellectual and humanitarian growth. And they still do. So much of our primal past still bubbles up inside us.

But back to our latest discoveries: Because these newly detected extraordinary kinds of matter and energies are only abstractly revealed to us they can’t be measured or directly observed. Nevertheless, indirect evidence is there for some of them – such as the already mentioned gravitational effects caused by invisible dark matter, and the relatively recent accelerated expansion of the universe caused by dark energy. And there are other kinds of baffling obscured entities that physics and state-of-the-art cosmology are only just beginning to theorize, discover and identify – and wonder at.

However, there is one phenomenon that has perplexed us for the longest time, and one aspect of it is very

recognizable: This is the life force or energy. It is something that we can clearly perceive on one level, although we are unable to measure or objectively examine it. Yet we now understand that somehow, it had to be collaterally produced by the cosmos along with all its other amazing energies and creations. As a corollary, the life force or energy can't be anything independent from that. This concept is very challenging or even upsetting to some, but there can be no evasion from it. Unfortunately, as mentioned above, there are still many who would do that.

After immeasurable cosmic random hits and misses, newer molecules eventually form. Nucleic acids, carbohydrates, proteins and lipids generate and combine, allowing for the creation of many kinds of compounds that support the mysterious energy that is life. They help propagate the most elemental forms, and evolution slowly takes over. As far as we know, all life requires a favorable substance to be in. When its corpus somehow no longer can sustain it, that special cosmic energy mysteriously disappears from detection. We see that death has occurred, but suddenly everything is a bewilderment.

Because of so much long-established opinion and very strong bias, we finally need to examine this further – but from an exacting scientific perspective, using many different examples and analogies. There are some people who prefer to believe that life is simply an evolved expression of biological derivation, and nothing else. But that skirts the issue, and can't account for life's amazing capacity for sentience and all its other amazing qualities. Most importantly, that argument also insists that death is the total annihilation of each individual. It is time to come to terms and form an objective assessment of this. As already indicated, contemporary cosmology and physics invalidate any concept of nothingness. And to attempt to discuss such a void as if it were an entity would be a logical artifice. It is crucial to realize that any argument in favor of this is based solely on gut feelings and emotion. This denial is based in existential dread – not logic. Nihilism and its related philosophies are impassioned clever opinions and conceits of the mind. And as previously stated, they are an anathema to science. They offer a self-refuting concept, which according to philosophers must be a fallacy.

As Johnson expounded to Boswell, in 1776, “Nobody attempts to dispute that two and two make four: but with contests concerning moral truth, human passions are generally mixed, and therefore it must be ever liable to assault and misrepresentation.” Human nature has not changed, nor is it ever likely to do so.

These disputers have an interesting and strongly motivated viewpoint, but it is too simplistic. Its argument with lack of any verification pales when considering the many amazing cosmic manifestations and facts that we are now adding to our knowledge. Without the easy “saving grace” of superstition or religion they want to see their inevitable death as a journey into nothingness, oblivion. Because of that dread and apprehension they tend to avoid deep consideration of their own demise. That is is a repressed, highly charged issue that scares the hell out of most people. Because of their emotional investment and need for some semblance of stability it is understandable that these individuals have a visceral need to believe what they do, and almost nothing anyone can say can dissuade or placate them. They have developed an *a priori* mindset, and are self-victimized by confirmation bias.

Unfortunately, some dissidents must reflexively be at odds with anything that challenges or does not confirm their outlook. But that is not true open-minded skepticism. Facts can not be determined or verified by personal opinion or predilection – however satisfying or appealing that may be to them. Their concept is not supportable, yet it is clung to very emotionally. As already indicated, speculating on a *state of nothingness* is a perversion of science and mathematics, as well as a logical fallacy. This treatise proffers the reader several new perspectives, and offers a much more likely outlook.

As part of that challenging undertaking we must include considering abstractions such as honor, morality and love. These fundamental qualities have such importance that it is not logical to just consign them as just incidentals to biological life and whatever it is that we call sentience. There have philosophical, but no scientific attempts or concepts to consider the existence of these human abstractions. Instead of sidestepping these profound challenges we have to try to understand where they belong in this new overall speculation about life and death.

In physics, the term *information* can be defined as that which distinguishes any one thing from another. This singular difference that is embodied can be said to be the identity of each separate entity, whether it is matter or energy. That is what makes information distinct from anything else. State-of-the-art science now tells that this also can not be destroyed. (However, matter and its inherent information that is pulled into black holes is the only possible exception.)

