

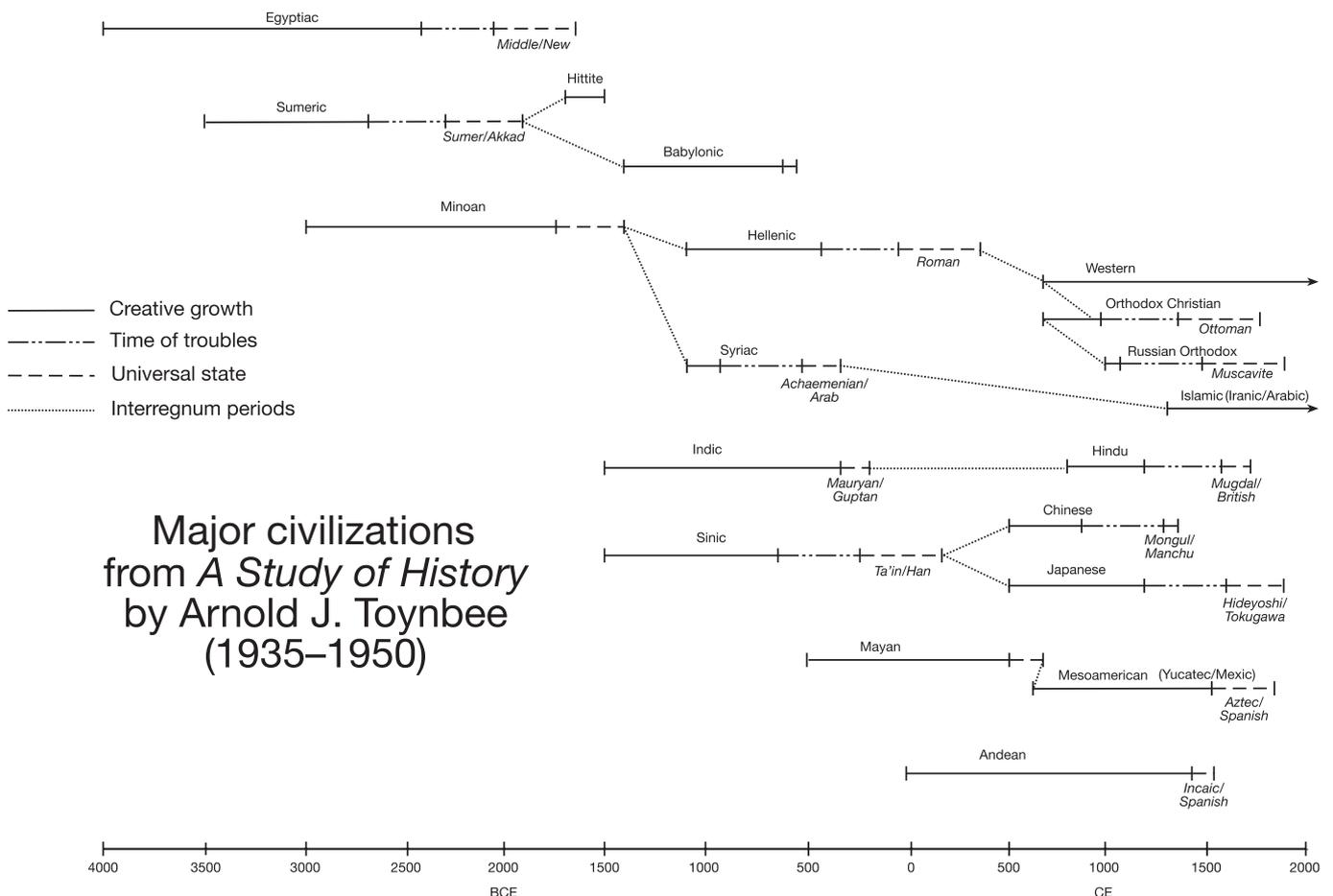
Transforming Bohm's Cosmology

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September 2022

As an addendum and introduction to the 43-page essay I wrote in July on 'The Divine Origin of Creativity',¹ this note outlines the direction that Life seems to be taking me during the last few years of my life on Earth. Although my life experiences are best understood as the fulfilment of an evolutionary prophecy that Pierre Teilhard de Chardin made in *The Human Phenomenon*, published posthumously in French in 1955, as physics is still regarded as the primary science, it is perhaps better to fill in some more details of how the *Unified Relationships Theory* deepens and extends Bohm's cosmology, as the theory of the Implicate Order.

To set this endeavour within its social context, as a species of nearly eight billion humans, we currently face a global situation that is changing at unprecedented exponential rates of acceleration on two fronts: (1) 13.8 billion years of divergent evolution since the most recent big bang are degenerating into chaos in our fragmented, split psyches and (2) abrupt irreversible climate change is about to destroy the habitat that provides us with the food we need to survive. Yet, we are not wisely, intelligently, and consciously adapting to our rapidly changing environment. So the species that Carl Linnaeus named *Homo sapiens* 'wise human' in *Systema Naturæ* in 1758² is hardly living up to its name.

