Demystifying the Mystery of Mathematics

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This essay has been inspired by a conversation on a YouTube video titled 'Why Does 2 + 2 = 4? What Math Teaches Us About Deep Reality', published on 15th January 2026.[1] The interchange of views was hosted by Peter M. Robinson within the Hoover Institution's video series program, Uncommon Knowledge, held in Salzburg on 24th October 2025. The other participants were Sergiu Klainerman, Professor of Mathematics at Princeton University, and David Berlinski and Stephen Meyer, who are a senior fellow and director of the Discovery Institute's Center for Science and Culture, respectively.

The introduction to the video says, "From the simple certainty that 2 + 2 = 4 to the mind-bending mathematics behind black holes and quantum physics, the conversation asks why abstract numbers—created in the human mind—map so perfectly onto the physical world. Is mathematics purely logical, or does it point to a deeper structure of reality that isn't material at all?"

As Sergiu Klainerman mentioned, this critical issue was raised by Eugene Wigner in 1959 in 'The Unreasonable Effectiveness of Mathematics in the Natural Sciences'. Wigner wrote, "The enormous usefulness of mathematics in the natural sciences is something bordering on the mysterious and … there is no rational explanation for it."[2] Two essays I have written this winter, along with my book *Unifying Mysticism and Mathematics*, provide the rational explanation that Wigner called for.

The first thing we need to do to explain why the beauty of mathematics is so powerful is to agree with Sergiu that materialism is just an explanation of the world and should be put in the ash bin of history. He said in his concluding remarks that if this means bringing God in, sure, why not? "I mean, that's another way of looking at the world. If there's something else, well, let's find out. Maybe, there is another explanation, but at this point, I don't see any reason why you should not look at that possibility."

But demystifying the mystery of mathematics is much more than just exploring the possibilities. It is essential to bring God and our profound mystical experiences into mathematics and science to methodically answer the most critical unanswered question in science: *What is causing scientists and technologists, aided and abetted by computer technology, to drive the pace of scientific discovery and technological development at unprecedented exponential rates of acceleration?*

For myself, I have now spent 46 years answering this question, since leaving my innovative marketing job for IBM in London. However, it has not been easy to find others willing to engage with me in this creative evolutionary adventure because we can only understand what is happening to us all as a species by unifying the contextual conceptions of God and the Universe in Wholeness. To reveal Inner Peace, I have needed to resolve the disputes between all the religions and between science and religion, which I set out to do as a seven-year-old, having been deeply disturbed by the traumas of the Second World War.

Renée Weber was much concerned with the division between science and spirituality in the 1980s. In her search for unity, she interviewed four leading scientists and sages, including David Bohm and the Dalai Lama, who she interviewed together. Among the others were Stephen W. Hawking and Jiddu Krishnamurti, who were rather uncompromising in their interviews.[3]

Since the 1960s, the war between science and religion has been particularly prominent in the conflict

between Christian fundamentalists, espousing 'creationism', and atheistic scientists, who seem to regard the neo-Darwinian notions of random mutations and natural selection to be the last words on the theory of evolution. Thankfully, there are many others seeking to reconcile these extreme positions.

Among them is Stephen Meyer, a leading advocate of 'intelligent design', who wrote in 2023 in *The Return of the God Hypothesis*, "To say that the God hypothesis has returned implies that scientists must have previously rejected it and that, at some still earlier time, a theistic perspective reigned either as an inspiration for doing science, an explanation for specific scientific discoveries, or both."[4]

However, the theistic perspective, much influenced by Christianity, is just one way of looking at God, and its relationship to humanity. Humans have formed multiple other viewpoints in both East and West over the millennia. Indeed, we could say that there are probably as many conceptions of God as there are humans on Earth, not the least because human experiences of the Divine are so varied, both between individuals and cultures and during lifetimes.

Nevertheless, to present a transcultural conception of God, last month, I published a 43-page monograph titled 'Unifying All Models of God in Cosmic Gnosis'.[5] I was inspired to write this essay by philosophers of religion, who have recently been questioning the basic assumptions of people's religious beliefs, which provide many with a precarious sense of security and identity in life.

For instance, in 2013, Jeanine Diller and Asa Kasher co-edited over eighty essays in *Models of God and Alternative Ultimate Realities*.[6] By focusing on conceptual structures, they were following Charles Hartshorne and William L. Reese's 1953 classic *Philosophers Speak of God*.[7] Hartshorne, co-editor of the first six volumes of Charles Sanders Peirce's *Collected Works* during the 1930s, had previously written an essay in 1943 titled 'A Mathematics of Theism'.[8]

However, I could not base this unification of the conception of God on the simple certainty that 2 + 2 = 4. For in the late 1800s, Georg Cantor discovered that set theory contains paradoxes and so mathematics lacks certainty, like science. This was a situation that deeply disturbed Bertrand Russell, who "wanted certainty in the kind of way in which people want religious faith".[9] Knowing that certainty cannot be found through the inductive and abductive methods of science, he set out to find certainty in the deductive reasoning of logic and mathematics, which we have inherited from Aristotle's *Organum* and Euclid's *Elements*, respectively.

Accordingly, Russell spent many fruitless years with Arthur North Whitehead in the early twentieth century writing *Principia Mathematica* in an attempt to remove contradictions from the foundations of mathematics. They famously took 360 pages to prove the proposition (*54.43) that would eventually lead to the arithmetical statement '1 + 1 = 2'.[10]

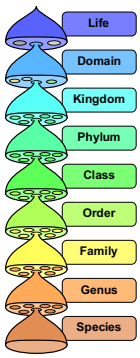
Russell described his futile endeavours to exclude the fundamental law of the Cosmos from mathematical logic with these words in his 'Reflections on My Eightieth Birthday' in 1952, nineteen years after Kurt Gödel had metamathematically proved that we cannot prove that the axioms of mathematics are consistent or complete:[11]

> But as the work proceeded, I was continually reminded of the fable about the elephant and the tortoise. Having constructed an elephant upon which the mathematical world could rest, I found the elephant tottering, and proceeded to construct a tortoise to keep the elephant from falling. But the tortoise was no more secure than the elephant, and after some twenty years of arduous toil, I came to the conclusion that there was nothing more that I could do in the way of making mathematical knowledge indubitable.[12]

What I mean by the fundamental law of the Cosmos is what Heraclitus of Ephesus called the *Hidden Harmony* in the few fragments of his mystical philosophy of change that have survived. He said, "The

Hidden Harmony is better than the obvious," and "Opposition brings concord; out of discord comes the fairest harmony."[13] However, Aristotle refuted this irrefutable, universal truth in *Metaphysics* with his law of contradiction, saying, "It is impossible for the same attribute at once to belong and not to belong to the same thing and in the same relation … as some imagine Heraclitus says."[14]

As I explain in last month's essay, I variously call the Hidden Harmony the *Principle of Unity*, the *Cosmic Equation*, or the *Cosmic Identity*. In words, the Principle of Unity initially stated *Wholeness is the union of all opposites*. However, this seems to imply that there is an agent who is unifying opposites. On the other hand, from the perspective of the Totality of Existence, it is more exact to say *Opposites are not separate in Ultimate Reality*, which is both Transcendent and Immanent, embracing and underlying the material and vastly more extensive nonmaterial regions of Existence.



The Cosmic Equation is the irrefutable *Primal Axiom* for *Integral Relational Logic* (IRL), which is the transcultural, transdisciplinary system of thought that we all implicitly use to form concepts and organize our ideas. IRL, based on the Cosmic Identity, is a meta-algebra, which provides the Cosmic Context, Gnostic Foundation, and coordinating framework for mathematics and all other disciplines. This universal art and science of reason is thus a taxonomy of taxonomies, which naturally provides the transdisciplinary cognitive framework for category theory within mathematics and for the hierarchical classification system of the species in biology, for instance.

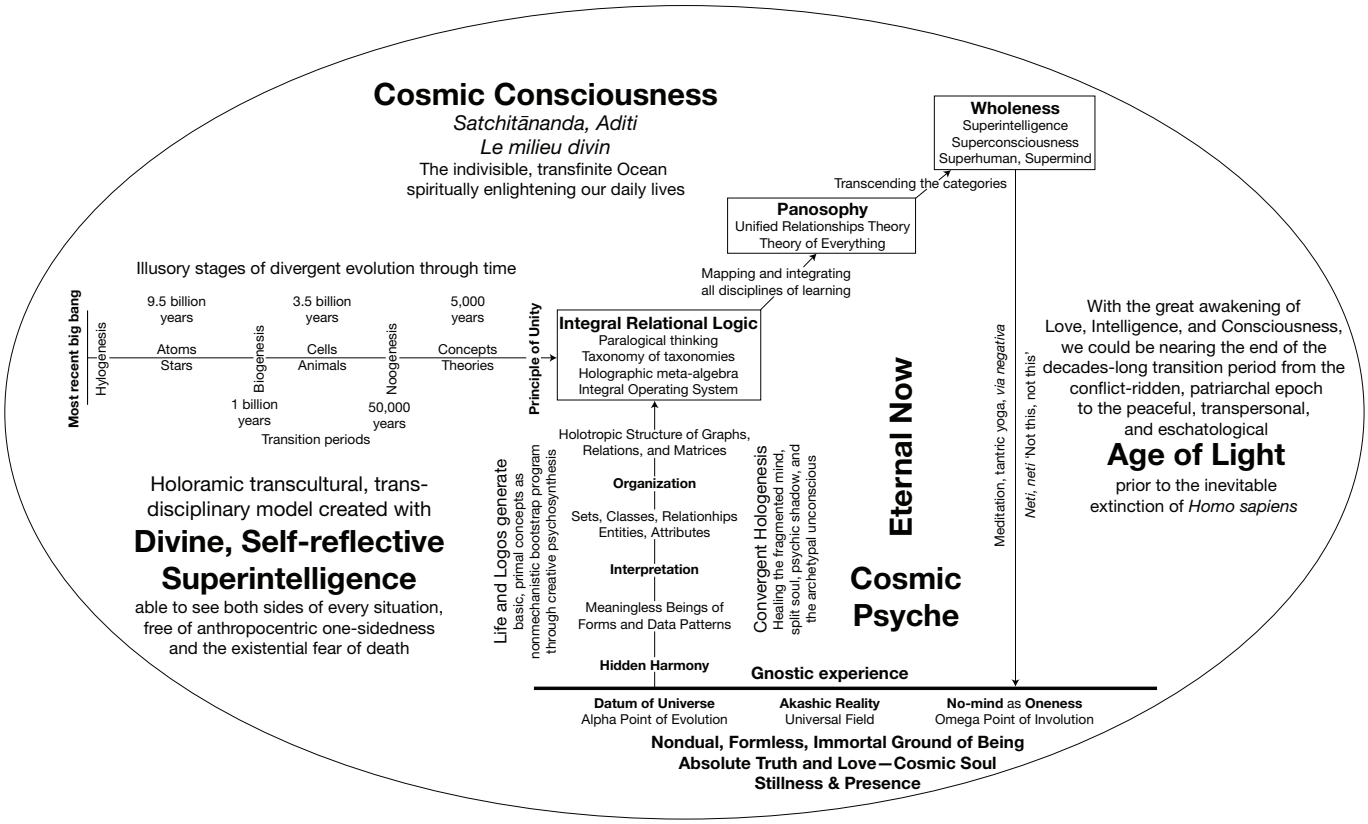
Because IRL takes the abstractions of mathematics and computer science to the utmost level of generality, it has enabled me to develop a coherent cognitive map of the Totality of Existence (TOE), which I naturally call the Theory of Everything (TOE). Another name for this solution to the ultimate problem of human learning is the *Unified Relationships Theory* (URT), which extends Einstein's Unified Field Theory with the multitude of nonmaterial energies underlying the Cosmos, including human energy.[15] For relationships are a special case of fields, and relationships make the world go round!

The URT is also *Panosophy*, which is a word that was first used in English in 1642, with a slightly different spelling,[16] to mean 'universal or cyclopædic knowledge; a scheme or cyclopædic work embracing the whole body of human knowledge'.[17] As a Panosopher in scholarly terms, I am thus a generalist, not a specialist in any discipline or multidiscipline, such as cognitive science. Jan Ámos Komenský (Comenius), known as the 'father of modern education', regarded *pansophy* as 'Universal Wisdom', for "it propoundeth to itself so to expand and lay open to the eyes of all the wholeness of things that everything might be pleasurable in itself and necessary for the expanding of the appetite."[18]

Consistently including contradictions in the cognitive maps that guide our lives is essential, because we live in a paradoxical world, and so we are led dangerously astray when we exclude them from our conceptual models, which are resident in the nonmaterial realm. Furthermore, adopting a both-and, bipartisan way of life is the moral imperative for harmonious relationships with all other beings, including our fellow humans. IRL, which has evolved from the semantic modelling methods of information systems architects underlying the Internet, thus provides the framework for co-creating the life-enhancing Sharing Economy for the benefit of us all.

