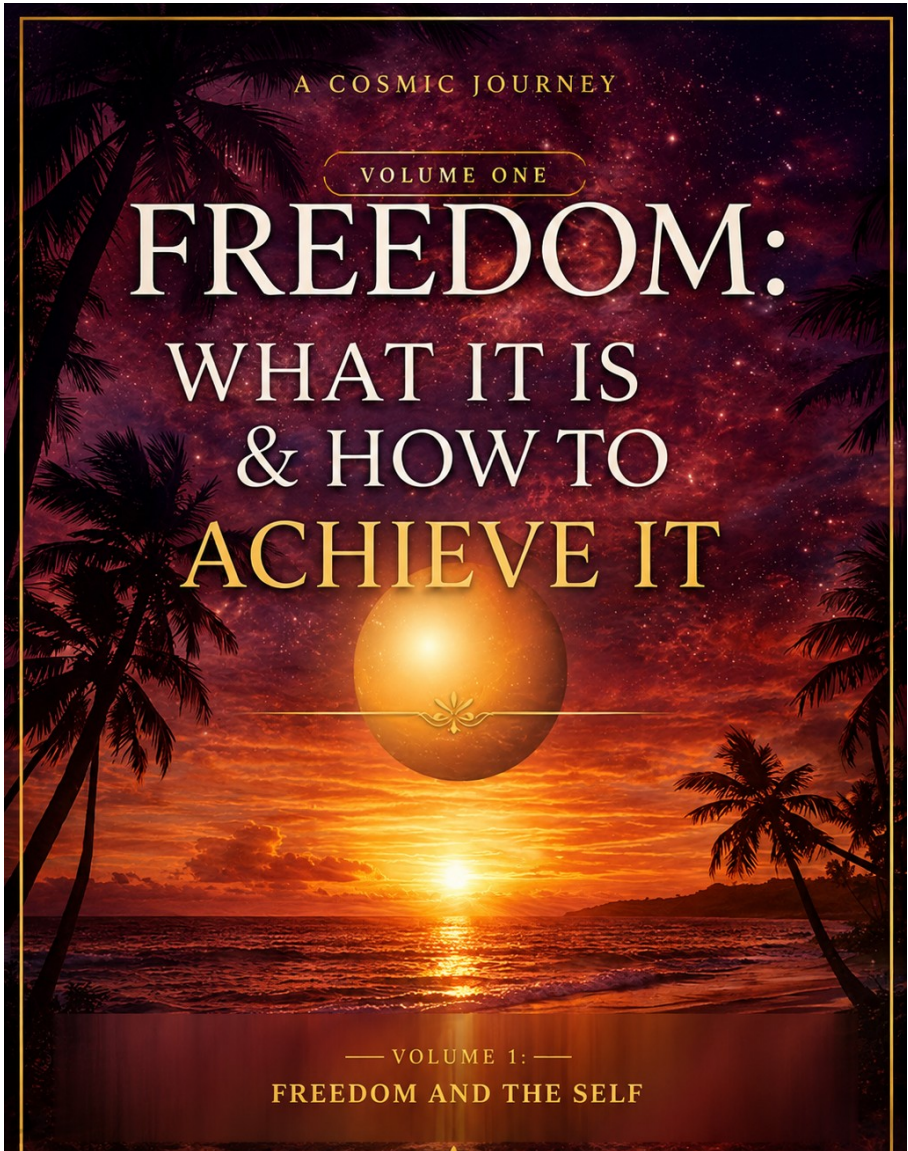




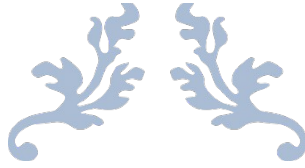
A FREE SAMPLE CHAPTER

Chapter 2
**Freedom & Self-actualization:
History**

Is the growth of consciousness toward freedom built into evolution itself? This chapter traces that idea through the teleological philosophers and cosmologists of East and West, from Hegel onward, and into a few string-like possibilities and morphic fields.

It formed part of the Psychology of Meditation course Richard E. Bradshaw taught for the Osher Institute at the University of Hawaii.

Reference numbers in the text point to the notes at the end of the complete book.



Chapter 2

Freedom & Self-actualization: History

This idea of self-actualization as part of a broader process of evolution has been a consistent thread of thought within many traditions historically.^v In religion, philosophy, psychology and even the ‘harder’ sciences, across both East and West, ‘teleological’^{vi} theories of progressive expansion of consciousness toward total freedom as an innate aspect of evolution are easily found.

In this section we shall take a short excursion through a few of the better-known theories and theorists of teleological cosmology to provide a historical platform for the idea of self-actualization as a road toward expansion of consciousness and ultimate freedom as cosmological processes

We begin with some rather generic, philosophical theories on cosmology and work toward the more detailed science-based ideas which tend to support the more philosophical theories. Together these two differing but related perspectives should provide the needed background for what is to follow.

Teleological Philosophers and Cosmologists

One of the ‘giants’ of Western philosophy, Wilhelm Friedrich Hegel (1770-1831) especially advocated a teleological view of human history in which through a dialectical process^{vii} of *thesis-antithesis-synthesis* humankind gains deeper and deeper insight into its perceived universe and the *processes and relationships* from which human reality is built. Hegel believed that in the dialectic process of searching for answers, humankind also gains deeper insight into *its own awareness* and what resides within that awareness, an awareness or consciousness that contains from the beginning, deep within, all of reality. Through a slow progression of personal and collective evolution the consciousness of humankind, individually and collectively returns to the complete freedom of pure consciousness from which it came, much enhanced by the journey.