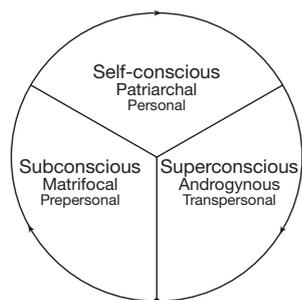
To see how we could cocreate a wise community within the divisive, dysfunctional predominant culture, we need to understand how humanity has reached the perilous situation we are in today. For instance, in the monumental *A Study of History*, Arnold J. Toynbee identified about twenty major civilizations that have existed during the past five or six thousand years, most of which have died,³ depicted in this timeline.



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What many of these civilizations share in common, especially those that originated in the Middle East and Greece, is one-sidedness, the inability to develop an all-inclusive view of humanity's place within the overall scheme of things. It is thus amazing that our species has survived for as long as it has. We can liken individuals and organizations in the body politic to cells and organs in our bodies. If these differentiated constituents were not aware that they are participating in an organized whole, like musicians playing harmoniously in a symphony orchestra, our bodies would quickly disintegrate.

Disturbed by this chaotic situation, during the past few decades, a number of pioneers have been seeking to bring universal order to the mess that the world is in, particularly David Bohm, a friend and colleague of both Albert Einstein and J. Krishnamurti—my primary scientific mentor—and his biographer F. David Peat, who cofounded the Pari Center for New Learning in Italy with Maureen Doolan in 2000.



Formless Alpha/Omega Point of Evolution

Another influential figure has been Ken Wilber, who visualized human development in three phases in *Up from Eden* in 1981, illustrated in this diagram,⁴ slightly modified. This means that if we are to realize our fullest potential as a species before our inevitable demise, then all the civilizations in the patriarchal epoch will need to die within us, including the most deluded of them all: Western civilization.

More extensively, Teilhard saw the whole of evolution since the most recent big bang in four stages: physical, biological, mental, and spiritual. The first of Wilber's phases, often called the 'Great Mother Goddess' epoch, roughly corresponds to the transition period from biogenesis to noogenesis in Teilhard's model. Regarding the transition from the mental to the spiritual phase of human awakening, where all opposites are unified in Wholeness in androgynous beings, Teilhard foresaw that all the divergent streams of evolution would one day converge at evolution's Omega Point, its glorious culmination. As he optimistically visualized,

The way out for the world, the gates of the future, the entry into the superhuman, will not open ahead to some privileged few, or to a single people, elect among all peoples. They will yield only to the thrust of all together in the direction where all can rejoin and complete one another in a spiritual renewal of the Earth.⁵

This beautiful vision of an awakened, harmonious eschatological Age of Light has guided much of my life since 1982, when I was helping to design and implement a new management accounting system for the Kuwait Institute for Scientific Research in the middle of the Falklands War. For in April that year, I first became aware that I had been carried to evolution's glorious culmination. In just two years of the most stupendous creativity, Life had guided me from the Alpha to the Omega Point of evolution.



However, since then, it has not been easy to find a language with which to communicate my insights and unprecedented experiences. During the past four decades, I have scoured the world of learning for suitable words, mathematical techniques, metaphors, diagrams, and pictures with which to express my growing understanding of what was evolving within my innermost being. As I mentioned in July's essay, I have been much helped in this regard by studying the roots of words, as far back in time as possible. For instance, Bohm pointed out that *a theory is a form of insight*,⁶ inaccessible to our physical senses. It is only when we express what we see within in signs and symbols that we can communicate with others. Of course, those who we feel particularly close to can sometimes wordlessly pick up our thoughts and feelings. But this ability does not generally extend to the general public.

This means that we can only understand what is happening to us all at the end of evolutionary time through self-inquiry, by mapping the Cosmic Psyche, the 99% of the Universe hidden beneath its material

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surface. In my experience, what Bohm called the Implicate Order is not a physical substrate, as the holomovement or holoflux. Rather, this undivided flowing stream has flowed into the multidimensional Ocean of Consciousness, which corresponds to Teilhard's *Le milieu divin*, meaning, in French unlike English, both 'centre' and 'surroundings',⁷ both our inner psychic and outer social environments.

If we humans are to fully participate in the world we share, it is thus essential that we change the meaning of *Universe* by turning to its root. *Universe* derives from Late Middle English *universe* 'the whole of created or existing things regarded collectively', from Old French *univers*, from Latin *universum* 'all things, everybody, all people, the whole world', neuter of *universus* 'combined in one, whole, entire', from *uni-* 'one', from Proto-Indo-European (PIE) base **oi-no-* 'one, unique', and *versus* 'turned', past participle of *vertere* 'to turn', from PIE base **wer-* 'to turn, bend'. Latin *universus* is a loan word from Greek *to òlon* 'the universe', noun use of neuter of adjective *òlos* 'whole', from PIE base **sol-*, also root of *safe* via Latin *salvus* 'whole, safe, healthy, well, sound, unhurt, uninjured'.