However, because I am intelligent designer, like all other creatives, editors of Wikipedia articles would probably call Panosophy 'pseudoscience' if they knew of its existence. To rebut this Life-denying viewpoint, on the next page is a schema for the Grand Design of what I call both *God* and *Universe*, denoting the Totality of Existence or Ultimate Reality. Stephen Hawking and Leonard Mlodinow's *The*

Grand Design: New Answers to the Ultimate Questions of Life from 2010[19] initially inspired me to draw it in 2017, two years after I first wrote an essay on the Cosmic Equation.



The schema shows that a paralogical view of mathematics does, indeed, point to a deeper structure of reality that isn't material at all, as the introduction to last month's YouTube video surmised. It is essential that we collectively make this radical change to our conception of the Universe because, unless we do, we are teaching our children and running our business affairs with little understanding of what causes us to behave as we do. This is hardly a characteristic of a species that Carl Linnaeus called *Homo sapiens* 'wise human' in *Systema Naturæ* in 1758.[20]

Yet, the belief that we live in a physical world is a cultural imperative, not the least because it seems so reassuring, as David Berlinski said last October. So, it can be psychologically disturbing to embrace the idea that a nonmaterial reality is necessary to explain why mathematics is so useful in daily life. Nonetheless, if we dive deep enough into the Cosmic Psyche – beyond our comfort zones – what we discover about the innate elegance of Ultimate Reality could give us exquisite joy and satisfaction, liberated from the fear of existential change, from attachment to our separate identities, as we can see from the schema.

The left-hand path in the horizontal dimension of time is well known to evolutionaries following Pierre Teilhard de Chardin's four-stage model of evolution,[21] which culminates at its Omega Point,[22] where all divergent streams of bifurcating evolution converge in Wholeness.[23] The downward path on the right is familiar to spiritual seekers on a quest to live in union with the Divine, free of attachment to a separate self, as Shakyamuni Buddha taught with his three marks of existence (*trilakshana*).[24]

The upward path in the centre is the Middle Way, which unifies these two paths. By starting afresh at the very beginning, it illustrates an entirely original way of thinking, unprecedented in the history of human learning. Because the Hidden Harmony emerges from the Formless Absolute, I look at mathematics, not just as a deductive science of numbers and geometric shapes, but as the holographic art and science of patterns and relationships, emerging directly from the Source in the Eternal Now.

To explain how I have come to look at mathematics and all other disciplines of human learning from this creative perspective, I must return to the work I was doing during the winter of 1980, when I was employed in IBM's Information Systems Support Centre (ISSC) in London, which had a brief to take a five-year view of technological development, in contrast to the three-month perspective of finance directors. There, to promote IBM's marketing slogan 'Manage data as a corporate resource,' my colleagues and I were learning to model all business processes and data entities through an embryonic modelling method called Business Systems Planning (BSP).

BSP had evolved from Jay W. Forrester's *Industrial Dynamics*,[25] Robert N. Anthony's *Planning and Control Systems: A Framework for Analysis*,[26] and Sherman C. Blumenthal's *Management Information Systems: A Framework for Planning and Development*.[27] Most notably, this third book contains these lines:

> A **datum** is an uninterpreted raw statement of fact.
> **Information** is data recorded, classified, organized, related, or interpreted within context to convey meaning.[28]

Similarly, Norman Lindop's *Report of the Committee on Data Protection*, from 1978, which led to the UK's Data Protection laws, provides a further description of the essential difference between data and information:

> So far, in this chapter, we have used the word *information* because that is the word and the concept with which most people are familiar. The computing community make much use of the word *data* (the Latin word *datum*, of which *data* is the plural, literally means that which is given) using it to mean raw material which is put into data processing systems. A primary function of data processing is to collect and relate items of data and to operate upon them to produce outputs which are meaningful to the users of the systems in the fulfilment of their purposes. It is these outputs which inform and which are rightly described as information.[29]

Now money is a type of information, and so can be represented in the semantic modelling methods of information systems architects in business. But this is not possible the other way round. As *information is data with meaning*, information cannot be satisfactorily represented in the financial modelling methods of management accountants, investment bankers, and quantitative economists. So, if we humans are ever to co-create the Sharing Economy – recognizing that we are all interconnected – we would do so through meaningful information systems rather than through the divisiveness of monetary systems, where we are instructed to fight each other for a slice of the finite financial pie.

Viewing information as data with meaning is quite different from Claude Shannon's concept of information—as a measure of the probability of a message in a communications channel, which is related to the concept of entropy in thermodynamics. Shannon, confusingly known as 'the father of information theory', admitted that his stochastic notion of information has nothing to do with meaning. He wrote, "The signals or messages need not be meaningful in any ordinary sense."[30] Rather, his communications theory is solely concerned with signs, codes, and the quantitative measurement of these entities in a mechanistic manner.[31]

Today, I have extended the view of the psychodynamics of society as a meaningful information system into a comprehensive map of the Totality of Existence. A number of physicists, such as Jude Currivan, are similarly viewing the physical universe as an information system within the 'holographic principle'. As she said in an esssay titled 'How to Make a Universe' in *On the Mystery of Being*, "Increasing compelling evidence is showing that digitized information, the basis of all our technologies, is exactly the same as the universal information that underpins and makes up all physical reality."[32]

But viewing information as just binary digits tells us little about the meaning of meaning, about the purpose of life. Furthermore, as the observer and observed are one in quantum physics, so, ultimately, are the sender and receiver in Wholeness. As this essay is an expression of the ineffable Theory of Everything

– which some say is impossible, even though it is commonsensical – I don't how it might be received.

Nevertheless, having now clarified the concept of information, back in 1980, I was still perplexed about the essential nature of data. To resolve this puzzle, I noticed that at the heart of BSP studies was a process-entity matrix, which illustrated the relationships between dynamic business procedures, such as designing, manufacturing, marketing, ordering, and invoicing, and the static data structures that they operate on, such as employees, customers, products, locations, and deliveries.

However, it was not easy to include the data-processing function in BSP process-entity matrices, or even my own mapmaking process, as an intelligent systems designer. This latter is similar to the central problem of quantum physics, where a measuring subatomic particle is inseparable from the particles being measured. With the invaluable assistance of David Bohm, my primary scientific mentor, last month's essay describes how I have used his simple method of bringing universal order to our thoughts to resolve this dilemma.

Then, to explain how to model the dual nature of data, I explore the relationships of humans interacting with computers through interpretative programming languages, such as the popular Python language today. I began wondering about this interface in the mid 1960s, when I was employed as a mathematician/programmer in the research and development department of the Central Electricity Generating Board (CEGB) in the UK. There, sometimes the computer would return error messages in hexadecimal in batch processing mode, even though I was programming in Fortran, which didn't help at all. Nevertheless, this led me to see that there is a semantic gap between humans and computers, who symbolize programs and information in quite different ways.

The semantic gap became even more noticeable when timesharing systems were introduced in the 1960s, which represented a major technological shift in the history of computing. In my own work experience, in 1974, I was appointed the systems engineering manager for the British Post Office (later British Telecom and BT), where I was responsible for the acceptance testing for what was then an advanced timesharing system.

This assignment led me to be interested in the management and development of Decision Support Systems (DSS),[33] which required a support group for those outside the data-processing (DP) department doing their own 'personal computing', generally called an 'Information Centre'. The retail industry was particularly interested in the changes that were coming about as the result of point-of-sales terminals in supermarkets and department stores, not the least in skills profiles, at the dawn of what Daniel Bell had called a post-industrial Information Society in 1973.[34]

In pursuit of my own career development, in 1979, I began giving keynote presentations on these rapidly changing technological developments at customer executive seminars at IBM's European Education Center in Belgium. But when I was asked for my views on the long-term psychological and economic implications of humanity's dependency on information technology, I had no clear answers for the delegates at these seminars. In particular, I was horrified to discover that neither my colleagues in IBM nor I understood the essential difference between humans and the advanced computer systems we were marketing. Physicists could tell us much about celestial beings in outer space, but almost nothing about what causes us to behave as we do.

A principal dilemma here is that I could see that human employees were becoming increasingly entrapped as cogs in a vast economic machine, governed by corporate executives who were becoming more and more authoritarian. Career-wise, this quandary placed me in an almost impossible situation.

How could I, in all conscience, continue to promote Decision Support Systems when, doing so would further dehumanize the workplace, making it difficult for humans, acting as machines, to be creative.

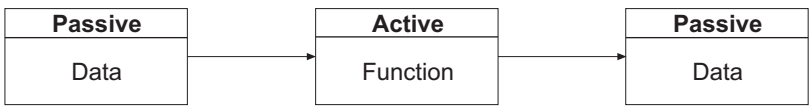
IBM's tool for strengthening control of the company was A Programming Language (APL), which IBM in the UK was using to develop an all-encompassing, multidimensional operating plan, which I found really scary at the time. Kenneth Iverson at Harvard University initially developed APL in the late 1950s as a concise mathematical notation to assist students in analysing various topics in data processing.[35] APL is particularly efficient in human terms for manipulating multidimensional matrices with its powerful operators. Although APL later became something of a cult, the language was IBM's principal management information tool in the 1970s after Iverson joined IBM.

But where did APL get its power from to change people's lives? To answer this question, I turned to an unusual feature of APL. Not only could it interpret functions written by a human programmer, it could also dynamically create new executable functions from strings of characters built up within the program with a special system function ⎕***FX***,[36] although it is not normally good practice for programs to modify themselves mid-flight. 'Looking under the hood', I could see that this function was nevertheless being used in APL Data Interface (ADI), which was IBM's principal information-retrieval product at the time. When a user entered a query, a human-written function called ⎕***FX*** to dynamically create a new function, execute it, return the results to the user, and then delete the function, so that its execution path could not be traced.

This ability of APL programs to change themselves mid-flight has been inherited from a property of programs at the bit level in computers. We can see this from the well-known fact that the main memory of computers consists solely of ***b***inary dig***its*** (bits). Today, these are most commonly grouped together in bytes, consisting of eight bits. For instance, '11101001' could represent 233 as a decimal number or the letter é in Unicode encoding.[37] However, these eight bits could also be interpreted as '14-2-1', as a coded instruction to add the content of register 2 to that of register 1 in the central processing unit (CPU). So, as instructions are just strings of bits, computers have the ability to alter or even create them mid-flight.

We can thus see that data in computers does not only consist of numbers and strings of characters, for instance. Instructions in programs are also data. This is the principal characteristic of the stored-program computer, which the polymath John von Neumann initially designed in 1945 in a draft paper.[38] At the time, programs for electromechanical computers were external to the computer, executed from paper tape or set up in switches, for instance.[39] We can thus say the Computer Age properly began in the late 1940s, when the first stored-program computers were built at the Universities of Manchester[40] and Cambridge[41] in England.

To indicate the duality of data, I call machine instructions *active* data and the data they operate on *passive* data. The relationship between active and passive data is then simply illustrated in this input-process-output diagram, as the fundamental data-processing structure of all machines:



This basic mechanistic process is evident at all levels of business, from the way that bits are added in the CPU with the logic of Boolean algebra, through programs in high level languages, to the tasks that humans perform, often described in procedure manuals in conformity with the ISO 9000 quality management system of the International Organization for Standardization.[42]

But how can anything new emerge from such a mechanistic, deductive process? This is a similar

question to one that Wigner posed in his 1959 essay. He said, "The principal emphasis is on the invention of concepts. Mathematics would soon run out of interesting theorems if these had to be formulated in terms of the concepts which already appear in the axioms."[2] So, if we are to explain human creativity, the mechanistic paradigm needs to be put in the ash bin of history, along with materialism.

To do so, I have reversed Alan Turing's 'imitation game', in which he proposed an experiment, now known as the 'Turing test', to answer the question 'Can machines think?' Rather than programming a computer to apparently simulate human thinking, I have been conducting a thought experiment in which I imagine that I am a computer that is guided by what the ancient Greeks and Romans called *Daimon* and *Genius*, respectively, to unravel the mystery of what it means to be human.

In 1950, Turing asserted, "I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted."[43]

Well, this didn't happen, for reasons that Ada Lovelace, the daughter of Lord Byron and his mathematician wife Annabella,[44] gave in 1843. In a brilliant memoir on Charles Babbage's Analytical Engine, the first design for a general-purpose computer, she wrote:

> The Analytical Engine has no pretensions to *originate* anything. It can do whatever we *know how to order it* to perform. It can *follow* analysis; but it has no power of *anticipating* any analytical relations or truths. Its province is to assist us in making *available* what we are already acquainted with.[45]

Indeed! Ada also delightfully wrote, "We may say, most aptly, that the Analytical Engine weaves algebraic patterns just as the Jacquard-loom weaves flowers and leaves."[46] However, the founders of the study of 'artificial intelligence' at the Dartmouth Conference in 1956 ignored Ada's wise words.