This ‘slow progression’ of evolution takes place individually as self-actualization and collectively as the progression of ideas, knowledge and the ‘states’^{viii} that derive from the passion of daily life of individuals in pursuit of personal goals. This process is at first instinctive, and then increasingly sophisticated as deeper realizations lead to more freedom of thought, experience and societal structure. Self-actualization then is a process of discovering the infinite wisdom within oneself and expressing it individually and collectively on the physical plane of existence in the form of a more ‘cosmopolitan’ ‘self’, and more advanced cultures and societies.

Hegel felt there was a *causal* relationship between mind and the ‘real world’, and it was in the tension between opposites, of conflicting duties, desires and needs in the ‘real world’, and the mental dialectic that comes out of that tension that lay the impetus toward greater insight, realization and subsequent expansion of consciousness back toward ‘absolute awareness’ of Itself.^{ix}

For Hegel then, the mind has a progressive role in the creation of the ever-evolving world the individual perceives as ‘reality’. Alternatively, the ongoing, dynamic relationship between mind, awareness and the ‘perceived world’ is where realization and self-actualization progress toward more expansive states of freedom and an ultimate reality.

A more holistic view of teleological cosmology was offered by Helena Blavatsky (1831-1891), purported mystic and clairvoyant, and a controversial figure in her time. Blavatsky studied the wisdom of the *ermetic* tradition^x, *Neo-Platonism* and *prisca theologia*,^{xi} (all of which greatly influenced Renaissance esotericism),^{xii} as well as Eastern sources of wisdom as revealed in *Vedanta* and *Buddhism*. She then combined these ancient teachings with the Western science of the day to create a cosmology detailing the source of the universe and humankind’s evolution toward higher states of awareness.

In *Isis Revealed* and *The Secret Doctrine* Blavatsky describes a teleological evolution for humankind, one with an unfolding universe with three ‘streams’ of intertwining, fluxing, living energies; the *spiritual*, *mental* and *physical*, all three of which have their separate sets of laws governing their manifestation and evolution.

The universe, according to Blavatsky's sources arises from an undifferentiated 'Source' (Ultimate Reality) and through the constant intertwining of the three streams of 'energy' becomes a cosmos of infinitely differentiated flow of evolutionary forces. These 'forces' manifest themselves in the form of differing expressions of energy, creating the multiplicity of inorganic and organic matter, *all of which* is suffused with the energy of consciousness.

The three streams of living energy interpenetrate each other completely from the very beginning, with evolution occurring *synergistically* across all three streams toward heightened states of awareness. In other words, the spiritual, mental and physical 'streams' of living energy are all in constant states of inter-relational, creative, evolving flux, from which the multifaceted universe with all its variety of 'beings' comes into existence. Each 'being' lives out its destined lifespan, then melds back into the fluxing stream, taking with it, its experience and accrued wisdom, which it contributes to the creative wisdom of the three fluxing streams.

As the evolving 'flux' becomes more complex and more highly organized, physical organisms evolve which are increasingly capable of 'housing' more expansive states of consciousness. Within this flow of evolutionary forces, it is *mind* and the expansion of mind toward a state of freedom that is essential to and underlies the entire evolutionary process.

(Blavatsky) saw (evolution) ...unfolding in progressive stages of inner or inherent potentialities that exist within the process itself. Furthermore, it was for her a dual process: the involution of a diffused and generalized consciousness into separate, specialized material forms, thereby developing the structure of the world with all its chemical and physical complexity, followed by the evolution of conscious life through the development of self-aware, self-determined, and finally self-transcendent forms. The two processes worked synchronously, every step in the evolution of responsive forms being likewise a step in the acquisition of knowledge, leading finally to conscious freedom, or spiritualization.^{xiii}

Blavatsky considered her sources of information (listed above) for *The Secret Doctrine* to be the 'accumulated Wisdom of the Ages' much of

which was derived from the insights of spiritually adept beings from antiquity onward, ‘tapping’ into an infinite storehouse of wisdom *innate within the three streams of energy from which the universe and humankind evolved*. This ‘infinite storehouse of wisdom’ is and was forever available to humankind through spiritual insight, the validity of which was proven time and again by confirmation of independent, yet similar experience and insight from many different adepts (spiritual practitioners), much like the process of reduplicating the empirical results of an experiment in ‘modern’ science.^{xiv}

One critique of Blavatsky is that she took from many books without citing the authors,^{xv} however, her defenders say she was writing in what for her was a second language (English) and what she took verbatim from other sources was done so in the spirit of attempting to express as well as possible the insights obtained from her own studies and meditations, both intellectual and spiritual. The later editions of her books, to alleviate this shortcoming, are said to contain a full listing of sources.

This early absence of annotation however does not detract from the power of her cosmological visualization and her attempts to take the profound wisdom of the ancients, both Eastern and Western and combine it with (at the time) modern day insights into science and cosmology to form a new vision of human origination and evolution.