Our concern here is basically what happens when a life force “dies” and disappears from our perceptions. We can’t see or analyze that. Yet we do know that this was certainly some kind of puzzling energy that was there. Therefore, it can not cease to exist – or be extinguished. Again, the Conservation of Energy Law clearly shows that energy can not be destroyed. It can only be changed from one form into another, or transferred from one state to another. Simply put, that is the crux of this exegesis.

Along with its unique information each life force or energy can only be transformed – somewhere to a different plane or dimension – which, along with other dark entities, is beyond our perception. But again, where or how that actually happens, we don’t really understand. From our perspective this mystifying force inexplicably leaves its host body and then becomes no longer detectible in any way to us. So after “death” what happens to it?

As already explained, science and mathematics give clear rules about that, but offer no measurable facts or proof regarding the life force itself. So much will ever be beyond our limited level of perception. Since we have no actual evidence where it goes, we must assume that this now vanished energy has shifted or transformed back somewhere, into some kind of baffling cosmic data reservoir or “memory bank”. Possibly, it transfers to one of the many additional dimensions that we theorize but can’t observe. Pioneering science is now discovering that there are a great many of these, with the strong indication that many more will be discovered. They are enigmas well beyond our direct comprehension. But fortunately, we can still envision the “big picture”, and examine the significant shadows that are cast.

We now need to take a brief overview of the history of transmission and recording of data – which for mankind probably began with scratches on stones and cave walls, and later, piled rocks and smoke signals. Then there were semaphore flags on towers and light towers using flash codes. Then came telegraph and later, the telephone. In 1877 the acoustic phonograph was invented, and in 1895 came the radio transmission of sound waves. And in 1898 Magnetic wire recording was invented. Our world was very suddenly and rapidly changing because of these remarkable inventions and discoveries. Keep in mind that what is now newly invented would probably have been perceived as magic or fantasy, just a hundred years before.

Photography and later silent and then sound movies were invented, and in 1920 the first electrical recordings were made. Then, in 1927 television was developed, and about 20 years later its recording on tape was finally devised. In 1931 binaural sound (now known as stereo) was invented. And in 1934 lacquer coated record discs were introduced. These were used well into the 1970s when replaced by magnetic tape recording. In 1940 multi track recording developed. 1963 saw the invention of the cassette tape, and in 1964 high-fidelity vinyl records become the worldwide industry standard. Conversions to digital, and recordings of all kinds of data eventually evolved and were made feasible. The universal “Golden Record” message on a tablet sent into space on Pioneer 10 and 11, in 1972 and 1973 would probably be mostly undecipherable even to us in a few hundred years.

Modern formats for recording data started with punch cards, magnetic tapes, floppy disks, CD and DVD discs. Each in its own turn had its own day and became obsolete. Now, some of them are no longer readable – lost forever. And we have absolutely no idea what advanced computer file format will be around at the time of the next century. All this must give some insight into understanding that the ever-amazing universe must also be running some ultimate data recording system that is far beyond our limited ability to identify or understand. We can only wonder and awe at our exotic universe. It is impossible to even imagine what fantastic data memory bank must be part of the cosmos. This must be taken into account when considering these ideas.

The creation of the Internet then revolutionized our perspectives of transmission and exchange of data. At this writing we are seeing constant almost incredible innovations and changes in the recording of memory and data. Now, specially designed quantum computers are being theorized and contrived, to exponentially advance memory storage, transmission and computational speed. – And all this has been accomplished in the past 160 years, when we were still an agricultural society, using candles, lamps and gas for illumination at night! It is a major stretch of imagination to try to predict what future data recording and transference means beyond the digital we know will be possible in even the next 30 years. This overview indicates how limited in time our perspectives are. And as already suggested, we can’t grasp what kinds of data transmission and storage must be at work on the cosmic level.

Transformed life force or energy must be recorded and cached after what we call death. But how and where? Our knowledge of data storage has been growing exponentially. Starting in the early 2010s the sequencing and bar coding of DNA strands is now allowing us to predict that all the information in our world will soon be recordable in less than one Kg of DNA – about the size of an egg. It staggers the imagination to imagine the implications. After 13.7 billion years of cosmic evolution what possible kind of data storage might there be for all of our universe?

If the latent energies, potential matter and all their data could be concentrated into an incredibly small point of infinite density we would better understand the Big Bang. Shrunk or exploding, nothing is lost, and it goes on, forever.