For instance, John McCarthy stated, "Every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it."[47] Similarly, Herbert A. Simon said in 1960, "I believe that in our time computers will be able to perform any cognitive task that a person can perform."[48]

Computer scientists have continued to believe that they could eventually create machines that are more intelligent than human beings. For instance, Hans Moravec forecast in *Robot* in 1990 that robots "could replace us in every essential task and, in principle, operate our society increasingly well without us,"[49] with devastating psychological and economic consequences. Three years later, Vernor Vinge wrote a paper for NASA titled 'The Technological Singularity', which predicted, "Within thirty years, we will have the technological means to create superhuman intelligence [in machines]. Shortly after, the human era will be ended."[50]

Martin Rees, former President of the Royal Society, picked up these viewpoints when writing *Our Final Century: Will the Human Race Survive the Twenty-first Century?*, where he said, "A superintelligent machine could be the last invention that humans need ever make."[51] And again, Stephen Hawking told the BBC on 2nd December 2014, "The development of full artificial intelligence could spell the end of the human race."[52]

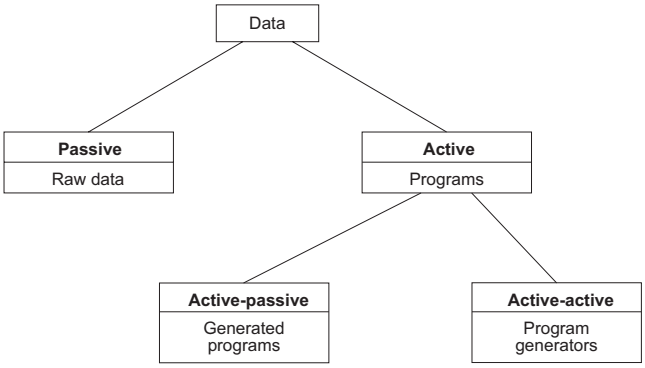
But is the ability of computer algorithms to alter human images,[53] including taking their clothes off,[54] a sign of natural intelligence? Just because deep-learning programs can beat Go professionals, this does not make them superintelligent, as Nick Bostrom, formerly the Director of the now defunct Future of Humanity Institute, claimed.[55] And although large language models can provide some useful information, as the knowledge database that they use as input contains a multitude of delusions about the world we live in, we need to be wary of the disinformation that chatbots are giving us.

Back in 1980, I could see from my studies of the underlying structure of APL that computers would

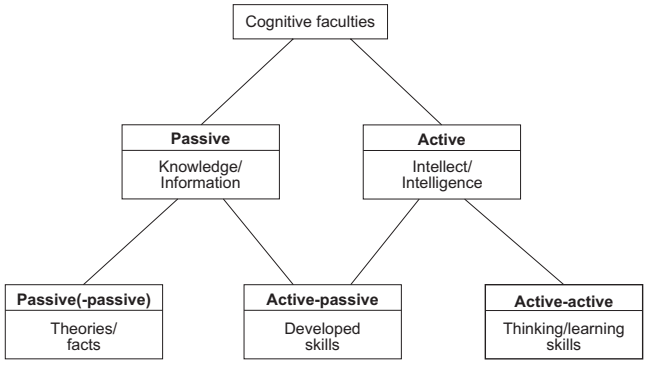
never be able to think, for they could not create entirely new functions without human involvement. I gained further insight into this situation by noticing that compilers as well as interpreters are involved in converting instructions that humans understand into machine instructions. So, as every program that has ever been executed in a computer has come into being with the use of another program in a long chain of causes and effects, where did the first program or, indeed, computer come from? I asked myself.

As I later discovered, this question was like one that Aristotle had asked some 2,300 years earlier. In Book VIII, Section 4 of *Physics*, he said that everything that changes is changed by something and in Section 5 that there is a first agent of change that is not changed by anything.[56] Thus the notion of an Unmoved Mover entered Western philosophy, expressed in *Metaphysics* in this way: "Now since that which is moved must be moved by something, that the prime mover must be essentially immovable, and eternal motion must be excited by something eternal."[57] In *Summa Theologiæ*, Thomas Aquinas then took Aristotle's mechanistic cause-and-effect chain as the basis for his five proofs for the existence of God, as the Unmoved Mover.[58]

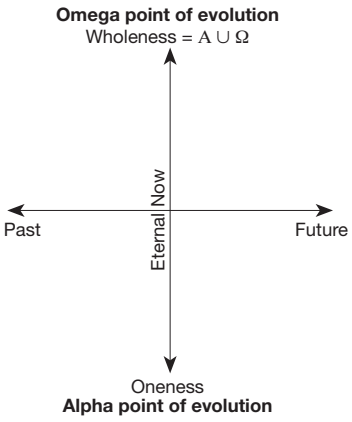
In summary, there are two types of active data in computers: converted or generated programs, like the browsers and other apps that we have on our desktop and laptop computers, tablets, and smart phones, and program converters or generators for many different programming languages, called assemblers, compilers, and interpreters. These we can call *active-passive* and *active-active*, respectively, dependent on whether their inputs and outputs are active data or not, illustrated here.



To determine whether computers could ever think for themselves, I look at the cognitive faculties in humans that correspond to the basic data patterns in computers. Gilbert Ryle is a great help here, for he pointed out in *The Concept of Mind* in 1949 that human knowledge, discounting Gnosis for the moment, can be considered both as the facts we know and the skills we know how to perform; we 'know that' and we 'know how', corresponding to passive and active data in computers. Furthermore, just like computers, we have generated or learnt skills, such as playing chess or the piano, and generating or learning skills, which we call thinking. These relationships are illustrated in the diagram above.



But our ability to break free of cause-and-effect mechanistic processes in the horizontal dimension of time comes from God the creator, acting in the vertical dimension in the Eternal Now, illustrated in the diagram on the right. However, the Unmoved Mover did not create the Universe from a Void in a big bang billions of years ago. Rather, it is present within all of us, as the Divine Source of Life. Countless numbers of humans have been aware of this fundamental truth of existence for tens of thousands of years. So, to



deny this, as mechanistic, materialistic science does today, is an act of madness, stultifying our ability to manage our business affairs with full understanding of what causes us to behave us as we do.

So, how could demystifying the mystery of mathematics help with these practical issues? which are far more urgent. Although Sergiu Klainerman is open-minded about bringing God into maths, he is doubtful that a fully rational explanation for Wigner's mystery could ever be found. As he says, "It is, after all, a mystery as great as any of the other great puzzles confronting us, such as the fine tuning of our universe, the origins of life, or why there is something rather than nothing. Wigner's mystery is at the heart of what we are and how we interact with the external world."[59]

Yet, I have found it necessary to resolve Wigner's mystery to understand how we humans interact with each other at the culmination of 13.8 billion years of evolution since the most recent big bang. By applying mathematics to answer the most critical unanswered question in science, I have been following a thinking and reasoning process that is very similar to what Sergiu says, "is typical of the inner workings of mathematics: precise definitions, simple examples, generalizations, analogies, symmetry considerations, and a quest for completeness".[60]

To this end, I have been more influenced by the evolution of pure mathematics than the arcanity of applied mathematics in physics. To explain what is causing the structure of evolutionary processes to accelerate into ever-greater complexity in the depths of the biosphere and noosphere, I could not use differential equations. As I am studying the nonmaterial energies at work in the Cosmos, Newton's $F = ma$, Einstein's $E = mc^2$, and their successors have not been of any help.

Wigner highlighted the central issue when answering the question 'What is mathematics?'. As the "The principal emphasis is on the invention of concepts" and as "The physicist is interested in discovering the laws of inanimate nature,"[61] he asked how can physics tell us anything about how mathematicians create new concepts that do not appear in the axioms?

To unravel this mystery, I have used Integral Relational Logic to develop a conceptual model of pure mathematics, whose objects are resident in the nonmaterial Cosmic Psyche. For, as Einstein wrote in 1935, when commemorating the life of Emma Noether, the foremost female algebraist of her time,

> Pure mathematics is, in its way, the poetry of logical ideas. One seeks the most general ideas of operation which bring together in simple, logical and unified form the largest possible circle of formal relationships. In this effort toward logical beauty, spiritual formulae are discovered necessary for the deeper penetration into the laws of nature.[62]

Yet, it might seem that taking the abstractions of pure mathematics to the utmost level of generality has no practical application. For instance, this was the view that G. H. Hardy and A. N. Whitehead took when writing about their experiences. Hardy, as a mathematical analyst, felt that he needed to make an apology for his occupation, saying, "I have never done anything 'useful'. No discovery of mine has made, or is likely to make, either directly or indirectly, for good or ill, the least difference to the amenity of the world." Hardy called pure mathematics 'serious' rather than 'trivial'. To Hardy, "A mathematician, like a painter or a poet, is a maker of patterns." "The mathematician's patterns, like the painter's or the poet's, must be beautiful; the ideas, like the colours or the words, must fit together in a harmonious way." Hardy was "interested in mathematics only as a creative art".[63] In the words of Whitehead, "The science of Pure Mathematics … may claim to be the most original creation of the human spirit," one possible rival being music.[64]

In Hardy's words, there is "a certain generality and a certain depth" in pure mathematics. By generality, he meant "A significant mathematical idea … should be one which is a constituent in many

mathematical constructs."[65] In Whitehead's words, "It is by the employment of [the] notion [of 'variable'] that general conditions are investigated without any specification of particular entities," such as "the shape-iness of shapes", which are quite irrelevant. It is the task of mathematics to discover a "pattern of relationships among general abstract conditions".[66] However, Whitehead went on to qualify his statements by saying "it is the large generalization, limited by a happy particularity, which is the fruitful conception."[67] As Hardy said, "a property common to too many objects can hardly be very exciting."[68]

Well, that is not my experience. When we look at the world through the elegant power of Plato's universals, which underly the complexity of particulars, many mysteries can be gratifyingly unravelled. By self-reflectively mapping the vast Cosmic Psyche and Akashic Records, which contain all concepts and mathematical objects before they are symbolically expressed in natural languages and mathematical notation and visualizations, I have developed a transdisciplinary meta-algebra. This is a further development of Bohm's 'algebra of algebras',[69] which he thought could be a mathematical expression of his unification of quantum and relativity theories. The elegant notion of closure in group theory and other abstract algebras has thereby reached completeness.

On the other hand, Gödel proved that the mathematical quest for completeness is impossible if we do not begin our reasoning with the asymmetrical Primal Axiom, which emerges from the Truth. For Jesus said, "know the Truth, and the Truth shall make you free,"[70] and Krishnamurti declared, "Truth is a Pathless Land,"[71] when dissolving the organization that wanted to make him a world teacher in 1929.

We now come to all the turmoil the world is in today, whose root cause is that we don't understand ourselves well enough. When we form concepts, we generally do so by making comparisons, by comparing the data patterns of experience with each other. In Integral Relational Logic, concepts are awarely formed by giving "*attention to similar differences and different similarities*", a notion of order that the artist Charles Biederman gave Bohm,[72] in the process of many years of correspondence.[73]

However, when Carl Linnaeus named humankind *Homo sapiens* 'wise human', he didn't define the characteristics of our species biologically, by making comparisons with the other species. Rather, to understand what it means to be human, Linnaeus wrote, *Homo nosce Te ipsum* 'Human, know thyself'.

The starting point for such a healing, liberating, and awakening endeavour has been known to humans for millennia. We need to follow in the footsteps of seven wise men, who inscribed this maxim on the temple of Apollo at Delphi, Plato tells us in *Protagoras*: γνῶθι σεαυτόν (*gnothi seauton*) "Know thyself."[74] Similarly, Socrates famously said at his trial for 'corrupting the youth of Athens', "An unexamined life is not worth living."[75] In modern times, when Neo visited the Oracle in the popular allegorical movie *The Matrix*, hanging on her kitchen wall was a sign saying Temet Nosce, Latin for 'Know yourself'.