Rudolf Steiner (1861-1925) provided a possible connection between Blavatsky’s ‘three streams of living energy’ and Hegel’s ‘dialectic’ process of evolution through a meditative strategy he characterized as *pure thought*. Through many years of spiritual practices, Steiner developed an introspective, intuitive science of mind (*Anthroposophy*) that attempted to employ the same precise, regimented ‘empirical’ approach of close observation and analysis as that of the ‘natural’ sciences. He used this process of ‘pure thinking’ to analyze the nature of the experience of freedom, perception and conceptual conditioning within himself. ‘Pure thought’ was seen by Steiner as a method for linking spiritual and material worlds that could aid in the evolution of humankind.

Steiner claimed the abstract thought attainable through his ‘pure thinking’ method enabled a form of *intuition* or *clairvoyance* from which spontaneous insight into the nature of something might occur. On a personal, individual level, he believed the ability to see the motives behind

one's actions through pure thought was the path to freedom, while conversely, the inability to perceive one's real motives leaves one a slave to more conditioned, instinctual behavior.^{xvi}

Steiner believed that it was from this state of intuitive, clairvoyant mind (i.e., Pure Thought) that *all knowledge* is available. In other words, (like Hegel above) everyone is linked to an 'ultimate' reservoir of knowledge and has access to the wisdom within that reservoir. When one is in contact with this unlimited reservoir of knowledge, through the practice of 'pure thought', 'free action' may occur, an action uninitiated by outside circumstances but deriving from one's pure intuitive 'thought' and will, an action *untainted* by egotistical 'needs'. It was through the ability to engage in pure thought and associated 'free action' that the individual can enter a more spiritual path in life, a path of clarity free from the confusing desires of a more materially oriented awareness.

Within 'pure thought' an individual could also tap into an 'innate morality' within humankind which might be applied to each uniquely individual situation. This 'inner morality' provided the platform for and a guide toward an expanding inner realization and subsequent inner freedom, leading to a progressive evolution and ultimate freedom for humankind. Steiner applied his philosophy for spiritual evolution to many areas of human endeavor including science, logic, freedom, thinking, individualism, community, and a new social order.^{xvii}

Continuing Hegel, Steiner and Blavatsky's efforts of trying to connect the spiritual to the physical planes of experience is Carl Jung, (1875-1961) who advocated the existence of a 'collective unconscious'. Jung, who studied under Freud, then split off to develop his own theories, many of which are a blend of both Eastern and Western traditions. Jung's 'collective unconscious', inborn within all humankind contained 'archetypes' representing human experience down through the ages.^{xviii} These 'archetypes' which lay in the subconscious minds of everyone express themselves as dynamic images and 'urges' within the conscious mind, the individually unique expressions of which energize a person toward specific kinds of thought, action and experiences in life. This 'individually unique' archetypal process helps define and guide one toward *individuation*, a self-actualized state of balanced wholeness and recognition of one's 'true self'.^{xix}

Jung felt that the development of morality, as one of the defining aspects of self-actualization (as with Steiner above) within this state of

‘individuation’ finds its seeds in the sense of freedom within the individual much more than within society. He states that, ‘Morality...rests entirely on the moral sense of the individual and the freedom necessary for this.... Without (individual) freedom there can be no morality’.^{xx}

The relationship between morality and freedom which Jung emphasizes is of great importance to the process of self-actualization and the need for increasingly expansive states of freedom. The practice and development of morality requires the personal freedom to make choices in one’s life. The more freedom one has, both inner, (being less mentally ‘conditioned’ and more open in one’s thinking) and outer, (the lack of social and cultural constraints upon one’s behavior) .the more moral choices one is faced with.^{xxi} Thus it is that freedom constantly opens up new vistas of possible experience, experiences which challenge one’s ideas of, and adherence to one’s present sense of morality leading to a great deal of inner ‘soul-searching’ and subsequent self-actualization for the individual.

The greater variety and intensity of experience made possible by increasing individual freedom, allows and impels one to connect more readily and deeply to the wisdom contained in Jung’s archetypal images within oneself, and to ‘play out’ the dynamism within those images within one’s life in a quest for deeper understanding of one’s life experience. It is through these experiential connections to the archetypal images that one finds inner inspiration toward loftier modes of thought and behavior.

These archetypes and the images they contain might be viewed as a ‘sub-storehouse’ of wisdom, a human experiential extension of the universal storehouse of all knowledge and wisdom that Blavatsky and Steiner speak of as being innate within all existence, animate and inanimate. However, while ideas, urges, and impetus toward specific ways of being arising from the subconscious archetypes can be very helpful, their improper use by the ego or the more inclusive ‘self’ is also a danger.

‘...The archetypes can act as creative or destructive forces in our mind; creative when they inspire new ideas, destructive when these same ideas stiffen into conscious prejudices that inhibit further discoveries.’^{xxii}

So, while the archetypes contain wisdom and knowledge that can lead humankind to higher states of awareness, that wisdom and knowledge can also be used to hold one back from self-actualization. This occurs when the lessons to be learned from one archetypal 'expression' are fulfilled resulting in a feeling of accomplishment and contentment, but then, rather than attempting to go beyond that archetypal experience to the next step in personal evolution, the individual continues holding on to that comfortable way of life simply because of its comfort, and the fear that change and an unknown future might bring.

As holding on to a comfortable stage of evolution becomes a deeply ingrained habit, the habituation itself will lead to evolutionary stagnation and an increasing inability to reach out and grasp new experience and new insight when they present themselves. In short, one must always be ready to *engage freedom*, fully opening oneself to new ways of being, even when, no, *especially when* it generates unease and anxiety for an unknown future. For the more unease one feels, the more potential for change and personal evolvment lies directly ahead.