And now we are only just getting started. We are now learning about fantastic qualities regarding possible alternate universes. Theoretically that can also provide an undetectable means for this data repository somewhere at the other side of the energy conversion process. It is all so abstract. Nevertheless, our best scientific minds are now theorizing, learning and discovering mind-boggling new realities within our cosmos. All that is facilitated by “thinking outside the box” and not being dismissive of what may at first seem like fanciful proposals.

Again, it must be emphasized that this analysis is based on a strictly scientific perspective that has nothing to do with religion or mysticism. Objectively, we do know that each person’s essence – who and what he/she is – is different from anyone else’s. And every person and sentient animal in the world is also unique. This exclusive individualism is information contained in all life energies. Call that *esse*, mind, soul, or whatever you like, but that distinction is real, and it needs to be better examined and understood. Regrettably, it has always been in our nature to contrive mythologies, theologies and rationalizations that exploit and assuage our fears and thoughts about life and death. They have controlled our thinking ever since we (only recently) walked out of our caves.

So that brings us back to the fascinating question that asks what happens to the unique information embedded in each life energy when it is transformed. Perhaps it is not so surprising that this is equivalent to questioning if there is such a thing as a soul, and what happens to it after death. This is particularly important because the concept of soul can now be perceived from a strictly scientific point of view – not a theological or mystical one. Unfortunately, that word triggers an emotional red flag to some, and they close their minds to dialog on the subject.

We are intrigued and challenged by the new concept of relationship and oneness with the cosmos – which incorporates dark matter and all the arcane energies that we are only just beginning to discover and appreciate. Interestingly, this is reminiscent of the somewhat romantic “The Force is with you” concept, from the Star Wars movies. Perhaps it is not so surprising that there may be more truth to that than is apparent. Our underlying logic here is that all things eventually resulted from the singularity. And ergo, because of their common origin they are all in some way related – however enigmatic that may be. This is a modern theory of one-ness. It is something like pantheism without a deity. In keeping with that we can now take a step aside from our older thoughts about life and death, and more objectively sense that we can never be absolutely alone or isolated from our cosmic roots. The connection is there.

It is intriguing to observe how much intangible and subliminal comfort that realization unexpectedly imparts – especially to those of us who have already considered this in depth. It offers unexpected succor and a new spiritual appreciation of nature to those who those who reject theology. Try looking up at a starry sky and not sense that you are somehow part of all that. It is awesome.

The term spiritual, as used here, is from an existential perspective, and it does not imply any theological context. But the usage here can be actually much more personal and profound. Some people get in touch with their spiritual selves through private contemplation, meditation, yoga, quiet reflection, unique personal relationships, or even long walks in peaceful or awesome nature settings. But more about that, later.

As humans we are at the apex of the intelligence and sentience chain, here, on our isolated little blue planet. We have learned from physics that nothing is ever lost. We know what happens to our bodies, and can quantify our physical components, which are reduced back to measurable atoms and basic compounds. And now we understand that our energy and identity components must do the same, but in a much more enigmatic way. To reiterate, neither matter nor energy can vanish in the universe, and one way or another, life eventually recycles (or transforms) back to its universal source. It is all part of one great baffling cosmic genealogy and law.

This collective corpus of all passed-on information and sentience is the combined intelligence and knowledge that encompasses everything in the cosmos. From our perspective it is like the archetype of all databases. That somehow includes the recording of all things that ever happened since time was created by the Big Bang. It could be the equivalent of some kind of collective intelligence or pansophy that is also far beyond our comprehension. It is interesting to note that holograms, which are a fascinating mystery to us, seem to have some relationship to these considerations. A tiny fragment can fully delineate the entirety from which it was derived – even in a different dimension. We are beginning to see that everything is in one way or another part of the whole. But we still have so much to learn about that.

There are some other things indirectly related to life and sentience that need to be considered, here. In doing so we must also wonder about altruism, heroism and honor, and why anyone would be willing to self-terminate for someone else or some special cause. Why do we risk our precious lives and fundamental sense of personal identity? We all fear death, and

know something about sacrifice for the greater good. But what could be behind this extraordinary willingness to go so far as to die for someone or a principle? No adequate non-theological answer has ever been offered for this. However, with these new and different perspectives we can now consider that there may be an intuitive awareness of something inherently substantiating, somewhere, somehow, beyond life as we know it. That poses the question: does the elemental justification for heroism and honor have something to do with a sense of some form of primal inborn connection back to an underlying one-ness that is absolutely greater than any individual? Of course, there is also the matter of the human collective unconscious. Call that racial memory, instinct, or whatever, after nearly a century of challenged studies on this it has been proven to be there, deep within every one of us. While it has life, our sentient brain is beyond amazing.