But the conception of the physical universe, primarily consisting of matter, space, and time, is very far from turning everything that exists into a coherent, ordered whole. It is also a misconception to call the physical universe the cosmos, from Greek *kosmos* 'order, arrangement; decency, good behaviour; regularity, good government; world, universe; glory, honour'.⁸ Rather, if we are to intelligently bring order to the governance of society, we need, at least, to recognize that *Consciousness is all there is*, as Ramesh S. Balsekar, formerly President of the Bank of India and a leading Advaita sage, pointed out in *Consciousness Speaks*.⁹

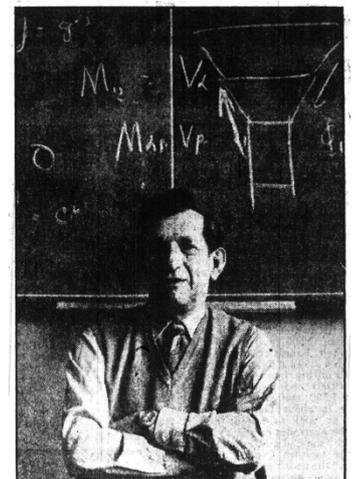
We can see this most clearly from the root of *consciousness*, which is Latin *cum* 'together with' and *scire* 'to know', also the root of *science*, which is cognate with *schizoid* 'split', from PIE base **skei-* 'to cut, split'. So, if we are to grow in consciousness, we need to put together what analytical, reductionist science has cut into pieces, which is essentially an artistic, creative activity. Teilhard called this holistic evolutionary process the *law of complexity-consciousness*: the greater the complexity, the greater the consciousness,¹⁰ culminating in Cosmic Consciousness at evolution's Omega Point.

It is pertinent to note here that the root meaning of *create* in late Middle English had the sense 'form out of nothing', used of a divine or supernatural being, as I have recently discovered.¹¹ As this is a notion that has lain outside science since the formation of the Royal Society in the 1660s, it is not surprising that the world is in the mess that it is in today. To bring a modicum of order to the world of learning, I have spent many years developing a glossary of terms that I need to present Panosophy, as the unification of all sciences, humanities, philosophies, and religions. As this Glossary is currently incomplete on my website for the Alliance for Mystical Pragmatics, I would much appreciate some assistance in bringing it to fruition.



Turning now to the language of mathematics, when I had the idea in April 1980 that nonphysical synergistic data energies are causing scientists and technologists to drive the pace of change in society at unprecedented exponential rates of acceleration, I thought that I would need to explain this obvious idea mathematically if it were ever to be accepted by sceptical scientists holding on tightly to traditional worldviews and mindsets.

When I discovered Bohm's book *Wholeness and the Implicate Order*, I learned that he had a similar concern and that he was seeking to develop an 'algebra of algebras' to establish his cosmology as sound science, as the caption on this photo indicates.¹² However, we did not talk about what he meant by this term during our private conversations in the 1980s, for I was focusing attention on developing



Bohm and his algebra of algebras: "religion is wholeness"

what I now know as a *meta-algebra*, where *meta-* means 'beyond'. As I described in July's essay, I regard this meta-algebra as the algebra of algebras that Bohm sought, although I have not seen this term mentioned anywhere else.

At the time, I did not know whether to call the holotropic, paralogical system of thought that was emerging in consciousness *implicate* or *explicate*. For, while this taxonomy of taxonomies clearly lay hidden within the Implicate Order, it was being explicated, as evolution was becoming fully aware of itself, in the manner that Julian Huxley foresaw.¹³ In the event, this holographic, nonlinear process of reasoning became *Integral Relational Logic*, providing the Cosmic Context, Gnostic Foundation, and system of coordinates for the Unified Relationships Theory, as a generalization of Einstein's Unified Field Theory. For fields, whether they be electromagnetic, morphogenetic, or whatever, are special types of relationships. And relationships make the world go round!



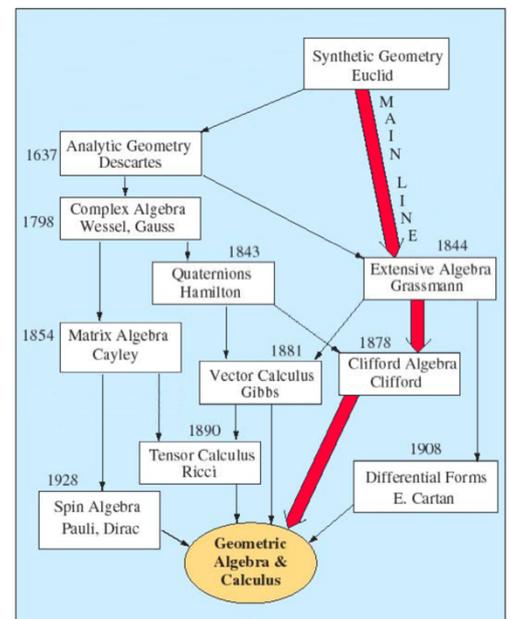
As Integral Relational Logic is a transcultural and transdisciplinary meta-algebra, I must emphasize that I'm not looking at the world we live in from Paul Hague's perspective. For doing so would be one-sided, a violation of Wholeness, as the union of all opposites. Rather, I am standing outside myself, viewing the world we share from the vantage point of the Absolute, from which none of us is ever separate. This is well illustrated by the way that Edgar Mitchell, the Lunar Module Pilot of Apollo 14 in 1971, viewed the Earth from the Moon.

After sensing 'an instant global consciousness', Mitchell co-founded the Institute of Noetic Sciences (IONS) on his return to the Earth. Today, IONS, along with many similar associations, is seeking to develop a 'scientific view of our inner experiences'.¹⁴ To do so, we need to tap into our innate sense of Wholeness, which Mitchell clearly experienced on the Moon, having "a people orientation, an intense dissatisfaction with the state of the world, and a compulsion to do something about it", beyond the pettiness of international politics.¹⁵

Regarding the 'algebra of algebras', I did not understand what Bohm might have meant by this term until last autumn, when I read an article titled 'Thirty Years with David Bohm', which his colleague Basil Hiley had written for the December 2019 issue of *Pari Perspectives*, on the theme 'The Quest for Wholeness'. There, I learned that Bohm was seeking to use Clifford Algebra as the mathematical language for the theory of the Implicate Order and his view of the physical universe.