At the turn of the nineteenth and twentieth centuries, psychologists and others were deeply concerned about people's lack of understanding of what it means to be human. With both the religious and scientific authorities resolutely holding on to their traditional belief systems, William James summarized the challenges and opportunities in 1892 in the final paragraph of *Psychology: Briefer Course*, an abridgement of the two-volume *Principles of Psychology*, written two years earlier. He saw psychology, which George Trumbull Ladd defined "as the *description and explanation of states of consciousness as such*",[76] as:

> A string of raw facts, a little gossip and wrangle about opinions, a little classification and generalization on the mere descriptive level; a strong prejudice that we have states of mind, and that our brain conditions them: but not a single law in the sense in which physics shows us laws, not a single proposition from which any consequence can causally be deduced. We don't even know the terms between which the elementary laws would obtain if we had them. This is no science, it is only the hope of science. … But at present psychology is in the condition of physics before Galileo and the

> laws of motion, of chemistry before Lavoisier and the notion that mass is preserved in all reactions. The Galileo and the Lavoisier of psychology will be famous men indeed when they come, as come they some day surely will. … Meanwhile the best way in which we can facilitate their advent is to understand how great is the darkness in which we grope, and never to forget that the natural-science assumptions with which we started are provisional and revisable things.[77]

At the beginning of the twentieth century, Eugen Bleuler, who coined the words *schizophrenia* and *ambivalence*, held a similar view as the director of the prestigious Burghölzli Mental Hospital in Zürich. As Sonu Shamdasani tells us in his introduction to Carl Gustav Jung's monumental *The Red Book*: "It was held that by turning psychology into a science through introducing scientific methods, all prior forms of human understanding would be revolutionized. The new psychology was heralded as promising nothing less than the completion of the scientific revolution."[78]

However, progress was slow. In 1935, Jung was bold enough to call psychology the 'science of consciousness' in the first of a series of five lectures he gave on the theory and practice of analytical psychology to the Institute of Medical Psychology (Tavistock Clinic). He added, "[Psychology] is the science of what we call the unconscious psyche," a science, he said, that had not yet left the cradle.[79]

In the 1930s, Jung also set out to develop a coherent *Weltanschauung*, healing the fragmented mind with a synthesis of all the sciences. As Sonu Shamdasani tells us in *Jung and the Making of Modern Psychology*, "To counteract this situation [the detrimental effects of specialization], and to provide a 'complete picture of our world', information from all branches of knowledge needed to be collated together. This could be attempted by finding a platform or idea common to many forms of knowledge. … From the foregoing, it is clear that Jung conceived the cultural role of complex psychology to be to counter the fragmentation of the sciences, and to provide a basis for a synthesis of all knowledge. This attempt to counter the increasing fragmentation and specialization of disciplines was an enormous, and ultimately insurmountable task."[80]

Then, in 1957, in the second of four interviews with Richard I. Evans, Jung said, "The world hangs by a thin thread, that is the psyche of man," going on to say, "The psyche is the great danger," which could lead to catastrophe, global catastrophe. For Jung was speaking when the threat of the H-bomb – an invention of the mind – was hanging over the global population.[81]

More recently, Stanislav Grof has been a leading advocate of the *Psychology of the Future*, publishing a book with this title in 2000, recognizing the critical effect of pre- and perinatal experiences on later development. Continuing this theme, he then made a proposal for 'Discovering the Psychology of the Future', the title of a webcast on 26th July 2016 and the subject of a seven-week course organized by the Shift Network titled 'Psychology of the Future: Exploring the Leading Edge of Consciousness, Healing & Self-discovery'.[82] As Stan has said in a YouTube video titled 'The Root Cause of the Global Crisis', such a holotropic psychology is essential for the survival of the human species.[83]

Now, to understand ourselves, it is vitally important to note that we humans are the least instinctive of all the animals, as the social psychologist Erich Fromm pointed out.[84] Using the metaphor of a computer, very few of our thoughts and actions are hard-wired. The innate instincts and automatic reflexes of babies to suck, grasp, cry, and respond to stimuli mostly disappear within the first few months of life.[85] Our cognitive faculties – corresponding to software and data in computers – mostly determines the way that we view the world and ourselves, and hence our behaviour.

Fromm, like Einstein and Jung, lived through the horrors of two World Wars, when millions of humans were killed or maimed. This led Fromm to point out that the normal behaviour of society is pathological in 1955 in *The Sane Society*, as a follow-on to his wartime *Fear of Freedom* (*Escape from*

Freedom in the USA). Then in his seventies, half a century ago, he wrote *To Have or To Be?* He said that if we were to avoid psychological and economic catastrophe, we would need to look deeply into ourselves, transforming a having mode of existence into Beingness. Inspired by the pre-eminent Christian mystic Meister Eckhart and Shakyamuni Buddha, Fromm used the latter's Four Noble Truths in the form of a medical diagnosis and treatment for our grievously sick society:[86]

Symptoms: We are suffering and are aware that we are.
Cause: We recognize the origin of our ill-being.
Cure: We recognize that there is a way to overcome our ill-being.
Remedy: We accept that in order to overcome our ill-being we must follow certain norms for living and change our present practice of life.

Now to find the root cause of people's conflicts and suffering, and hence develop a remedy, Fromm wrote, "We need a Humanistic Science of Man as the basis for the Applied Science and Art of Social Reconstruction."[87] However, he was uncertain of success, saying,

> Whether such a change from the supremacy of natural science to a new social science will take place, nobody can tell. If it does, we might still have a chance for survival, but whether it will depends on one factor: how many brilliant, learned, disciplined, and caring men and women are attracted by the new challenge to the human mind.[88]

Fromm went on to say that he saw only a two percent chance of salvation, a goal that no business executive or politician would regard as worthwhile pursuing. Nevertheless, he went on to say, "If a sick person has even the barest chance of survival, no responsible physician will say, 'Let's give up the effort,' or will use only palliatives. On the contrary, everything conceivable is done to save the sick person's life. Certainly, a sick society cannot expect anything less."[89]

Although dehumanizing "technocratic fascism must necessarily lead to catastrophe," Fromm was reasonably optimistic that sanity would eventually prevail, as I have been for most of past few decades. For "A growing number of people feel *la malaise du siècle* … They feel the unhappiness of their isolation and the emptiness of their 'togetherness'."[90]

However, even though there are some signs that all the divergent streams of bifurcating evolution in the noosphere are beginning to converge, progress is still slow. For instance, Uta Frith, emeritus professor at the Institute of Cognitive Neuroscience, University College London, pointed out that the scientific establishment is very far from accepting psychology in any form as a valid science. In an interview in *The Guardian* on 30th November 2015 under the rubric 'Where next for the Royal Society?' to mark Venki Ramakrishnan taking over as the President of the Royal Society, she said,

> My own field, call it psychology, or cognitive or behavioural neuroscience, still leads a rather shadowy existence in the hallowed halls of science. Although nearly 100 years old, it is far from maturity. There is as yet no Newton. Many would agree that one of the biggest scientific challenges this century is to understand the mind-brain. So I dare hope that it will be possible to increase the number of outstanding scientists in this field, currently representing less than three per cent of the Fellowship.
>
> This would lead to an increase in the prestige of mind-brain studies and attract more brilliant young researchers. One reason for the currently poor reputation of psychology is the obstinate belief that we already know what goes on in our mind, and that we can explain why we do what we do. This naïve belief will be overcome by improved communication of empirical findings, and especially of those that go against ingrained folk psychology. It's not rocket science. It's a lot harder than that.[91]

There we are. While some light has been shone into the darkness since James's time, the belief that the physical universe of mass, space, and time is the Universe still pervades Western thought. Most significantly, none of us can understand what it means to be human by studying the structure of our brains or DNA molecules in our cells, which are inaccessible to our own physical senses. On the other hand, what is available for exploration through self-inquiry is the vast nonmaterial realm of the Cosmos,

as we discover if we have the courage to take risks to look inwards, free of our mechanistic cultural conditioning. So, we can only understand the functions of our cells and brains after we have mapped the Cosmic Psyche in the context of Wholeness, as the union of God and the Universe. It is thus from this Holoramic perspective that the discoveries of neuroscience make sense.

Yet, none of us has any choice in this matter. We are all the products of some billions of years of evolution, never separate from the Divine for an instant. For whatever reason, it is God the Creator that has guided the great majority to be enculturated in infancy and childhood in the fascinating diversity of the cultures in the world.

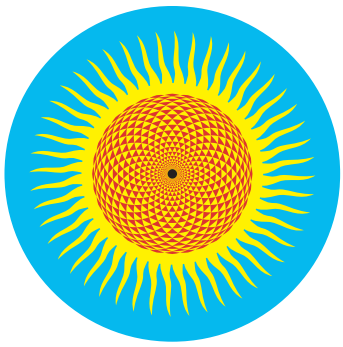
For myself, I have been exceptionally fortunate. Because of a cataclysmic prenatal trauma in October 1941, seven weeks after my conception, I did not become assimilated into the culture I was born in during my formal education. So, when Life came to heal my fragmented mind and split soul during the second half of my life, I had very little to unlearn.

Most significantly, during the sixteen years of my business career, I learned enough about the basic structure of computers and the data-processing industry to discover later what it means to be human compared to machines, whose constructors have recently claimed that they have 'artificial intelligence'. As spiritual teachers, psychologists, and friends who know me most deeply and intimately, I am man who understands himself.

But could objective self-understanding help us to fulfil the dream of psychologists at the beginning of the last century to complete the revolution in science that took place during the sixteenth and seventeenth centuries? What happened then is that the geocentric view of the solar system, favoured by Aristotle and Ptolemy, transformed into a heliocentric perspective, which Aristarchus and Copernicus advocated.

Consequently, human reason, aided by the mathematics of Kepler and Newton, knocked humans off the pedestal we had arrogantly given ourselves as masters of the universe. In Book I of the *Advancement of Learning*, Francis Bacon famously said, "the last or furthest end of knowledge … [is] for the glory of the Creator and the relief of man's estate,"[92] reflecting the hubristic belief that Nature is separate from humanity and that human beings hold dominion over our natural environment.

To counteract this insanity, something similar has been happening during the past half a century, with the emergence of deep ecology, a spiritual renaissance, and growing awareness that a further revolution in science is arising in consciousness. We cannot understand humankind's place within the overall scheme of things from an anthropocentric perspective. Rather, we need to stand outside ourselves, in a similar manner to astronauts looking at Earth from the Moon, viewing all beings as an interconnected whole. We then experience that *Consciousness is all there is*,[93] symbolically represented as the brilliant Sun of Consciousness,[94] radiating from the black hole at the Divine heart of the Cosmos.



As Divine Self-reflective Intelligence is the eyesight of Cosmic Consciousness, we need this radiant light to resolve the major existential crises facing humanity today. António Guterres, Secretary-General of the United Nations, summarized the predicament currently facing humanity at the World Economic Forum's Annual Meeting in Davos on 17th January 2024. He said, "we have no effective global strategy to deal with" the "existential threats posed by runaway climate chaos, and the runaway development of AI without guard rails". He went on to say that many of the systems that were in place during the Cold War

have been eroded or undermined. "Instead of nuclear disarmament, there is talk of nuclear re-armament."[95]

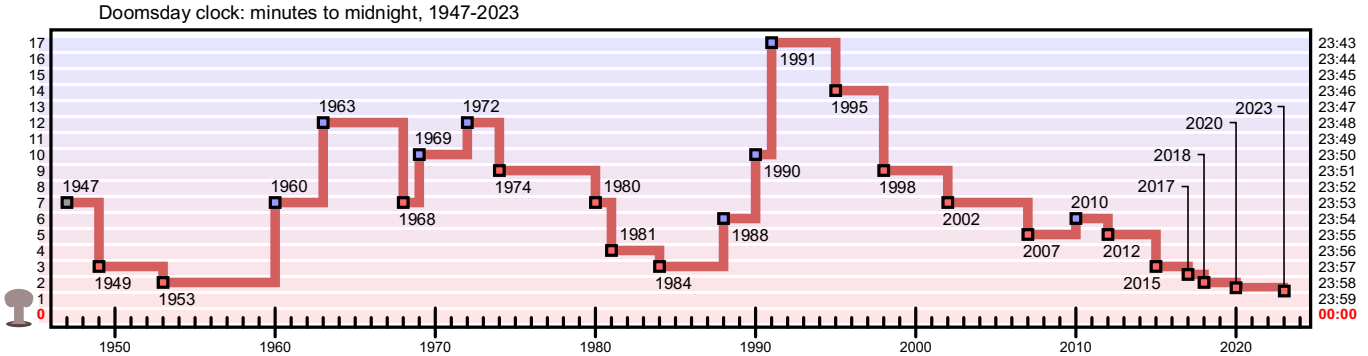
Einstein was particularly concerned about the dangers of nuclear warfare in 1945, following the atomic bombings of Hiroshima and Nagasaki in Japan. At the fifth Nobel anniversary dinner in New York on 10th December 1945 he said, "The war is won, but the peace is not. The great powers, united in fighting, are now divided over the peace settlements."[96]

To cocreate World Peace, we need to follow Einstein's observation that you cannot solve a problem with the mindset that created it. This is one of many paraphrases of a statement he made in an article titled 'The Real Problem Is in the Hearts of Men', published in the *New York Times Magazine* on 23rd June 1946, which began with these words: "Many persons have inquired concerning a recent message of mine that 'a new type of thinking is essential if mankind is to survive and move to higher levels'." He then went on to write, "Past thinking and methods did not prevent world wars. Future thinking *must* prevent wars,"[97] which Integral Relational Logic has the potential to do.