Our next cosmologist, mystic and philosopher Sri Aurobindo (1872-1950), was a product of both Indian heritage and English schooling. Like Blavatsky he studied Eastern and Western philosophy and religion, and in time became deeply immersed in a yogic style of life. Sri Aurobindo developed a complex set of teachings which basically describes the conditional world (ourselves and our physical world) as an 'expression' or manifestation of spirit. Evolution, both personal and collective is a process of mind developing out of a symbiotic interaction between spirit and matter. Mind, then, through its 'material' experience, slowly evolves toward a realization of the spirit which lies at the basis of both mind and matter.

Spirit is the crown of universal existence; Matter is its basis; Mind is the link between the two. Spirit is that which is eternal; Mind and Matter are its workings. Spirit is that which is concealed and has to be revealed; mind and body are the means by which it seeks to reveal itself. Spirit is the image of the Lord of the Yoga; mind and body are the means He has provided for reproducing that image in phenomenal existence. All Nature is an attempt at a progressive revelation of the

concealed Truth, a more and more successful reproduction of the divine image.^{xxiii}

The nature of this concealed Truth is embodied in three basic characteristics, brotherhood (fraternalism), equality, and liberty or freedom, and it is toward the pristine expression of these three qualities that the consciousness of human kind is evolving, urged on by the deep, inborn need for these three qualities in the everyday life of the individual.

The union of liberty and equality can only be achieved by the power of human brotherhood and it cannot be founded on anything else. But brotherhood exists only in the soul and by the soul: it can exist by nothing else. For this brotherhood is not a matter either of physical kinship or of vital association or of intellectual agreement. When the soul claims freedom, it is the freedom of its self-development, the self-development of the Divine in man and in all his being.

When it claims equality, what it is claiming is that freedom equally for all and the recognition of the same soul, the same godhead, in all human beings. When it strives for brotherhood, it is founding that equal freedom of self-development on a common aim, a common life, a unity of mind and feeling founded upon the recognition of this inner spiritual unity. *These three things are in fact the nature of the soul; for Freedom, Equality, Unity are the eternal aspects of the Spirit.*^{xxiv} (Italics are the author's).

As we as individuals expand toward greater freedom, we expand toward true *experiential* recognition of our own essential nature as one embedded in freedom, equality, and unity. In the recognition of an essential and eternal equality, we merge toward unity. Conversely it is through this deep, experiential conviction of brotherhood or unity that arises the realization that all are essentially One. From the realization of the 'oneness' of the ultimate in brotherhood (or 'human-hood') comes the total conviction of equality, and it is through this dwelling within equality that we experience a deep tranquility, for if all life is essentially equal, and our relational experience is one of 'oneness'

and brotherhood, from whence can strife arise? And if it does arise, have any chance to perpetuate itself?

This is a state of awareness where, through simple compassion and understanding on very deep levels, one's attention is directed outward toward the well-being of others as a function and expression of one's own well-being. It is a state in which we allow the infinite to unfold within our individual human lives. It is that state of awareness where we realize that for each individual that unfolding is a personal process and that '*freedom is the final law and the last consummation*'.^{xxv}

So, from this feeling of equanimity and the resulting deep tranquility comes a sense of mutual freedom and brotherhood that extends easily toward all other life forms, but it is important to note (Shi Aurobindo insists) that to experience the three qualities of brotherhood, equality, and freedom *in their ultimate form*, humankind must go beyond their egoistical expression. A self-concerned, egotistical focus (i.e., level of consciousness) restricts the innately unlimited nature of brotherhood, equality, and freedom, resulting in less than desirable results.

An egotistical 'me first' attitude toward liberty results in a competitive kind of individualism that creates strife, hoarding, imbalances in resources and the diminution of the feelings of brotherhood and empathetic connection that are key to becoming a more 'humane', sustainable society filled with a sense of 'brotherhood type' equality.

When the ego claims liberty, it arrives at competitive individualism...When it asserts equality, it arrives first at strife, then at an attempt to ignore the variations of nature, and as the sole way of doing that successfully, it constructs an artificial and machine-made society. A society that pursues liberty as its ideal, will sacrifice equality... a society that aims at equality will be obliged to sacrifice liberty.^{xxvi}

In Sri Aurobindo's view, it is the mental, emotional and relational imbalances caused by the limiting nature of egotistical attitudes toward freedom, brotherhood and equality on both personal and social levels that create pain and suffering. Ironically, from an evolutionary point of view, this is a useful process for it is this same pain and suffering, and the need to escape from it that urges humankind on toward higher states of

accomplishment and ultimately an egoless experience of freedom, brotherhood and equality.

So, while the spiritually innate need for total freedom, brotherhood and equality pulls individuals and humankind toward higher levels of awareness, the pain and suffering from an egotistical approach to the same three qualities push from the opposite direction creating a powerful evolutionary process of a teleological nature.