To put Clifford Algebra into perspective, in 2015, four electrical and electronic engineers at the University of Adelaide presented this diagram of the way that various geometric theories have diverged from Euclidean geometry, today converging in geometric algebra and calculus.¹⁶ The prime mover behind this convergence was David Hestenes, who said that geometric algebra is "A mathematical language for the whole of physics" at a 1986 conference on the subject.¹⁷ Similarly, in a 1993 paper titled 'Imaginary Numbers are not Real: The Geometric Algebra of Spacetime', Stephen Gull, Anthony Lasenby, and Chris Doran said that geometric algebra is "The most powerful and general language available for the development of mathematical physics."¹⁸

These are fascinating developments, but they don't directly help me develop a nonmechanistic approach to mathematics that



explains what is causing scientists and technologists to drive the pace of scientific discovery and technological invention at hyperexponential rates of acceleration. For, if scientists and technologists are to understand what is causing them to behave as they do, they need to engage in self-inquiry, questioning the assumptions on which their professions are based, as Bohm advocated. As doing so could lead them to be ostracized and lose their jobs, it is perhaps not surprising that most are unwilling to do so.

Nevertheless, I still feel moved to explain how Integral Relational Logic, as a meta-algebra, relates to geometric algebra. My general approach is to find the simplicity underlying the complexity of pure mathematics and the world we live in, planting seeds in fertile soil, which then grow and develop historically, structurally, and dimensionally into beautiful forms, like an oak, the most majestic of trees, here in northern Europe, but first visualized within the Cosmic Psyche.

For instance, in Chapter 3 'From Zero to Transfinity' of my evolving book *Unifying Mysticism and Mathematics*, I wrote a few words about Hermann Günther Grassmann's geometric extensive algebra and William Rowan Hamilton's quaternions before I learned about how William Kingdom Clifford unified them with his eponymous algebra, resolving the vector wars that have been simmering, at least, for the best part of 150 years.

To correct this omission, I plan to write about how geometric algebra has evolved from linear algebra¹⁹ in a section of Chapter 5 'Growth of Algebraic Structures'. Regarding the application of geometric algebra to physics, I have learnt a little about how this powerful technique can simplify Pauli and Dirac matrices and Maxwell's equations of electromagnetism.²⁰ However, as I abandoned physics in high school because I did not believe in the big bang theory or in the existence of a fundamental particle of matter, I cannot go very far with this explanation. In contrast, astrophysicists and particle physicists have persuaded governments to spend billions of dollars and euros of taxpayers' money in building telescopes and particle accelerators, which don't help at all to answer the most fundamental questions of human existence.

Nevertheless, in 2010, Basil Hiley and a colleague at Birkbeck College, wrote two papers on 'The Clifford Algebra approach to Quantum Mechanics', using Bohm's notion of the implicate and explicate order as a philosophical motivation.²¹ These should help to clarify this use of geometric algebra for the benefit of physicists, although I do not know to what extent these papers have yet been accepted.

However, it is important to view these developments in the context of what is currently happening to us all as a species. From this perspective, I see Bohm's cosmology as 'work in progress', marking the transition from traditional scientific views of the universe towards the Omega Point of evolution, where Gnostic psychology is recognized as the primary science, rather than physics or biology, sometimes attempting to usurp the former's throne.



This transformation of Bohm's cosmology is especially important because, despite working with Krishnamurti for twenty years, Bohm was not able to cognitively and experientially include the Absolute in his worldview, as he indicated to me when we first met. So his path through life did not fully harmonize with Joseph Campbell's Cosmogonic cycle by returning to the Source in Wholeness, the principal goal of the spiritual journey. Most significantly, we cannot understand Bohm's interpretation of quantum phenomena solely from a metaphysical perspective, as some of the philosophers in Part 2 of the 2022 'Beyond Bohm' seminars attempted, seeking 'intelligibility'.

Rather, to make coherent sense of the paradoxes of quantum phenomena, we need to begin with mystical experience in union with the Divine, with intelligence, not the intellect. One who understood Bohm's

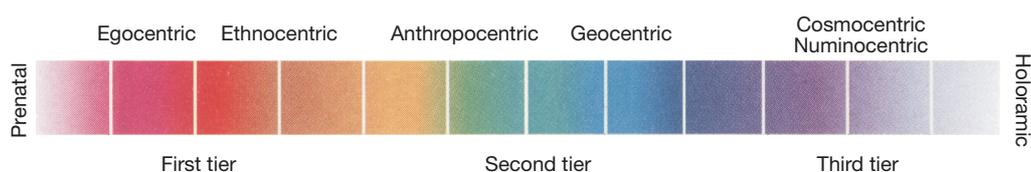
cosmology better than Bohm himself was Vimala Thakar, who became one of the most liberated humans on the planet following conversations with Krishnamurti in her thirties.²²