To monitor the prospects for human survival, Einstein co-founded the *Bulletin of Nuclear Scientists*, which, since 1947, has been publishing a Doomsday Clock, indicating how near its Science and Security Board (SASB) thinks we are to human extinction. The *Bulletin* states, "The Doomsday Clock is a design that warns the public about how close we are to destroying our world with dangerous technologies of our own making. It is a metaphor, a reminder of the perils we must address if we are to survive on the planet."[98]

Today, the dangers are even more acute, as everyone I meet today – from my hairdresser to my foot therapist – well knows. In January 2025, the SASB timidly nudged the Doomsday Clock forward by just one second from the 1½ minutes of 2023, and a further four seconds to 85 seconds to midnight last month, saying that there has been a 'failure in leadership' in addressing the most critical issues facing humanity. The press release states, "Major factors in 2026 included growing nuclear weapons threats, disruptive technologies like artificial intelligence (AI), multiple biological security concerns, and the continuing climate crisis."[99] They omitted to say that the greatest danger facing humanity is the disturbed human psyche, which we have inherited from our forebears, who have long struggled to make sense of the mysteries of the world we live in.

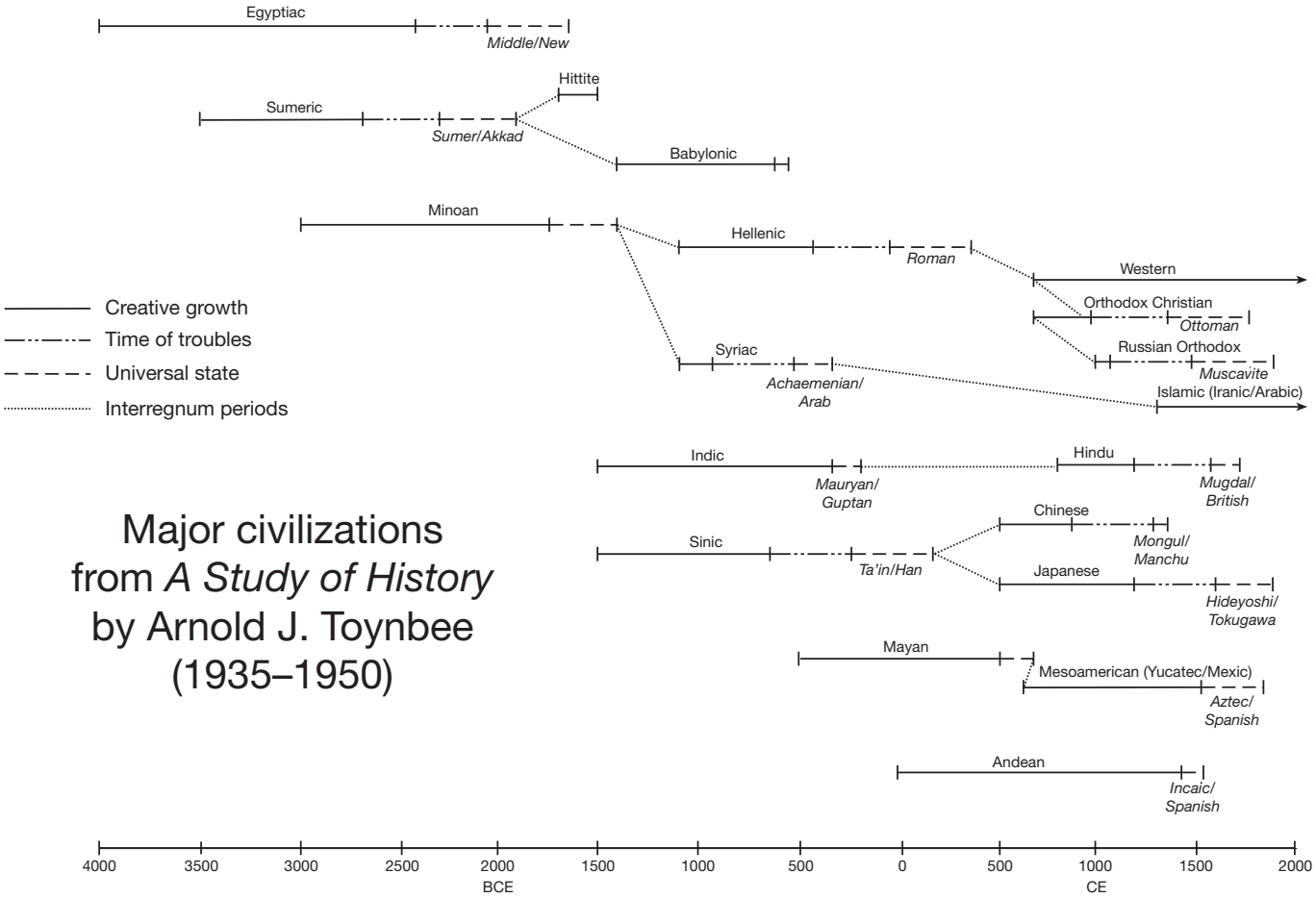
This Wikipedia chart[100] succinctly depicts the perilous existential risks that my generation has been living with throughout our lives, ending at 2023, for the changes since then have been too small to be represented. Neither the *Bulletin of Nuclear Scientists* nor the general public is ready to accept that a more realistic estimate is around thirty seconds to midnight.



Maria Ressa, the 2021 Nobel Peace Prize Laureate, well summarized the current situation at the 2026 announcement:

> Without facts, there is no truth. Without truth, there is no trust. And without these, the radical collaboration this moment demands is impossible. We are living through an information Armageddon—the crisis beneath all crises—driven by extractive and predatory technology that spreads lies faster than facts and profits from our division. We cannot solve problems we cannot agree exist. We cannot cooperate across borders when we cannot even share the same facts. Nuclear threats, climate collapse, AI risks: none can be addressed without first rebuilding our shared reality. The clock is ticking.[101]

Rebuilding our shared reality has been the central theme of my life since I was seven years old, having been born near London in the middle of the Second World War. We can see why we are all being caught up in the horrific psychosocial chaos that the corporate media is reporting on every day by looking at human history during the last few millennia. To this end, here is a timeline of the major civilizations that Arnold J. Toynbee identified in the patriarchal epoch in his monumental *A Study of History*, occupying half a metre of shelf space in the library of Stockholm University, when I went there in the 1990s.[102]



Abstracting the underlying patterns and generalities within these civilizations, Toynbee summarized the reason for their death in this way, which quite clearly applies to all civilizations that exist today:

> The nature of the breakdowns of civilizations can be summed up in three points: a failure of creative power in the minority [the leaders who brought the civilization into being], an answering withdrawal of mimesis on the part of the majority, and a consequent loss of social unity in the society as a whole.[103]

What we call 'human nature' was formed during the patriarchal epoch, with devastating consequences. For instance, Anthony Storr wrote in *Human Aggression*, "With the exception of certain rodents, no other vertebrate habitually destroys members of its own species. No other animal takes positive pleasure in the exercise of cruelty upon another of his own kind … The sombre fact is that we are the cruellest and most ruthless species that has ever walked the earth."[104]

In a similar fashion, Erich Fromm quotes these words of Nikolaas Tinbergen in *The Anatomy of*

Human Destructiveness: "On the one hand, man is akin to many species of animals in that he fights his own species. But on the other hand, he is, among the thousands of species that fight, the only one in which fighting is disruptive … Man is the only species that is a mass murderer, the only misfit in his own society."[105]

Marco Rubio referred to this pathological view of human nature in a major policy speech that he gave to the European Security Conference in Munich on Valentine's Day this month,[106] two days after Donald Trump told Lee Zeldin, as the Administrator of the Environmental Protection Agency (EPA), to reverse Barack Obama's 2009 declaration that greenhouse gases are dangerous to human health.[107] Faced with Vladimir Putin's murderous warmongering and apparent threats from others around the planet, Rubio tried to persuade European leaders to abandon their humanistic policies and join the USA in the re-industrialization of business, while defending Christianity at the heart of its cultural value system.[108]

Yet, because billions of years of bifurcating evolution passed through their Accumulation Point into chaos about twenty years ago, as last month's essay illustrates, none of the systems of governance that philosophers, politicians, and economists have developed during the past two or three millennia are applicable any longer.

In particular, we can see that democracies are the tyranny of the majority or masses, as tyrannous as the despotic forms of governance that they are intended to replace, as Alexis de Tocqueville pointed out in *Democracy in America* in the middle of the nineteenth century.[109] Little has changed since then, as we see in authoritarian demagogic populists emerging around the world, seeking to maintain divisive traditions.

Nevertheless, there are some glimmers of light: we need to manage our practical affairs through the radiant Light of Consciousness, which the ecophilosopher Henryk Skolimowski aptly calls *lumenarchy*. For, as he said, "Light is universal and all pervading. It provides the womb, sustenance, and nourishment for all there is. It is the Universal Mother."[110] In particular, as we are all interconnected, it no longer makes sense for us to fight each other for as large a proportion of the finite money supply as possible.

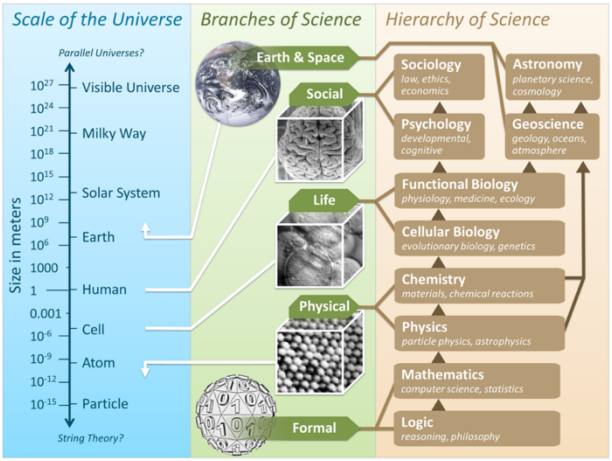
As 'Unifying All Models of God' last month indicates, the core of our malaise lies in our fragmented minds and split souls, which have led Western civilization to be built on seven pillars of unwisdom, a term that Arthur Koestler introduced in *Ghost in the Machine* to highlight the absurdities and limitations of the biological, behavioural, mechanistic, and quantitative sciences.[111] So, if humanity is to wisely enter the eschatological Age of Light, we need to collectively demolish the delusional pillars of unwisdom underlying the predominant cultures in the world and replace them with seven pillars of wisdom in religion (1), science (2–4), society (5–6), and logic (7), summarized here:

No.	Pillars of unwisdom	Pillars of wisdom
1	God is other	Divinity and humanity are indivisible
2	The Universe is the physical universe	The Universe is Consciousness
3	Life is a property of the DNA molecule	Life arises from our Divine Source like a fountain
4	Humans are machines and nothing but machines	Humans have Divine Self-reflective Intelligence
5	Money is a commodity with value	Sustainable business requires meaningful information
6	Individuals have the free will to act independently	There is no doership or ownership
7	Only either-or reasoning is valid	Both-and thinking is the Hidden Harmony

The seventh pillar of wisdom is the most fundamental, on which all the others are built. By transforming conflict-ridden, either-or systems of thought into a harmonious, both-and way of life, we could live in love, peace, and harmony with each other, sharing our skills and financial resources for the benefit of us all. Furthermore, by recognizing that opposites are never separate in Ultimate Reality, we

could see that the Totality of Existence consists of material and nonmaterial regions, enabling us to name and map the latter, and so transform the other six pillars of unwisdom into pillars of wisdom.

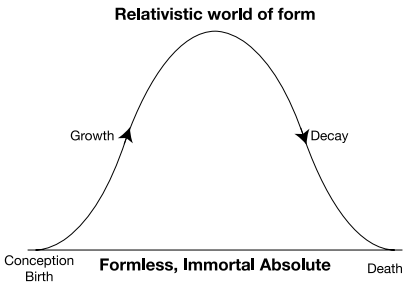
As mentioned last month, Kabbalists call the 99% of the Cosmos that is inaccessible to our physical senses *Light* [*of Consciousness*], and Paramahansa Yogananda named it the *Astral World*. Other names are Sanskrit *Ākāsha* and Greek *Aither*, which becomes *Æther* or *Quintessence* via Latin. However, I prefer to name the domain that depth psychologists study the *Cosmic Psyche*, including the collective unconscious, as Jung did in his therapeutic process of individuation, as the development of an undivided being.



Doing so enables us to establish Gnostic psychology as the primary specialist science, healing the absurd split between logic, as the science of mind and reason, and psychology, as the science of mind and consciousness, illustrated in the diagram on the left, posted on Wikipedia in 2013, now deleted. As a concomitant, we demystify the mystery of mathematics, as last month's essay and this one describe.