Our story continues in the form of Pierre Teilhard de Chardin (1881-1955), who cut to the heart of the teleological matter by stating, “We are not human beings having a spiritual experience. We are spiritual beings having a human experience.”^{xxvii} Teilhard de Chardin, a Jesuit priest who studied geology, paleontology, philosophy, theology, cosmology, and the evolution of human consciousness felt that consciousness or conscious energy permeates and is one with matter from the very beginning and evolves with it toward more *complexity* and concomitant (accompanying) higher states of awareness.^{xxviii}

Evolution is thus a dual process of increasing complexity of matter and consciousness from inorganic (*geosphere*) to organic (*biosphere*) to conscious beings engaging in ‘self-reflection’ creating what Chardin calls the ‘*noosphere*’^{xxix}. This *noosphere* is a layer of psychic energy surrounding Earth fed by the individual mental energies of all self-reflecting beings.^{xxx} As societal and cultural extensions of the sentient mind develop the *noosphere* toward higher and higher complexity, a final ‘*Point Omega*’ is achieved, a time of total unity of consciousness, of one ‘ultra-human’ awareness evolving out of the many.^{xxxi}

Teilhard discerned in the historical development of the cosmos a law of “complexity-consciousness,” ... According to Teilhard’s law, each successive stage in the evolutionary process is marked, first, by an increasing degree of complexity in organization, and second, by a corresponding increase in degree of consciousness. Evolution thus proceeds in orderly fashion from the inorganic to the organic, from less complex to more highly organized forms of life, through the process of hominization and beyond to ‘planetization,’ whereby all the peoples of *Homo sapiens* are to achieve collectively an

ultrahuman convergence, seen symbolically as a final “Point Omega.”^{xxxii}

For de Chardin, the Ultimate Reality expresses itself *through consciousness* as energy which then goes through an evolutionary process of ‘complexification’ as it (energy) takes form as elementary particles, atoms and molecules leading to progressively more complex structures of greater energy density and complexification with concomitant increases in complexity of the consciousness filling those energy structures, complexities able to ‘house’ and sustain higher, more conscious life-forms.^{xxxiii}

Chardin went beyond philosophy in his description of cosmological origins and processes, by developing what he called *Hyperphysics (Electromagnetic Field Theory of Consciousness)* entailing two seemingly opposing forces. First, the second law of thermodynamics dictates an *entropic* universe of unstructured equilibrium within a universe that is expanding at greater and greater speeds via the expansion of space/time.

Second there is *complexification*, which is just the opposite, a process of evolving more and more complex structures of living energy. These complex structures are thermodynamically open systems (systems that allow both energy and matter to cross their boundaries such as the human body) that are not in equilibrium and are constantly exchanging energy with their environment much of which is of an entropic nature. It is within these increasingly complex evolving structures that higher and higher states of consciousness develop.

Thus, within a universe of living energy there are two processes taking place. First, the ‘platform’ of space/time is expanding at increasing speeds and taking with it the entropic, i.e., evenly distributed living energy that resides and rides upon it. Secondly, because ‘living energy’ in the form of basic particles cannot expand as quickly as the space-time platform upon which it resides, there are places where the entropic uniformity of living energy breaks down into concentrations of living energy. These concentrations of living energy ‘crystalize’ (via the laws of physics) creating structures in the form of increasingly sentient, self-organizing systems going through a process of increasing complexity.

Teilhard de Chardin believed these areas of structure and increasing complexity to be the result of life playing out its drama of self-

actualization, of relational experience creating increasingly complex relationships. These increasingly complex relationships in turn lead to increasing variety of structure and complexity within which progressively expanded states of consciousness concomitantly arise. The increasingly complex ‘beings’ housing these ever-expanding states of consciousness reside within and experience a cosmos of their own making, i.e., a cosmos directly resulting from ‘actualization’ processes on all levels of sentient and ‘non-sentient’ expressions of energy. Paradoxically, or perhaps fittingly, it is the innate, inborn, natural tendency toward entropy (the process of simplification toward equilibrium of structure, i.e., the natural breakdown of structure), that constantly frees up the energy needed by the process of complexification to create and sustain more complex structures and concomitantly higher states of consciousness. ^{xxxiv xxxv xxxvi}

A Few ‘String-like’ Possibilities

One possible way in which energy structures combine to create more complex organization, i.e., the process of *complexification* described above, is through *spontaneous self-organization*, or more specifically for the field of consciousness studies, the *resonance theory of consciousness*, described thus:

Something interesting happens when different vibrating things come together: They will often start, after a little while, to vibrate together at the same frequency. They “sync up,” sometimes in ways that can seem mysterious (achieving)... spontaneous self-organization... We suggest that resonance – another word for synchronized vibrations – is at the heart of not only human consciousness but also animal consciousness and of physical reality more generally. ^{xxxvii}

The role of vibrations on the fundamental level of cosmological structure hypothesized thus far in the sciences is best illustrated by string theory (or superstring theory). From a *much-simplified* perspective, circular, vibrating strings of energy are possibly the basic energy structure from which quarks (and supporting ‘adhesive’ particles) are made. Quarks, along with their supporting particles form the structure of protons, neutrons and electrons, as well as the energy fields from which protons,

neutrons and electrons emerge and reside within. Now the structure of these strings is one of incredible *tension*, a tension containing an immense amount of energy some of which is negated or released through vibrations of infinite variation of both amplitude and frequency.

Brian Greene in *The Elegant Universe* describes it in this way.

Just as the different vibrational patterns of a violin string give rise to different musical notes, the different vibrational patterns of a fundamental string give rise to different masses and force charges...the properties of an elementary ‘particle’—it’s mass and its various force charges are determined by the precise resonance pattern of vibration that its internal string executes.