For instance, in 1986, when giving a series of five lectures in Chile titled *Science and Spirituality*, hosted by the social activist Cecilia Dockendorff, Vimala said that the science of spirituality begins with Wholeness or Totality, like Aurobindo's notion of the undivided Supermind.²³ As she said, referencing Bohm's endeavours to bring a sense of meaningful Wholeness to science with his theory of the implicate order, "It begins with the awareness of the whole—the wholeness or the totality, it proceeds from the awareness of wholeness to analyse the particular as organically related to the whole."²⁴ For, as Krishnamurti said, "Can any specialist experience life as a whole? Only when he ceases to be a specialist."²⁵

Two years earlier, Vimala had highlighted the central issue facing humanity in the opening paragraph of *Spirituality and Social Action: A Holistic Approach* with these wise words: "In a time when the survival of the human race is in question, continuing with the status quo is to cooperate with insanity, to contribute to chaos." She therefore asks, "Do we have the vitality to go beyond narrow, one-sided views of human life and to open ourselves to totality, wholeness?" For as she says, "The call of the hour is to move beyond the fragmentary, to awaken to total revolution."²⁶ As we are all interconnected, awakening to Total Revolution is essentially a psychosocial issue, as Vimala went on to point out:

In truth, the inner life or the psychological life is not a private or a personal thing, it's very much a social issue. The mind is a result of a collective human effort. There is not your mind and my mind, it's a human mind. It's a collective human mind, organized and standardized through centuries. The values, the norms, the criteria are patterns of behaviour organized in collective groups. There is nothing personal or private about them. There is nothing that could be a source of pride or embarrassment.²⁷

With *Spirituality and Social Action* out of print and not even available second-hand or digitally on Vimala Thakar's website, it looks virtually impossible to fulfil Teilhard's vision, described on page 2. We can see why this Utopian dream is unlikely to become manifest in the population as a whole from the three-tier, twelve-level model of the spectrum of consciousness that Ken Wilber has been working on since he wrote his first book in the 1970s on *The Spectrum of Consciousness*, which I have modified a little to match my own awakening of intelligence and consciousness.



Despite its simplicity, it is a very helpful model, illustrating the way that the depth and breadth of consciousness can grow throughout our lives. However, it has some weaknesses. In particular, it does not begin in the pre- and perinatal domain, as Stanislav Grof points out in an article in *Ken Wilber in Dialogue*.²⁸ For instance, in the Preface to *Integral Life Practice* from 2008, which Ken describes as a 'second-tier practice', he says, "Developmental models are in general agreement that human beings, *from birth*, go through a series of stages or waves of growth and development." [my emphasis]²⁹ Neither does it include my experience of an undivided Holoramic perspective, transcending the categories. I coined *Holoramic* to mean 'Whole-seeing' from Greek *ólos* 'whole' and *órāma* 'sight', from *órān* 'to see', modelled on *panorama*.

To put the current situation into perspective, Ken has said in a ten-module Internet course titled 'Superhuman Operating System', intended to "Install a Revolutionary New Operating System for Your Mind to Illuminate the Full Spectrum of Your Human Potential, and Become the Greatest Possible Version of Yourself", some 95% of the populace are still in the egocentric and ethnocentric first tier, while just 5% have reached the second tier. The third tier indicates "an identification with all life and

consciousness, human or otherwise, and a deeply felt responsibility for the evolutionary process as a whole ... an emergent capacity, rarely seen anywhere,” as Ken defined it in a conversation with Andrew Cohen in the *What is Enlightenment?* magazine in 2007.³⁰

I know from my own life story the importance of including our prenatal experiences for a full understanding of our entire lifespans. In my case, my three-year-old brother was killed instantly by an army lorry at 16:00 on 16th October 1941, seven weeks after my conception, when I was just a two-centimetre embryo. On the day that my mother's pregnancy was confirmed, gone immediately was the feeling of 'oceanic ecstasy' that Stanislav Grof talks about in *The Holotropic Mind*. As he said, our early experiences in the womb “have strong mystical overtones; they feel sacred or holy. ... In this state of cosmic unity, we feel that we have direct, immediate, and unlimited access to knowledge and wisdom of universal significance.” This rapturous period in our lives, a reminder of “Gardens of Paradise in the mythologies of a variety of the world's cultures”, can be referred to as 'oceanic ecstasy'. Rather, for the next seven months I felt what he called a 'bad womb'.³¹

So, as I see today, in my eighties, the central theme of my life has been to return to the feeling of oceanic ecstasy that I enjoyed during the first fifty days of my existence as a distinct being. Here are two beautiful poems that wonderfully illustrate the goal of the spiritual journey, the first from the *Taittiriya Upanishad*³² and the second from 'Little Gidding', the final poem in T. S. Eliot's *Four Quartets*:³³

<i>Bhriḡu meditated and found that bliss is Brahman.</i>	<i>We shall not cease from exploration</i>
<i>From bliss are born all creatures,</i>	<i>And the end of all our exploring</i>
<i>By bliss they grow,</i>	<i>Will be to arrive where we started</i>
<i>And to bliss they return when they depart.</i>	<i>And know the place for the first time.</i>

Accordingly, to return to the Source in later life, I began my journey to evolve beyond the restrictions of the family and culture I had been born in in early childhood, guided by the creative power of Life. Specifically, to find Peace, I began questioning the religious and scientific assumptions of Western civilization when I was seven, perpetuating the feeling of living in a hostile environment that I had experienced *in utero*.