In highly developed creatures how does altruism fit into the grand scheme of things? This is explained as the principle or practice of devotion or completely unselfish concern, regarding the safety or welfare of others. As already indicated, in animal behavior that often leads to the individual's extreme disadvantage – or even death. But it benefits others of its kind, or individuals “dear” to it. We see this everywhere: in people, ants, bees – and so many other living things. That can't be ignored or glibly glossed over as some automatic biological reaction. Bees will lose their stingers and die, in protecting their hives. And some ants sacrifice themselves by interlocking across small streams, so the others can cross – on top of their drowned bodies.

Now, let's consider this from a slightly different context. We must also puzzle over what is behind mindless biological cells or simple multicellular organisms becoming zooids, such as jellyfish. They sacrifice their uniqueness to become segments of highly differentiated colonies – which have their own, very different identities. There, component individuals modify themselves into something else, and take on varied specialized functions. It is as if the original member has evolved and its identity no longer exists.

There are so many examples of aggregates or colonies of individual animals and other living things that change to be greater than and dissimilar from their individual component animals or cells. Each of these voluntarily converts and becomes part of a completely new and different self, for the greater benefit. And it is all innate – without the faculty of reason. Amazingly, recent scholarship has shown that even individual cells have memory, and it is reasonable to surmise that this is similar or related to what we call instinct. Although all life strives for survival, there must be some inner “sense” or justification that accounts for and justifies the ultimate solitary boldness of self-sacrifice.

We must also consider plants and other simple life forms, as well as their different degrees of sentience – or seeming lack of it. How do all these fit into the universal reservoir, referred to previously? Are they analogous to the many mysterious sub-atomic particles that we have only recently been discovering? That is puzzling but it makes sense, as everything must somehow be a fragment of the cosmic whole, regardless of its essence or our inability to explain it. This also brings to mind the fascinating enigma of holographic projection.

And what is instinct? Simply put, it is the genetic imperative within the DNA of living cells. We have recently learned that genetic codes, as well as individual cells somehow create and evolve their own instincts. It would seem that all living things have different kinds of primal “sense” and there is something on the other side of the life equation that is justifying altruism. As already suggested, everything is somehow permanently and communally related, and death as we know it is not really a discontinuance of its dark energy. It is not random coincidence that throughout history every human tribe or civilization has inarticulately sensed and strongly reacted to this deep-rooted innate mystery. That can explain why similar mythologies and religions were independently created by widely isolated tribes of man. In various primitive ways they all sensed and believed in some form of afterlife. But now we have science to help us scrutinize this challenging question. With time and increasing knowledge more and more pieces are starting to come together from unexpected new sources. It would be our folly not to pick up those fragments, to see what overall view and possible new perspectives they may reveal or suggest to us.

As previously articulated, we are all part and parcel of the universe that created everything – even what we think of as time. Perhaps it is not so coincidental that this is very similar to what the Hindus call *prana*, and have been venerating for thousands of years. That is the Sanskrit word for life force, or vital principle. In yoga, Indian medicine and martial arts the term refers to an energy that is everywhere, and is believed to connect all the components of the universe. In this enhanced state of mind many claim they are better able to see things more clearly, and strive to be the person we always wanted to be. It is intriguing that this concept developed in early, much older civilizations, and it parallels what today's most highly developed sciences are only now coming up with. There is a strong object lesson to be learned from that – if we allow ourselves to let go, and contemplate it.

Those who follow this ancient teaching experience a deep sense of spiritual comfort and well-being that is rarely seen, elsewhere. They report an underlying sense that they can never be truly alone, as there is something akin to an all-wise and loving family nearby – that is only obscured from them, and waiting. Although this can seem to border on mysticism, it is

only a sensation, and lacks the fervor and unique purpose of mystical thinking. This kind of personal perspective creates a subliminal sense of belonging and connectedness with the universe, and it generates an extraordinary and unique sense of inner peace and blissfulness.