These strings of energy exist within seven incredibly small dimensions of ‘reality’ in addition to the four dimensions of space and time we see in our daily lives. The seven dimensions are not visible but have been ‘suggested’ to exist through quantum level mathematics. Each of the extra seven dimensions has a unique shape which ‘conditions’ the shape of vibrating strings of energy within it, helping to mold the character of their resident ‘strings’ toward specific intensities of frequency and amplitude. These differing frequencies and amplitudes are expressed in the formation of differing kinds of particles, particles underlying the structure of the universe. In addition, these strings are constantly forming new relationships through attaining *resonance* with surrounding vibrations, thus achieving *spontaneous self-organization*, creating energy-particle constructions forming the foundation of matter.^{xxxviii} It is through this process of resonance and spontaneous self-organization that evolution unfolds from the singular to the complex.

To this theory of the structural evolution of matter, we add from above, the theories on the evolution of consciousness, (de Chardin, Hegel, Steiner, Blavatsky & Jung) that all energy is also imbued with consciousness. Within this ‘dual’ matter-consciousness process-structure, as resonance creates more complex structures capable of greater and more complex *communication* there is a corresponding increase in consciousness, in awareness.

The panpsychist...the view that all matter has some associated consciousness... argues that consciousness (subjectivity) did not

emerge; rather, it's always associated with matter, and vice versa (they are two sides of the same coin), but mind as associated with most of the matter in our universe is generally very simple. An electron or an atom, for example, enjoy just a tiny amount of consciousness. But as matter "complexifies," so mind complexifies, and vice versa. Biological organisms have leveraged faster information exchange through various biophysical pathways, including electrical and electrochemical pathways. These faster information flows allow for more macro-scale levels of consciousness than would occur in similar-scale structures like boulders or a pile of sand, simply because there is significantly greater connectivity and thus more "going on" in biological structures than in a boulder or a pile of sand. Boulders and piles of sand only have thermal pathways with very limited bandwidth.^{xxxix}

Acquiring 'resonance' with surrounding vibrations, whether they be strings of energy or more complex combinations of life is a matter of information exchange and transformation of structure based upon that information, transformation whose result is increased harmony with surrounding 'vibrations'. Said harmony in turn leads to greater 'connectivity' and complexification, structures capable of housing greater intensifications of consciousness.

Chardin's theory of 'conscious' complexity is given indirect support by the work of Eric Chaisson, an astrophysicist and cosmologist who developed a 'complexity metric' of *energy rate density* which purports to correlate increases of complexity with increases in energy density within that complexity.^{xi} Although Chaisson does not assert the entire universe is conscious on some level or in some way or form, he describes a cosmic evolution that would be conducive to the kind of conscious cosmological evolution de Chardin (and others described above) theorize.

Chaisson first describes how the universe and the energy within it began their journey as a state of symmetry and equilibrium and energy entropy (a state of 'free energy', i.e., energy not bound by structure; basically, a cosmos of chaotic radiation, of energy in a state of unstructured *disorder or spontaneous dispersal*). Thus, even though there was chaos on any one local level in the form of chaotic radiation, i.e., an

immense number of 'free' particles constantly smashing into each other, on a cosmic level there was a general state of a 'hot cosmic soup' in overall, pressured equilibrium.

There was however, one 'problem' with this equilibrium. It turns out that the rate of expansion of space-time exceeds that of the particles and their corresponding fields that rode upon the space-time platform. Now the amount of energy in the universe must obey the law of conservation of energy which states that the present amount of energy in the universe remains constant, even though that energy goes through constant transformations from one kind of 'structure' to another. As a result, as space-time expanded, the density of 'matter' in the form of particles and fields of energy lessened, decreasing the pressure underlying the equilibrium of the sea of particles.

It is thus that while the amount of energy in the form of the initial cosmic soup of particles and fields remained constant, the ever-increasing expansion of space-time resulted in isolated concentrations of energy no longer embedded in the dense energy environment which previously had kept them in a state of 'stasis' or 'pressured' equilibrium. At that point, radiation interaction began to slow and cool, allowing the merging of certain 'particles' which with time coalesced through electromagnetic and gravitational 'resonance' into the basic building 'blocks' of matter, of minute amounts of 'order' and isolated, coherent structure out of disorder.

xlii

This process continues as an evolving 'complexification' and 'densification' of energy into higher and higher order structures, 'an impressive trend... of increasing energy per unit time per unit mass (*energy rate density*) for a wide range of ordered systems throughout more than ten billion years of cosmic history'.^{xlii}

Chaisson suggests 'energy rate density' would be a useful measure in quantifying and describing the processes underlying complexity which led to the gradual evolution from total entropy or the lack of structure in the beginning universe to the highly, densely structured organisms of today.

Starting with life's precursor molecules and proceeding all the way up to plants, animals, and brains, the same *general* trend typifies life forms as for inanimate galaxies, stars or planets: The greater the perceived complexity of a system, the greater the flow of energy

density through that system----either to build it or to maintain it, and often both... More than any other single factor in science energy flow would seem to be a principal means whereby all of Nature's ordered, diverse systems have naturally spawned rising complexity in an expanding Universe.^{xliii}

On the human scale of complexity, for example, the brain while constituting three percent of body weight, uses twenty percent of body energy, and has a much greater energy density relative to its size, than a galaxy. Modern human culture, interestingly, has three times the amount of energy density as the human brain according to the Chaisson Energy Rate Density Measure.^{xliv} With the advent of the internet, which is an extension of our 'cultural energy-density' this culture-ratio is certain to rise dramatically. Assuming de Chardin's relationship between energy density and level of consciousness holds true, the internet as an extension of human awareness could both represent and produce quantum leaps in the evolution of human consciousness.