My 'unsuccessful' formal education thus well prepared me for a big bang to erupt in the utmost depths of my psyche on 27th April 1980, when I had the idea that synergistic nonphysical active and passive data energies are causing the pace of evolutionary change to accelerate exponentially. However, although Bohm liked this idea, which leads to meaning, he did not assimilate it in consciousness and therefore did not promulgate it. Rather, as I have recently discovered through the Pari Center, he and Basil Hiley used the concept of 'active information' in their explanation of the weird phenomena of quantum physics.³⁴

It seems that Bohm could have subconsciously picked up this notion from my juvenile writings in the 1980s, but with a somewhat different interpretation. Or not. Sometimes, when the time is right, the same ideas appear independently in different thinkers. For instance, Paul Baran in the USA and Donald Watts Davies in the UK independently developed packet switching in the 1960s, on which the Internet is based.³⁵

However, mathematically and mystically explaining the causal effects of meaningful information, as interpretations of the data patterns underlying the Cosmos, has meant that I have needed to work mainly in solitude since 1980, cognitively mapping the Cosmic Psyche, recognizing that Consciousness is the final frontier of human exploration. As I have never lost my innate sense of Wholeness, I have lived most of my life as an outsider to the divisive predominant culture, constantly questioning assumptions that don't fit together as a coherent whole, like constructing a gigantic, multidimensional jigsaw puzzle. Sadly, as few have the experience to understand the language that I use to present this inner picture, it is as if I am the last surviving speaker of a dying language, except that the language I use is very much alive!



Nevertheless, what I see within affects every human being on Earth, especially children. In particular, this Holoramic vision has enabled me to model the unprecedented rates of accelerating change we are all experiencing, on two fronts. In the first of these, I was inspired to explore what is causing the pace of scientific discovery and technological invention to accelerate exponentially from David Attenborough's *Life on Earth*, broadcast by the BBC in 1979. In the first episode of this enthralling television series, Attenborough graphically illustrated the exponential rate of evolutionary change. It is now some 3.6 billion years since the first self-reproducing forms of life appeared on this planet. So, if we consider 10 million years to be a day, we can map the whole of evolution on this planet to the days of the year.³⁶

Using this model, if 1st January marks the birth of single-cell organisms, then the first multicellular organisms appeared in the middle of August, with sexual reproduction beginning about six weeks later. Other significant events during the late autumn were the emergence of fish, land plants, and reptiles. Then about the 10th December, both mammals and dinosaurs appeared, with mammals surviving the mass extinction that occurred on Christmas Day, one of seven and nine mass extinctions of land and marine forms of life so far in the life of the Earth.³⁷

This catastrophe enabled the primates to appear on Boxing Day, to be followed by the hominids four days later. Then on New Year's Eve, the first hominins appeared around two in the afternoon, with exemplars of the *Homo* genus following a few hours later. The whole of human evolution has thus taken place during the evening of the last day of the year, with *Homo sapiens* being born between 23:15 and 23:30. As we rapidly approach midnight on 31st December, we can see that the whole of mental evolution has thus taken place during the last eight or nine minutes, with the first civilizations appearing about 45 seconds ago, at the dawn of history. The Computer Age began less than a single tick before the present moment, which is midnight. For a second in Attenborough's evolutionary model is about 116 years. So, what will happen during the next 45 years, when the duration of the Computer Age will have expanded to over a second?

Well, even though the invention of the stored-program computer was just a quarter of a second before midnight back in 1980, there were already some indications of how developments might unfold within the limits of growth. Regarding hardware, it was clear that exponential evolutionary growth could not continue indefinitely. For instance, I learned at an IBM hundred-per-cent club in the 1970s that a light-nanosecond is about thirty centimetres or one foot, the length of a ruler, which limits the speed of data transfer between different parts of a large computer.

In illustration, Gordon E. Moore, the co-founder of Intel, the chip manufacturer, published a paper in 1965 indicating that computers would double in power every two years,³⁸ known today as Moore's Law. However, even though he told a meeting of the world's top chip designers and engineers on 10th February 2003, "No exponential is forever," he irrationally went on to say, "Your job is to delay forever."³⁹

Furthermore, by 1980, some of the key technological issues that had troubled the fledgling industry during its first two or three decades had been resolved, in principle, at least. For instance, in 1962, computer scientists at Manchester University developed the 'Atlas Supervisor' for its Atlas computer, which was "considered by many to be the first recognisable modern operating system".⁴⁰ For it enabled applications to run concurrently without interfering with each other or the operating system, "the most significant breakthrough in the history of operating systems".⁴¹ For although IBM's OS/360, which I began to use in 1965, could run applications concurrently on its System/360 computers, a failure in one could cause the entire system to crash. It was not until IBM announced its System/370 in 1970 that it resolved this problem, using the virtual-addressing and demand-paging techniques that originated at Manchester University.⁴²

Secondly, the publication of the structured program theorem in 1966⁴³ paved the way for structured programming languages and systems design, greatly closing the semantic gap between machines and human beings, who could interact with computers in their own, commonsensical terms. To this effect, Edsger W. Dijkstra, a pioneering programmer from the Netherlands, wrote a famous letter in 1968 called 'Go To Statement Considered Harmful', in which he described the 'disastrous effects' of the GO TO statement, and that it should be abolished from all high-level languages. The GO TO statement had to go.⁴⁴

In turn, this led to object-oriented programming and modelling languages, incorporating the concepts of class, entity (as instance of class), and attribute, corresponding to Plato's universals and particulars and Aristotle's subjects and predicates, as I mentioned in 'The Divine Origin of Creativity'. These universal principles were then incorporated in Apple's desktop metaphor on its Macintosh computers, where applications are interrupt-driven by users, like the first operating systems. Another example, familiar to millions, is text in word-processing programs, like Microsoft Word, which can be defined with various attributes, like font, style, and size. But, while I have been using Word for Mac since version three in 1986, don't expect that there will ever be a version 271, for instance. For this is not going to happen.