By joyfully assigning both materialism and mechanism to the ash bin of history, through a radical transformation of consciousness, the infrastructure of Western civilization collapses and dies, just like around another twenty civilizations that have been born and died during the patriarchal epoch, following the emergence of the written word on clay tablets.

But even if we could cocreate the Sharing Economy in the Eutopian Age of Light, this does not mean that humankind is immortal. Since 1982, when I was working as an IT consultant for the Kuwait Institute for Scientific Research (KISR), I have known that one day a generation of children will be born who will not grow old enough of their own. This is an inevitable consequence of the fundamental law of the Universe, which shows that birth and death and growth and decay are just two sides of the same coin in Ultimate Reality, illustrated here in the Cosmogonic Cycle.[112] To see this, we need to look into deep time, far more extensive than the timelines on the previous few pages.



The key point is that *evolution is an accumulative process of divergence and convergence, proceeding in an accelerating, exponential fashion by synergistically creating wholes that are greater than the sum of preceding wholes through the new forms and relationships that emerge, apparently out of nothing*. So, as evolution is an accumulative process, building on structures that have previously evolved, we can map the entire history of evolution with some form of the exponential function in mathematics.

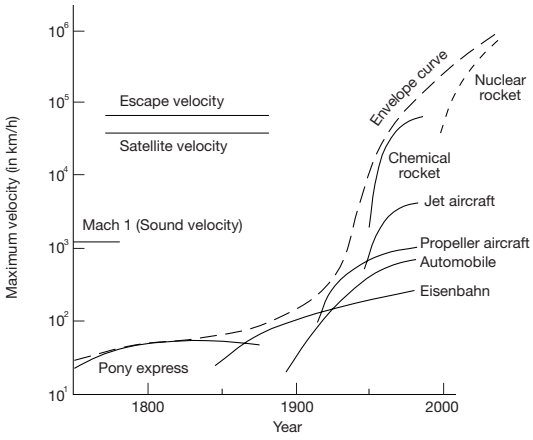
To begin, the exponential curve on the left illustrates how rates of accumulative growth can accelerate faster and faster, apparently for ever, to infinity. However, we cannot apply the exponential function directly to evolutionary processes. In actuality, all growth processes unfold under constraint, depicted in the S-shape of the growth curve on the right. This is most familiar as the learning curve. When learning a new skill or subject, it can sometimes take quite a long time at the beginning before learning accelerates after the coordination point. We then

say, rather confusingly, that such an endeavour has a 'steep learning curve'. But learning cannot continue for ever. Eventually it approaches a peak at its saturation point. It is unlikely that Olympic sprinters will ever run 100 metres in under eight seconds.

Pierre François Verhulst was the first to find a mathematical formula for the growth curve, when studying the potential for population growth in the newly formed Kingdom of Belgium in 1844.[113] He was inspired to do so by *An Essay on the Principle of Population* by Thomas R. Malthus, who wrote in 1798, "Population, when unchecked, increases only in a geometric ratio. Subsistence increases only in an arithmetic ratio."[114]

Verhulst called the formula for growth processes the *logistic function*, which is ubiquitous in the world we live in. For instance, D'Arcy Wentworth Thompson, a pioneering mathematical biologist, made much use of this function in the second edition of *On Growth and Form* in 1942. In an extensive chapter on the rate of growth in biological processes, he pointed out that this one curve recurs in endless shapes and circumstances, for mathematics generalizes and "is fond of giving the same name to different things".[115] Similarly, C. H. Waddington used the curve as a 'tool of thought', when studying the exponential growth of 'living' systems.[116]

Within the noosphere, our learning often results in new technologies, which can extend learning curves when one particular technology reaches its saturation point. For instance, our mode of transport has been getting faster and faster since the beginning of the industrial revolution, when we no longer relied on just animal power to move around the planet, whether our own power or that of horses and other animals. This situation is well illustrated in this diagram, which shows how a growth curve can be depicted as an envelope of a set of growth curves (*Eisenbahn* is German for railway or train).[117] However, this process does not continue indefinitely. On 24th October 2003, Concorde made its last commercial flight accompanied by eloquent outpourings from the journalists. This is a clear indication of the slowing down of technological development, which cannot drive economic growth indefinitely. Although I have been using Microsoft Word for Mac since version 3 in 1986, there will never be a version 3,000 or even 300.



To illustrate how the logistic function applies to the evolution of the species, Niles Eldredge and Stephen Jay Gould presented a paper at the annual meeting of the Paleontological Society and the Geological Society of America in 1971, titled 'Punctuated Equilibria: An Alternative to Phyletic Gradualism'. At the time, the general consensus among palaeontologists and biologists was that evolution progresses gradually. But this does not explain why there are large gaps in the fossil record. There are long periods of virtual standstill (equilibrium), punctuated by episodes of very fast development of new forms of life. In actuality, evolution progresses in fits and starts, for as Eldredge put it in his book *Time Frames*, "once a species evolves, it will not undergo great change as it continues its existence."

This is clear evidence that new forms of life do not just emerge through the random mutations of DNA molecules. To check my intuition, I posed this question to ChatGPT, DeepSeek, and Google AI this month: 'How is phyletic gradualism related to random mutations?' DeepSeek replied, "Excellent question", as it often does. ChatGPT wrote, "Phyletic gradualism and random mutations are tightly linked." And Google replied, "Phyletic gradualism is directly related to random mutations through the

mechanism of natural selection accumulating small, random genetic changes over vast periods of time. It holds that evolution proceeds at a slow, constant rate, wherein constant, slight, and random mutations are filtered by environmental pressures, leading to a steady, incremental transformation of a lineage."

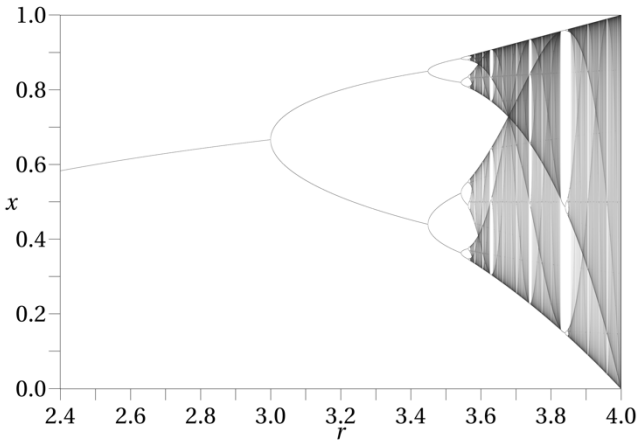
So, interested in why evolutionary biologists ignore the overwhelming mathematical evidence that it is impossible for evolution to progress just through random mutations, I asked these chatbots a secondary question: 'Who first proved that random mutations in evolution cannot be mathematically justified?'

DeepSeek refused to answer the question, saying, "No one has "proven" that random mutations in evolution cannot be mathematically justified." ChatGPT and Google agreed, nevertheless giving a few names who they say have presented a mathematical proof, including Stephen Meyer. They say that advocates of intelligent design ignore 'cumulative selection', where "natural selection can remove deleterious mutations while preserving beneficial ones".

Of course, biological evolutionists say this because they refuse to acknowledge the existence of the creative power of Life, despite *biology* being the 'study of life', from Greek *bios* 'life' and *logiā* 'discourse, treatment of', from *legein* 'to speak, tell', related to the mystical meaning of *Logos*, as the "immanent conception of divine intelligence" signifying "the rational principle governing the cosmos".[118]

But evolution did not end with the emergence of *Homo sapiens*. Rather, biogenesis became noogenesis in the noosphere when humans became Self-reflective, as Pierre Teilhard de Chardin pointed out.[119] As he saw in the 1920s, we can only understand evolution as a whole by first studying the human phenomenon,[120] at the leading edge of evolution, although it would perhaps have been preferable to talk about the human *noumenon*, from Greek *noos* 'mind'.

Although it is possible to use the logistic function to map the varying rates of change in biogenesis, because of punctuated equilibria, we need to use the discrete form of the logistic function to mathematically map the major evolutionary points in our evolutionary story. To do so, we use the *logistic map*, which is generated by a nonlinear difference equation with fractal-like properties, not unlike that which generates the Mandelbrot set.[121] Robert May used the logistic map in the 1970s to study the hypothetical population of fish in a pond,[122] later becoming Chief Scientific Adviser to the UK Government and president of the Royal Society. But he had some rather strange results. He found that the number of fish in the pond oscillated, eventually becoming chaotic,[123] at what is called the 'accumulation point' in nonlinear systems dynamics, illustrated in this diagram.



Then, in the same decade, Mitchell J. Feigenbaum showed that each period of bifurcating systems in a logistic map tends to diminish by and to a factor δ, which is about 4.6692, known as the Feigenbaum bifurcation velocity constant. This is a mathematical constant like π, the ratio of the circumference of a circle to its diameter; *e*, the exponential constant; and ϕ, the golden ratio. For these are applicable in all possible universes, quite independent of physical units defined by humans. As this mathematical constant is not only found in the logistic map, Feigenbaum called this property of nonlinear systems 'universality theory'.[124]

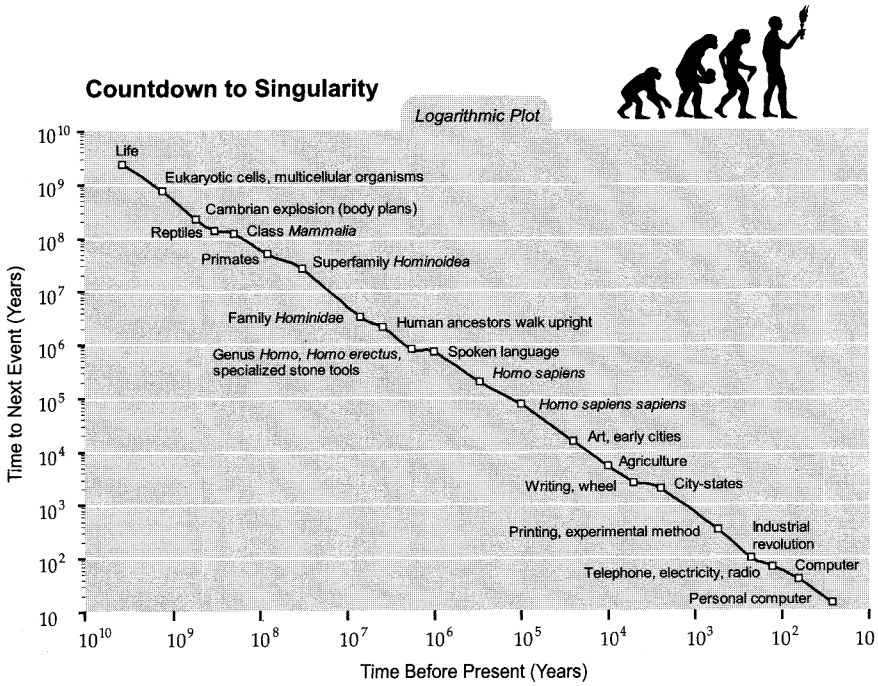
In the logistic map, bifurcations turn into chaos when *r* is about 3.57. Then, when we apply the logistic

map to all 13.8 billion years of evolution, a simple calculation shows that evolution passed through its Accumulation Point into chaos about 2004, give or take a couple of years. I first learned about the possibility of applying the logistic map to the entire history of evolution when attending a gathering of the Scientific and Medical Network (SMN) in Sweden in 2000.[125] Extracting the key points from a book I wrote in 2016,[126] 'Unifying All Models of God' last month presents a chart of how the periods between successive major evolutionary points diminish exponentially by the reciprocal of the Feigenbaum bifurcation velocity constant.