All older civilizations and peoples lived under the vast, open skies. Most of us no longer do that, or spend any time gazing up at the star-embazoned night sky. As a result, we “moderns” have become spiritually anemic, insulated from that awesome, life-enriching and life-changing experience. Until only very recently there has been no research on the psychology of awe. But the few studies now being done are all noting that the test subjects encounter overwhelming feelings of wonderment that profoundly affect their lives in unexpected new and positive ways. This incorporates an underlying powerful sense of undefinable transcendence and inner peace, which many report as an unexpected and powerful “spiritual” experience. It is *prana*, fortuitously rediscovered. In this enhanced state of mind each of us is better able to see things more clearly, and strive to be the person we always wanted to be.

I have always wondered what if Earth were to be visited by an alien civilization that had to have survived its primitive stages for self-destruction. They would have to be ancient and very wise. One of the first things I would ask is what is their “religion”. Would they have long-since understood their oneness with all? Would they have a different expression for *prana*?

It is remarkable as well as ironic that our current very sequestered advanced applications of science are also leading us back to this same primal experience. Suddenly, we now have a new and yet ancient way to sense our awesome relationship with the cosmos. Truth and wisdom are ageless, and we must never let the rush and commotion of modern civilization obscure the many wonders around us, and the potentials that ever lie within our grasp. We are entering an age of new enlightenment, and how we deal with that – or not – makes all the difference.

All this was a lot to present, and most of the groundwork now has been done. It was based on scientific confirmation that the universe has an amazing abundance of marvels – and discoveries yet to be made. Included in this is that the life force is one of many different kinds of cosmic energy around us, and none of them can be annihilated. The next steps, however, will continue to depend on pure logic and science, incorporating philosophy with new experiments, theories and discoveries. And it must transcend the inevitable pitfalls of inflexibility, prejudice and bias that are ever part of our human disposition. Man is an emotional and opinionated – and sometimes self-destructive creature.

But there is another caveat here. We are so determined to believe that logic can show us truth that we can easily become duped by our own hubris and zeal. The chronicles of mankind record copious examples of this, great and small – revealing that sometimes that was carried too far, creating mischance or even tragedy, instead. And as we all know, we often induce some history to repeat itself, because of our obstinate patterns of behavior.

Here, we are asked to parse a very varied collection of newly hypothesized and discovered cosmic phenomena, and put it all into a single context. Yet it must always be kept foremost in our minds that scientific observation will determine what is real or right – despite expectation or bias. How we apply that, or not, makes all the difference.

These new proposals concerning life and death are part of our search to better understand what that is all about, using the very latest scientific discoveries. In this quest we are only now just beginning to grasp that reality and truth include real things that far exceed our reasoning and intuition. For example, in addition to other recent examples cited previously, the advent of quantum physics is teaching us about logical paradoxes and other fantastic realities that seem unreal and counter-intuitive. Again, here is a profound lesson, not to be disregarded.

Because everything derived from the Big Bang we are just beginning to better grasp that it all has to be interrelated, somehow – and there must be some overall kinship with all things. Physicists and mathematicians have been struggling to come up with an ultimate unifying “theory of one” that can incorporate the laws of classical physics – with all its weird realities of quantum (sub-atomic) physics, which Max Planck first theorized and developed in 1900. So far, this challenge has proved far too complex and baffling to even our greatest geniuses, and nobody can estimate when (if ever) that may be solved. At this time, “String Theory” is the closest we have gotten. But even that is inadequate.

Quantum physics now affirms that subatomic particles can exist in a state known as a *superposition* – until observed. This means that things can actually be in more than one place at a time. And through elegant experimentation and calculation we now know that light can act as either a particle or a wave – but we just don’t understand how or why. Heisenberg’s Uncertainty Principle also teaches us that there can be deviation from our most precise and exacting measurements. All this is fantastic reality, and it is mind-boggling and disquieting. But the doors of awesome cosmic challenge and discovery are only just opening for us to observe, correlate and synthesize. Even so, it must always be kept in mind that we have

shortcomings and obscured limitations. We are creatures of the universe – not its masters. And we are mere players in its wondrous symphony.

All this is extremely challenging and it can change many entrenched mindsets – from philosophies to scientific theories, and even spiritual outlooks. Humanity will continually grow and evolve with its ever-new perceptions. Einstein regarded all theories, including his own, as stepping stones to something greater. And Stephen Hawking follows up on what Newton said, declaring that we are now standing on the shoulders of the giants who preceded us. But as Abraham Lincoln so sagely put it, “There will always be some fleas that a dog can’t reach.” Nevertheless, we must go on, despite the impediment that so much of what we are discovering is beyond our limited range of comprehension. It is not in our human nature to remain static. *Ad astra*. We can never stop seeking.

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