However, Eric Chaisson, in his 'purist' empiricist view of an energy-complexity driven evolution takes great pains to distance himself from 'anthropocentric', teleological theories that champion the evolution of consciousness, intelligent life and in particular human life as 'ordained' toward some ultimate, exalted goal. From *Cosmic Evolution: The Rise of Complexity in Nature*:

The arrow of time harbors no implications of progression or directness, nor action that un-hesitantly or inevitably leads from the early universe to ourselves.... We humans are surely not the culmination of the cosmic evolutionary scenario, nor are we likely to be the only technologically sentient beings that have (or will have) emerged in the organically rich universe.^{xlv}

The point Chaisson makes, that human beings are not the 'culmination of the cosmic evolutionary scenario' or that we are not likely to be the only technologically sentient beings to emerge from an 'organically rich universe' is well taken. However, most of the teleological theories described above speak of 'sentient life', not just human life. In terms of

humanity, most cosmological theories described above speak of human life going beyond ‘humanness’ toward even more complex beings of higher levels of consciousness, an assumption that fits well within an energy-complexity driven universe. If that possibility exists for humanity (and other intelligent species on Earth), it must also exist for all sentient races everywhere in our universe (and others) to evolve to higher and higher states of complexity, energy density, connection and awareness.

Despite distancing himself from the idea that an innate consciousness helps guide cosmic and sentient evolution, the ‘energy rate density’ paradigm Chaisson describes gives tangible foundation to de Chardin’s (and others described above) teleological theories of the evolution of sentient life in the form of increasingly sophisticated structures capable of progressively higher states of awareness.

Thus, the only difference between the conclusions of Chardin and Chaisson is the presence in Chardin’s evolutionary paradigm of an innate consciousness permeating all aspects of evolution. In de Chardin’s view of cosmology, the inexorable growth of complexity of consciousness is the defining factor in the increasingly intelligent guidance of evolution from instinctual to the present day ‘information’ society. This ‘intelligent guidance’ results in progressively more clear intent on the part of consciousness in the process of complexification and densification of energy into evolving ‘structures’, and the consequent level of awareness or consciousness that can be housed in those evolving ‘structures’.

Morphic Fields

It is theorized^{xlvi} that the ‘intelligent guidance’ behind the structuring process for any energy structure within a field of energy structures may resemble a set of ‘channels demarcated in the configuration space’ the structure resides within. These ‘channels’ are the evolutionary ‘inertia’ (chreodes) created by habituation. ‘Complexification’, in turn is the response of habituation to environmental challenges, which results in simple structures evolving into more complex structures able to ‘house’ higher forms or ‘intensifications’ of sentience. This field of inertia reflecting habituation is referred to as a *morphic field* or *morphogenetic field* (biology). *Morphic fields* are diffuse, underlying whole ‘fields’ of organisms of the same or similar energy structure. Graham Harman

describes their possible nature as ‘massively distributed in time and space, nonlocal, curvy and “viscous... physically real, hyperobjects’.^{xlvi}

Put simply, a *morphic* or *morphogenic field* is akin to a dynamic organizing template-like ‘field’ that molds the structure and process of some ‘complexification’ of energy into a functioning organism or substance. This process is guided by past ‘structuralizing’, (i.e., inertia), while symmetry and balance also play their role in the evolving structure, a symmetry and balance that constantly reforms itself in response to environmental change. The organizing nature of Morphic fields may also underly the formation of creative mental, social or cultural structures or processes the organisms go through in their evolution. The organizing process of morphic fields is based upon and guided by *resonance*.

Morphic resonance gives an inherent memory in fields at all levels of complexity. In the case of squirrels, each individual squirrel draws upon, and in turn contributes to, a collective or pooled memory of its kind. In the human realm, this kind of collective memory corresponds to what the psychologist C.G. Jung called the collective unconscious. Morphic resonance should be detectable in the realms of physics, chemistry, biology, animal behaviour, psychology and the social sciences.^{xlvi}

This resonates with de Chardin’s theory of the slow progression of humankind as ‘energy structures’ able to contain an increasing sophistication of behavior, society and culture which slowly builds a collective experience and increasing awareness toward the *noosphere*, an energy structure where the consciousness of all blend into hyper-consciousness.

Intriguingly, empirical research done by Michael Persinger has found precise correlations between cerebral electromagnetic field densities and the electromagnetic field densities of ‘natural’ phenomena such as lightning suggesting that the same natural patterns and processes are in effect in both micro and macro areas or levels of life and evolution.^{xlvi}

...the marked similarities of electromagnetic patterns (Schumann resonancesⁱ, author) within the earth's surface ionosphere shell is not only revealing philosophically but potentially important for understanding human cerebral function. The energy density from 10^{10} neurons within the entire *cerebral human volume would be about 10^{-7} J/m^3* . There are about 70 to 100 lightning flashes per second worldwide, most of which occur within a narrow shell of about 2 km within the biosphere. Assuming a typical 10 Coulomb (C) flow of electrons across a potential difference of 10^8 V , the energy would be 10^9 J per flash for a total of 10^{11} J/s worldwide. The volume of the shell within which the electromagnetic fields associated with lightning patterns occurs is about 10^{18} m^3 *which yields a density of 10^{-7} J/m^3* . (Italics are the author's.)ⁱⁱ

Persinger goes one step further in his conclusions concerning energy density and consciousness lending support to the supposition within many of the teleological theories described above that all of nature may be 'alive' and 'filled' with the energy of some kind and level of consciousness.