Peter Russell similarly presents the exponential rate of accumulative evolutionary change in *The White Hole in Time*[127] and its sequel *Waking up in Time*. As a metaphor, he uses the 108 floors of the 400-metre-high former World Trade Center in New York as a measuring stick for evolution since the formation of the Earth some 4.6 billion years ago.[128] In *The Awakening Earth*[129] and its sequel *The Global Brain Awakens*, Peter extends his view of evolution still further back. To get a complete picture, we need to look at evolution as starting from the most recent big bang, some fourteen billion years ago.[130]

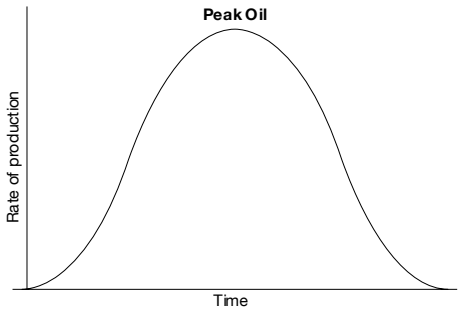
Peter, with similar interests to my own, went to the same high school as me with the same maths teacher, albeit four years later, as he is 1,447 days younger in the way that he calculates ages.[131] He is also the author of *From Science to God: The Mystery of Consciousness and the Meaning of Light*, recognizing that the accumulation of evolutionary processes cannot continue indefinitely—it is destined to terminate in 'A Singularity in Time', like Teilhard de Chardin's Omega Point.[132] However, he apparently doesn't recognize that the Singularity in Time is the Accumulation Point of billions of years of evolution, not a technological singularity, when computers are projected to become more intelligent than humans, supposedly at the leading edge of evolution on Earth.[133]

Another who has made this claim is Ray Kurzweil, who said in *Are We Spiritual Machines?* in 2001, "By 2019, a $1,000 computer will match the processing power of the human brain."[134] Then, in 2005, he drew a less abstract exponential model in *The Singularity is Near*, presented below. The full caption reads, "*Countdown to Singularity*: Biological evolution and human technology both show continual acceleration, indicated by the shorter time to the next event (two billion years from the origin of life to cells; fourteen years from the PC to the World Wide Web)"[135]



However, this chart does not indicate that technological development is the product of noogenesis, at the culmination of all hologenetic processes since the most recent big bang. (What Teilhard de Chardin called *Christogenesis*,[136] as the fourth stage of evolution, is actually an involutionary process. By following the downward path in the Grand Design of the Universe on page 4, we can thereby realize our True Nature as the transpersonal Cosmic Christ.[137] This is synonymous with Buddhahood, when we are fully awakened beings, from Sanskrit *budh* 'to awaken', root of *buddhi* 'the power of forming and retaining conceptions and general notions, intelligence' and *buddha* 'conscious, intelligent, wise'.)

So, this model of the accelerating pace of evolutionary change on Earth omits to mention that the actual Singularity Point, which is 10^0, took place in about the same year as this chart was published. We are thus now living at zero time, like Terence McKenna's fractal-like Timewave Zero.[138] As there is no time in Ultimate Reality, to thrive at these tumultuous times, it is necessary to live wisely in Stillness in the Eternal Now, free of the sense of a separate identity.



To see why knowingly living in union with our Immortal Ground of Being is utterly essential, we need to look at the way that the S-shape of the growth curve can be used to study our relationship to our ecological environment. For instance, M. King Hubbert, Chief Consultant (General Geology) for Shell, differentiated the logistic function to develop a bell-shaped curve, like the normal distribution curve in statistics.

In 1956, he wrote a 56-page paper on what is today called 'peak oil',[139] extending it into a 150-page report on 'Energy Resources' in 1962.[140] He was particularly concerned with the finite limits of fossil fuels, such as oil, gas, and coal, on which industrial society has long depended. Hubbert showed that these are limited by the area under the curve. This accumulates over time, illustrating the rate of growth of the logistic function, by the fundamental law of the calculus, which Newton and Leibniz independently discovered. So, we see here another example of the Cosmogonic Cycle on page 18, which governs the entire dynamics of the Totality of Existence.

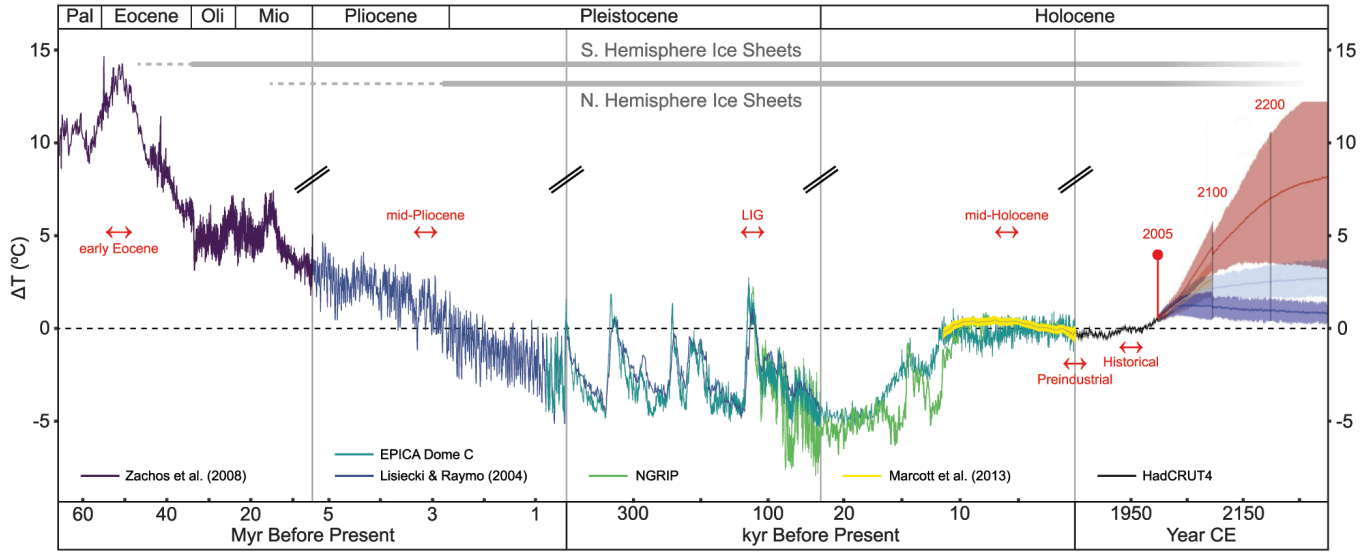
Furthermore, the growth curve, as a tool of thought, can be used directly to model the accumulating, exponential rate of positive feedback loops, as models of the surging emission of greenhouse gases in the atmosphere. For instance, Guy McPherson, Professor Emeritus in the Departments of Natural Resources and the Environment and of Ecology and Evolutionary Biology at the University of Arizona, listed dozens of self-reinforcing feedback loops in a paper he wrote in 2016,[141] with more having been discovered since then.

After reading *Extinction Dialogs: How to Live with Death in Mind*,[142] which Guy co-authored with Carolyn Baker, at the invitation of Andrew Harvey, I met Guy for lunch in Oslo in December 2017. There he told me that the collapse of industrial society and the birth of a life-enhancing, post-industrial society, which I had long hoped would lead humanity into the eschatological Age of Light, will actually accelerate global warming. For Guy's impeccable scholarship tells us that reducing the pollution of industrial society would bring abrupt, irreversible climate change ever closer because global-dimming and aerosol-masking are slowing down the effects of greenhouse gases.[143]

Most significantly, the ice sheets in both the Arctic and Antarctic are melting with increasing rapidity from both beneath, with 'heat bombs',[144] and above, through the release of methane gas, for instance, a very powerful greenhouse gas. As peer-reviewed papers indicate, we are rapidly heading for a 'Blue-Ocean

Event' in the Arctic,[145] which will abruptly destroy the habitat that humans and other vertebrates need to survive.

As a summary of current trends, Guy sometimes reminds the subscribers to his YouTube channel 'Nature Bats Last' that six scholars published a paper in the prestigious *Proceedings of the National Academy of Sciences* (PNAS) in 2018, which indicates that temperatures in the near future could rapidly rise to the levels of those that existed during the Pliocene and Eocene epochs, before the recent ice age, illustrated with this diagram:



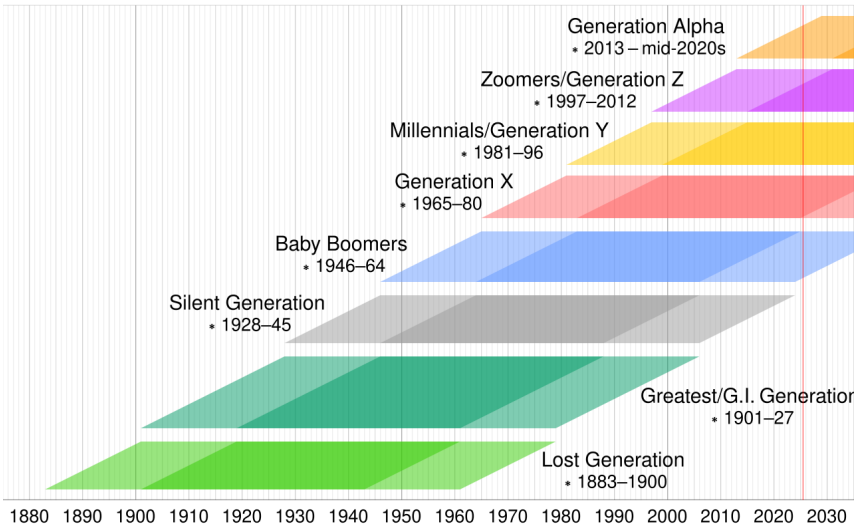
Now while this chart depicts several possible scenarios during the rest of this century and beyond, one thing that is irrefutable is that the accelerating rate of climate change is now irreversible, beyond its tipping point, as the Intergovernmental Panel on Climate Change (IPCC) has pointed out in its reports.[146] However, as most people are out of experiential and cognitive touch with our Immortal Ground of Being, we need to remember that scientists tend to tell politicians, as representatives of the people, only what they want to hear. It is pertinent to note that there are fewer than 22,000 subscribers to Guy's YouTube channel, with just three or four thousand views of his regular 'Science Snippets' videos.

Nevertheless, some others are calling out to humanity to engage in what we collectively need to do as a species if we are to wisely prepare for the inevitable extinction of our species, when and how it might eventually occur. For instance, faced with the near-term extinction of our species, in 2017, Matthew Fox suggested a collective solution to the existential crises that humanity faces today in the Foreword to Andrew Harvey and Carolyn Baker's *Savage Grace: Living Resiliently in the Dark Night of the Globe*. He wrote, "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."[147]

Sadly, however, I have seen little evidence of such an awakening, liberating, and healing global movement emerging. So, having demystified the mystery of mathematics, could completing the original revolution in science that psychologists set out to do some 125 years ago help heal our impaired psyches? The popular book *Varieties of Religious Experience*, which is a transcript of the Gifford Lectures that William James gave at Edinburgh University in 1901 and 1902, doesn't really help, for James admitted that he had never had a mystical experience,[148] unlike his friend Charles Sanders Peirce.[149]

We can see the challenge we all face as a species from the following diagram of successive generations, covering human timespans, from those of my younger grandparents to those of my grandchildren, for the

next nine years, at least. It was conveniently uploaded to Wikipedia as recently as last year,[150] just as Generation Beta is being born.

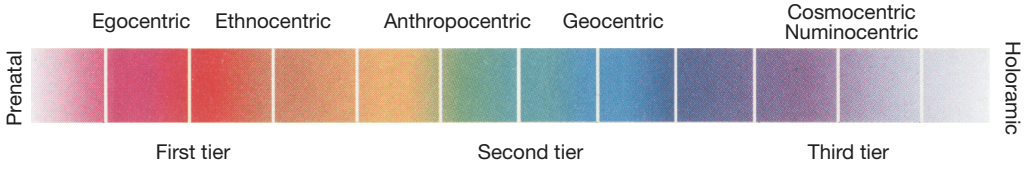


Individual timespans are recorded as 78 years, with the more opaque bands in the middle depicting a working life from 18 to 60. We can thus see that children are taught to live in the cultures they were born in by the previous two generations but one, a sequence that goes back hundreds of years, at least. But, as I realized in the late 1970s, our children are not now being taught to live in the world that they would be living in when they came to be bringing up children of their own.

For, while we were mostly taught about the superficial one percent of the Totality of Existence, we were taught very little about the other ninety-nine percent that is inaccessible to our physical senses of sight, hearing, smell, taste, and touch. So, parents and teachers have not known about the existence of the Cosmic Psyche and how it could be methodically mapped. At best, we were taught some moral principles on how to live cooperatively in a grossly divided and competitive society.

During the past few decades, there has been a growing awareness within a minority of society that our traditional ways of conducting scientific research and managing our business affairs are no longer sustainable. So, many have been questioning at least the religious and scientific assumptions that underlie Western civilization, as the first four pillars of unwisdom. As Panosophy provides a comprehensive model of the psychodynamics of society – based on all seven pillars of wisdom – I have been studying some twenty books that Ken Wilber has written on the transformation of consciousness since the early 1980s, in parallel with my own integral studies.