Thirdly, in 1970, Ted Codd of IBM unified the hierarchical and nonhierarchical approaches to database design that had emerged in the 1960s through the notion of relations or tables.⁴⁵ Such structures were not a new idea. We have been keeping records in such tables since the very first civilizations. For the first writing to be discovered on a clay tablet in Uruk (modern Erech) dates back to 3300 BCE, detailing the allotment of malt to a number of people and with stock accounts of barley on the reverse.⁴⁶

In effect, with the relational model of data, Codd introduced a nondeductive logic based on the mathematical theory of relations and first-order predicate logic, the most significant change in Western reason since Aristotle's *Organum*, leading to the formation of a multibillion-dollar industry. Today, you cannot buy a book or airline ticket on the Internet without invoking the relational model behind the scenes. Indeed, content management systems for the Web, like Drupal and WordPress, use relational databases to store pages. They are also interrupt-driven, like apps, working locally on computers, tablets, and phones.

Today, these software, class-, and data-modelling methods have evolved into Integral Relational Logic, which accepts contradictions in reasoning, necessary to correctly map the paradoxical world we live in, free of erroneous assumptions. This universal art and science of reason within the Cosmic Psyche thus fulfils Bohm's attempts to present quantum theory as simple commonsense, familiar to all through self-awareness.



But the unprecedented exponential rate of evolutionary change is not the only phenomenon that we intelligently need to adapt to as wise humans. As has become crystal clear in recent years, the exponential rate of abrupt irreversible climate change is even more critical. For instance, during the last weekend of August 2022, Guy McPherson and his partner Pauline Schneider held a workshop on the theme 'Only love remains', coincidentally with the last weekend of the Pari Center's online summer series 'Beyond Bohm'.

For, like me in 1980, Guy had left the dysfunctional system that provided him with a livelihood because he could see that the global economy is unsustainable. In his case, he resigned from his tenured position as Professor of Natural Resources at the University of Arizona in 2009 at the age of 49. Since then, after a period of living off-grid, Guy's impeccable scientific scholarship has been endeavouring to tell the world what it doesn't want to hear. Not surprisingly, he has been treated as a *persona non grata*, as he tells us in a recent YouTube video titled 'Abrupt, Irreversible Climate Change to Cause Planetary Extinction'.

Although we do not have the power to prevent the near-term extinction of humankind, no matter how awakened we might become, if we could become more aware of what we all face as a species, we could still

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synergistically pool our skills and resources in what Guy aptly calls a 'planetary hospice', living beyond hope and despair. For me, this is like being on a spiritual retreat while going about my daily life, as normal.

So, as well as presenting the scientific evidence for near-term human extinction, Guy has also described his experience of grief counselling⁴⁷ and how we might wisely live at the end of time. Here is a summary of his thoughts in this regard:

I am asked nearly every day for advice about living. I recommend living where you feel most alive and, simultaneously, where you feel most useful. I recommend living fully. I recommend living with intention. I recommend living urgently, with death in mind.

I recommend the pursuit of excellence. I recommend the pursuit of love.

In light of the short time remaining in your life, and my own, I recommend all of the above, louder than before. More fully than you can imagine. To the limits of this restrictive culture, and beyond.

For you. For me. For us. For here. For now.

Live large. Be you, and bolder than you've ever been. Live as though you're dying. The day draws near.⁴⁸

Addressing the same problem from the perspective of creation spirituality, Matthew Fox wrote in the Foreword to Andrew Harvey and Carolyn Baker's *Savage Grace: Living Resiliently in the Dark Night of the Globe* from 2017, "Ours is a time not only for scientists and inventors but also mystics and contemplatives to join hands so that our action flows from being and from a deep place of return to the Source."⁴⁹

For most of the past forty years, I have been attempting to set up such a network of networks with progressives in the alternative movement, such as the New Economics Foundation (NEF) in the eighties, the Institute of Noetic Sciences (IONS) in the nineties, the Scientific and Medical Network (SMN) in the noughties, and more recently the Science and Nonduality (SAND) conference community, the Galileo Commission, and the Pari Center for New Learning.

By recognizing that the Totality of Existence can be viewed as a meaningful information system emerging from the Datum of the Universe, I have envisioned that the Information Society could evolve through the Knowledge Society to the Wise Society, free of fake news, Internet trolls, state-sponsored cybercrime, scientific and medical misinformation, and one-sided, either-or thinking, on which the foundations of mathematics are based. This would have been organized through what I have been calling the Alliance for Mystical Pragmatics since 2014, with the motto 'Harmonizing evolutionary convergence'.