The marked similarities between action potentials (within the brain, author) and the lightning strikes that generate the earth's own 1 to 10 pT, 7 Hz to 40Hz "manifold" also strongly indicate that if consciousness is simply a property of specific electromagnetic patterns and intensities, a variety of these conditions may exist within extracerebral systems.ⁱⁱⁱ

Although Persinger limits his assumptions to consciousness possibly being 'a property of specific electromagnetic patterns and intensities' in this study, it would also be quite possible that these electromagnetic patterns and intensities, instead of producing consciousness are *properties or vehicles* of specific expressions of consciousness, the intensity of which determines the level of awareness contained within any one electromagnetic wave phenomena.ⁱⁱⁱ

This possibility is underscored in later empirical research in which Lehman and Persinger (and others, see notes below) examine quantum level photon packets (which are essentially 'quantum ripples' in electromagnetic energy fields) as vehicles for information storage and

communication within and between cells within the human mind and body. Lehman and Persinger feel these ‘photon packets of information’ within the human mind give credence to de Chardin’s theories on the relationship between energy and consciousness:

The range of energies between 10^{-20} J and 10^{-19} J is within the band associated with visible light. Since the 1930s photon emissions have been recorded from all living systems (Gurwitch, 1926). The rejuvenation of these measurements, primarily stimulated by Popp (1979), has indicated that the photon emissions are not simply metabolic artifacts but are intimately involved with inter-cell and intra-cell communications (Trushin, 2009; Fels, 2009). Popp (1979) has argued that because all (or simply most) of the energy that has contributed to the evolution of biological systems on this planet originates from the sun, “virtual photons” that reflect this history are represented within the matter of the cell (Persinger, 2012a, 2013a)...^{liv}

In addition, photons, operating on the quantum level of experience, may act as one of the primary ‘tools’ or mediums for consciousness to express itself on the ‘physical’ level of reality. Evidence for this came from a study which asked human participants to imagine white light while sitting in a totally dark room. Results showed ‘strong correlations between the activity within the participants left prefrontal region which is associated with personal intent, decision-making and choice, and the irradiant flux density of the photon emissions from the right side of the head’.^{lv}

As these photons are emitted from the brain they carry with them the information instilled within them during their residence in the human body and may engage in local or ‘non-local’ (quantum entanglement^{lvi}) communication in de Chardin’s ‘noosphere’ with other particles filled with information from other sources.

The importance of this connection between imagination and consciousness and photon emissions from the human brain to Teilhard de Chardin’s premises cannot be over-emphasized. These biophotons match his operational description of the essence or evanescent particle.^{lvii} They also connect or resolve the dichotomy

between matter and energy or mass and spirit in a very quantitative manner.^{lviii}

Other studies by Persinger and colleagues^{lix} (and others cited below) also found empirical evidence for the possibility of a ‘non-local entanglement’ between information-carrying photons, suggesting a universal interconnectivity between all particles in the universe unlimited by the constraints of space and time. In such an environment, the development of Teilhard de Chardin’s ‘noosphere’ containing ever-fluxing ‘universal’ thought patterns arising out of collective human thought might be a naturally occurring phenomena.^{lx}

Persinger concludes (in this study in which he cites corroborating studies by other empiricists) that quantifiable evidence is available that suggests, 1) individual and/or collective consciousness is capable of expanding ‘beyond the terrestrial domain’, 2) ‘There are sufficient physical electromagnetic and temporal similarities between the Schumann Resonances of the earth-ionospheric cavity and the cerebrums of the human population to allow the conditions that could create the ‘noosphere’, and 3) that the magnetic fields arising from human thought may find a certain affinity with intergalactic magnetic fields, an affinity that offers the possibility of immortality and a collective ‘Omega Point’ for human consciousness.^{lxi}

The work that Persinger and other ‘empiricists’ have done in correlating similar processes between the micro-quantum field of neurology and consciousness studies and those of ‘natural’ phenomena on both the micro and macro ‘cosmic’ scales are forging new bridges of understanding of the role of consciousness as a substrate underlying and energizing all levels of evolution.

The picture that emerges from such research is one of an evolution teleological in nature, an evolution of a constant ‘innate’ seeking by consciousness for greater expansion through organisms of increasing complexity and energy density toward an ‘Omega Point’ of total human unification; a unification not based on the ‘annihilation of the individual’ but of incredibly interconnected diversity, a diversity which creates even more potential for expansion and freedom.

[Join the discussion for this chapter →](#)

Continue the journey

This chapter is one of fifteen in Freedom & the Self, the first volume of Freedom: What It Is & How to Achieve It. The complete book follows the thread from the evolution of consciousness to the nature of the self, the experience of freedom, and how to live it day to day.

Volume 2, Freedom & the Collective Path, carries the same inquiry into relationship, society and our shared future.

Get Volume 1: Freedom & the Self

Get Volume 2: Freedom & the Collective Path

Explore the Freedom Series

All books by Richard E. Bradshaw, PhD