For, there is little point in holding onto conventional structures that do not address humanity's existential crisis. There will be no banks, stock markets, or other joint-stock companies on Earth within a few years, for humankind will have become extinct by then. So, while the dysfunctional global economy continues to limp along, perhaps we could still join together in a wise community, coming as close as possible to realizing our *Infinite Potential*, the title of David Peat's biography on the life and times of David Bohm.

I am well aware of the challenges we face, as just an ordinary guy, with no special qualities and many of the same foibles as anyone else. For, by reflecting on my life's journey, I have realized that I have been a both-and thinker—seeking Love and Peace—since I was a small boy. This happened because the innate sense of Wholeness that we all share was not stultified in infancy, as is usual. As a consequence, a few of my friends, colleagues, and associates have seen that I am blessed with holistic visionary abilities that enable me to see more clearly and profoundly what others might only vaguely see, which some feel rather uncomfortable with. So, despite being a naturally sociable being, I have worked in solitude for much of my life, especially during the last ten years, when my creative studies of what is presently happening to humanity have been flowing freely, without let or hindrance.

For Krishnamurti famously said, "It is no measure of health to be well-adjusted to a profoundly sick society." It might seem strange to call decent folk, who function well within the prevailing culture, pathological, as Erich Fromm did in 1956 in *The Sane Society*, as a follow-on to his wartime *Fear of Freedom*

(*Escape from Freedom* in the USA). Yet, twenty years later, in *To Have or To Be?*, he said that if we are to avoid psychological and economic catastrophe we need an art and science of humanity, as the basis for social reconstruction. Inspired by Meister Eckhart and Shakyamuni Buddha's Four Noble Truths, Fromm said that if we do not acknowledge the symptoms of our suffering, we cannot find the cause or the cure, necessary to apply the remedy,⁵⁰ recognizing that Love is the Divine Essence we all share.

As I pointed out in July's essay, the principal cause of conflict and suffering is the experiential and cognitive split between humanity and Divinity, from which we are never separate, opened up at least 5,500 years ago, as we see from the Proto-Indo-European roots of these words.⁵¹ To heal this split, we need to break the most fundamental taboo on our lives, imposed on our learning by materialistic, mechanistic science, monetary economic systems, and the Abrahamic religions of Judaism, Christianity, and Islam.

For myself, Life has freed me from such social constraints to develop the Unified Relationships Theory, also called *Panosophy*, as the *Weltanschauung* that Fromm and Carl Gustav Jung sought. I have been greatly helped in my awakening as a spiritual eclectic because I moved primarily in various psychospiritual circles in Europe for about 25 years, with many teachers, including Vijai Shankar, a pre-eminent Advaita sage and former medical practitioner. I also made one visit to Australia in 1992, to attend the first 'Master Class' of Barry Long, who had claimed to be Krishnamurti's successor, my wife and I told Bohm in 1987, and a final visit in 2008 to the Altai Mountains in Russia, the original home of the shamans.

However, I have only been able to solve the ultimate problem of human learning and develop a comprehensive model of the psychodynamics of society, in the context of evolution as a whole, because I have been carried to evolution's glorious culmination, free, as much as possible, of my cultural conditioning, which creates the inhibiting institutions that govern our lives.

Nevertheless, as our fate as a species is in the hands of the Divine, all I can do at the end of time is to trust in Life, while resting in Stillness, awaiting what miracles might still spring and burst upon us from the Divine Origin of creativity. For, as I am Wholeness, with nothing and no one outside me, I do not actually exist as a separate being, able to view the Cosmos from the Alpha/Omega Point of evolution.

¹ http://mysticalpragmatics.net/documents/the_divine_origin_of_creativity.pdf.

² Carl Linnæus, *Systema naturæ per regna tria naturæ, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis* 'System of nature through the three kingdoms of nature, according to classes, orders, genera and species, with characters, differences, synonyms, places', 1st ed. 1735, 10th ed., Stockholm: Lars Salvius, 1758.

³ Arnold Toynbee, *A Brief Study of History*, abridged by D. C. Somervell, Table I, 'Universal States', p. 561.

⁴ Ken Wilber, *Up from Eden: A Transpersonal View of Human Evolution*, 1st ed. 1981, Wheaton, IL: Quest Books, 1996, p. 12.

⁵ Pierre Teilhard de Chardin, *The Human Phenomenon*, tr. Sarah Appleton-Weber, orig. pub. *Le phénomène humain*, 1955, Sussex Academic Press, 2003, pp. 172–173.

⁶ David Bohm, *Wholeness and the Implicate Order*, London: Routledge & Kegan Paul, 1980, pp. 3–4.

⁷ Pierre Teilhard de Chardin, *Le Milieu Divin: An Essay on the Interior Life*, tr. Bernard Wall, *Le Milieu Divin*, Paris: Editions du Seuil, 1957, London: Fount, Collins, 1967, p. 9.

⁸ James Morwood and John Taylor, eds., *Pocket Oxford Classical Greek Dictionary*, Oxford University Press, 2002, entry for $\kappa\omicron\sigma\mu\omicron\varsigma$, p. 190.

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¹⁰ Teilhard de Chardin, *Human Phenomenon*, pp. 216–218.

¹¹ Entry for *create* in Apple Dictionary, based on the *Oxford Dictionary of English*.

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