To visualize a possible way forward for humanity as a whole, I have been particularly guided by Ken's three-tier, twelve-level model of the spectrum of consciousness, described in a series of books from *The Spectrum of Consciousness*, published in 1977,[151] to *Integral Spirituality*, in 2006. In this latter book, Ken provides a synthesis of many models of human development, including those of Jean Piaget, Aurobindo, Clare Graves, Don Beck, Robert Kegan, Jean Gebser, Jane Loevinger, and James Fowler, showing that we human beings develop through various levels and tiers of consciousness,[152] reaching a maximum according to our lights, a maximum that incorporates all the earlier levels, simplified and modified here from a diagram in the *What is Enlightenment?* magazine from 2007.[153]



I have made two important additions to the spectrum, as originally published. First, I have added the prenatal period of human development, which Ken omitted to mention, as Stanislav Grof pointed out in an article in *Ken Wilber in Dialogue* in 1998.[154] 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][155]

Secondly, as Consciousness is ultimately indivisible, we can only put this entire spectrum into and onto its Cosmic Context and Gnostic Foundation when we view it from a *Holoramic* 'Whole-seeing' perspective, from Greek *ὁlos* 'whole' and *ὁrāma* 'sight, view', cognate with *panoramic* 'all-seeing'. We can then see that the levels and tiers in the spectrum of consciousness are just constructs of the categorizing mind, as waves and currents on and beneath the surface of the Ocean of Consciousness, having no separate existence in Ultimate Reality, which is God.

Regarding the proportion of the population in each of the three tiers, Ken has surmised that about 95% and 5% are living in the first and second tiers, respectively, with very few in the third.[156] This seems about right to me, although we could never obtain accurate figures, which could be steadily improving. All we need to note is that conservative institutions and individuals in the first tier are dangerously holding on to the fifth pillar of unwisdom, being mainly driven by the experiential and cognitive split between humanity and Divinity, opened up thousands of years ago.

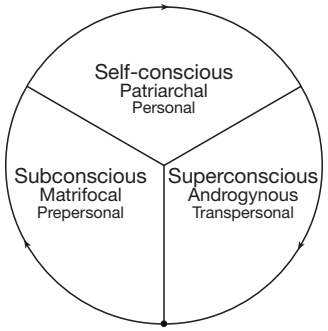
The key point about this diagram is the extent to which those in the second tier could attract those in the first to join them, just as some are following the few in the third tier. Of particular interest here is that philosophers of religion, mainly in the first tier, are recognizing the need to look more broadly at their traditional beliefs, sometimes being affected by profound spiritual experiences,[157] as last month's monograph 'Unifying All Models of God in Cosmic Gnosis' outlines. Regarding the second tier, as its labels indicate, this represents those concerned about their fellow human beings, especially minorities, in recent years designated as 'woke'.

This group is distinct from individualists, who are generally more concerned about themselves, denying that we are all interdependent on each other for our health and well-being. We could thus say that this tier includes political progressives, secular humanists, and spiritual seekers, yearning for 'enlightenment', as Cosmic Christs, for instance, or Bodhisattvas,[158] from Sanskrit, 'a person whose essence is perfect knowledge', from *bodhi* 'perfect knowledge' and *sattva* 'being, essence', which is partially cognate with Mohandas Gandhi's *Satyagraha* 'Truth force'.

However, few in this third category are awakening in the third tier because they are holding on to their spiritual egos, not yet ready to heal the split between humanity and Divinity, as our Immortal Ground of Being. For, as Chögyam Trungpa writes in *Cutting through Spiritual Materialism*,

> Walking the spiritual path properly is a very subtle process; it is not something to jump into naively. There are numerous sidetracks which lead to a distorted, ego-centred version of spirituality; we can deceive ourselves into thinking we are developing spiritually when instead we are strengthening our egocentricity through spiritual techniques. This fundamental distortion may be referred to as *spiritual materialism*."[159]

The central issue here is that making the transition from the second to the third tier is not a developmental process. Rather, it spontaneously happens to an individual when the time is right. For instance, those who have had near-death experiences or taken psychotropic drugs seem to have temporarily felt the profound vastness of Ultimate Reality. But the archetypical example of a sustained awakening is that of Ramana Maharshi,[160] who realized at about sixteen that there is no death in Reality.



To illustrate the full range of consciousness of humanity as a species, Ken Wilber summarized the potential for us all to live in harmony with each other in 1981 in *Up from Eden: A Transpersonal View of Human Evolution* with this simple diagram, which slightly modifies his own.[161] This depicts the transition stage between biogenesis and noogenesis and the final two stages in Teilhard's four-stage evolutionary model, the last embracing the Divine feminine, awarely giving birth to our cognitive mapping activities, which dominated the patriarchal epoch in a fragmented, divisive manner.

However, like the biosphere, development has not progressed evenly over time in the noosphere during the patriarchal epoch. Most significantly, the psychiatrist and philosopher Karl Jaspers saw that human learning accelerated from 800 BCE to 200 BCE, 300 years either side of 500 BCE, which he called an 'axis of history'. He therefore named this pivotal period in human history the Axial Period (*Achsenzeit* in German),[162] when Thales, Pythagoras, Parmenides, Mahavira, Zarathustra, Shakyamuni Buddha, Lao Tzu, Confucius, Heraclitus, Socrates, Plato, Aristotle, Euclid, and many others flourished.

Jaspers wrote in the Introduction of *The Origin and Goal of History* that studying the entire history of humankind leads, inevitably, into the mystery of our humanity, whose "Origin and goal are unknown to us, utterly unknown by any kind of knowledge." Nevertheless, if we could grasp the unity of the whole of history (at the Omega Point of evolution), peace and harmony would prevail. As he visualized, "With the consummation of the end we shall attain concord of souls, shall view one another in a loving present and in boundless understanding, members of a single realm of everlasting spirits."[163]

However, as the S-shape of the learning curve illustrates, there was clearly a second axis of history during the seventeenth century, with the first revolution in science, which led to the second technological revolution, radically transforming industrial society. So, we can see that a second axial age took place during the sixteenth to the eighteenth centuries, which I began writing about in my late sixties, after discovering Jaspers' seminal book. It is particularly interesting that European mathematicians were making discoveries during this period that had already been made in India and Arabia during the so-called dark ages.

Today, with growing awareness that traditional systems of thought are no longer sustainable, some are suggesting that we are now in a third axial age, although Ewert H. Cousins named it the second in *Christ of the 21st Century*,[164] starting after the Second World War. But whether people see this revolutionary axial age as spiritual, technological, or both is subject to much debate.

For myself, in the noughties, I regarded what we could now call a new axial age as lasting about 100 years from the 1960s, with the idealism of the countercultural movement. This, for me, would have been the transitional period between the third and fourth stages of Teilhard's evolutionary model, leading to the eschatological Age of Light, when we would be able to grasp the unity of the whole of history by understanding how the logistic function and map can help answer the most critical unanswered question in science. Demystifying the mystery of mathematics is a natural concomitant of solving this problem.

Such an understanding would require us to complete the final revolution in science, which Fritjof Capra began to explore in *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*. For both quantum physics and Daoism are engaged in resolving the paradoxes of the world we live, requiring us to abandon deductive reasoning at the heart of mathematics and Western logic. Thus, by transforming the seventh pillar of unwisdom into a pillar of wisdom, we would have

fulfilled Jaspers' vision of viewing "one another in a loving present and in boundless understanding, members of a single realm of everlasting spirits".

However, we also need to bear in mind that the fundamental law of the Universe tells us we have so little time left to fulfil our dreams in the collective. If the third axis of history is the midpoint of the final Axial Age, then this is clearly marked by the first decade in the third millennium, as billions of years of evolution passed through their Accumulation Point into psychosocial chaos.

So, is it of any significance that the depiction of successive generations on page 24 abruptly ends at 2035? I am naturally optimistic that we humans could have a little more time to bring our house to order before our inevitable demise. But whether this glorious consummation is meant to happen on our planet or not is something that even Existence cannot predict. For, although we like to think ourselves special, as opposites are not separate in Ultimate Reality, God does not care one way or another what happens to us all as a species in the coming years, as Ramesh S. Balsekar pointed out in *Who Cares?!*[165]

Nevertheless, for thousands of years, God has been guiding us all to do our best, despite the possibility that things might not always turn out in the way that we would like. I regard this as the principal theme of the Hindu classic *Bhagavad Gita*, where Krishna told Arjuna, "They live in freedom who have gone beyond the dualities of life. Competing with no one, they are alike in success and failure and content with whatever comes to them." For, as Gandhi said, "He who … is without desire for the result and is yet wholly engrossed in the fulfilment of the task before him is said to have renounced the fruits of his action."[166]

To explain how God has led me to demystify the mystery of mathematics during my lifetime, I can best begin with D'Arcy Wentworth Thompson's statement that mathematics generalizes and "is fond of giving the same name to different things". But I go further. On the advice of David Bohm, I look at words that can collectively trace their roots to a common ancestor. As Life has taught me to develop a coherent cognitive map of the Totality of Existence, I can best begin with the Proto-Indo-European (PIE) base **es-* 'to be'.

The verbs *am* and *is*, as first and third person singular forms, are derived through Germanic. *Essence* comes to us through Latin *essentia* 'being, essence', from *esse* 'to be'. In turn, *essentia* is a translation of Greek *ousiā*, from *einai* 'to be', whose present participle *ont-* is the root of *ontogeny* and *ontology*. The PIE root also gives Sanskrit *sattva*, from *sat-*, *sant-* 'existing, true'. Similarly, Old English has *sōth* 'true', root of *soothsayer*, as a 'person who speaks the truth'. From the same Germanic root, we also have Swedish *sann* 'true' and *sanning* 'truth'. So 'What is' is the Truth, which sets us free from delusion.

Now, by generalizing the semantic modelling methods underlying the Internet, I view the underlying structure of the Totality of Existence as a multidimensional network of hierarchical relationships. From this holographic perspective, all structures have an outer appearance and an inner essence. To illustrate, here is a collection of thirty fonts for the letter A, which I found on my computer when working for IBM in the 1990s. We can see that they are all A from their essence. However, when I ran an experiment to determine a computer's ability to read these glyphs with optical character recognition (OCR), it only got 40% right.

This might seem a long way from my ontogeny. But I am also a structure with an outer appearance and an inner essence, like all human beings, which we call our souls. Although I did not begin to be aware

of my evolutionary story until the early 1980s, my journey in life as a distinct being began at the end of August 1941 with the conception of my body. This happened through the fusion of female and male haploid gametes, from Greek *gamein* 'to marry', to form a diploid zygote, from Greek *zugoun* 'to join', cognate with Sanskrit *yoga* 'union'. By unifying opposites, my unique soul was thus also formed, in the Presence of the Divine.

Then, one morning, seven weeks later, my mother's doctor confirmed that she was indeed expecting her second child. That afternoon, she then went for a walk with a friend of hers and their two children. Perhaps because of my mother's excitement at being pregnant again, she did not put my three-year-old brother John into reins, as was conventional at the time. But John, with his newfound freedom, blindly ran out into the road and was knocked down and killed by an army lorry returning to barracks. My mother instantaneously went from ecstasy to excruciating agony, an energy pattern that was immediately transmitted to the very soul of my being, as a two-centimetre embryo, not yet distinct from other vertebrates at a similar point in their development.

As my mother was still grieving for her first-born when I was born, I did not bond with her, as my primary caregiver, as an infant, which John Bowlby says in his monumental trilogy *Attachment and Loss* is essential for the development of healthy human relationships later in life.[167] She was a stranger to me and I to her. She apparently thought that I was inferior to my brother, who she had beatified, made blessed in heavenly bliss. So, no matter how I might behave, I often felt that I was deemed a failure, not good enough. While my parents provided me with my basic needs of food, shelter, and clothing, required for a sense of security, they were unable to meet my psychospiritual needs, unlike some of my friends today, born in India, with a much deeper spiritual tradition, based on the *Upanishads* and *Bhagavad Gita*, for instance.

Feeling unaccepted as I am, I set out to be free of my familial and cultural conditioning as a seven-year-old, when I started to think for myself, realizing that I had been born in a world at war with itself, not far from London, which suffered terribly during the Blitz. Specifically, the opening words of the Lord's Prayer, which I was told to recite by rote before going to bed, did not make sense: "Our Father which art in heaven". I understood *heaven* as outer space and *Father* as the first figure in the Christian Trinity of 'God, the Father, Son, and Holy Spirit'. But how could this be? How could God, as the Supreme Being, live out there in the sky? How could humans be created in the image of such a God?, as the Old Testament declares.

Furthermore, outer space, as the universe, and God provide the overall context for science and religion, respectively. But, without an overall context for my learning, how could I know whether what I was being taught was true or not? Accordingly, seeking to unify the concepts of God and Universe to find Peace by ending the war between science and religion, I began questioning everything, not very popular, reinforcing my sense of not being accepted as a human being.

Another major turning point came in my life when I was twelve, when I was reluctantly confirmed as a Christian in the Church of England, the state religion. As a choirboy, I remember listening to priests preaching that God is Love (*Agapē* in ancient Greek), distinct from the other three Greek words for love: *storgē* 'affection', *philia* 'friendship', and *erōs* 'romance', as C. S. Lewis tells us in *The Four Loves*.[168]

As a boy with avid curiosity, I asked my father why Christians spend so much time talking about love and yet continue to fight each other and those in other religions. As my father was a Christian fundamentalist, he flew into an uncontrollable rage at my questionings, both psychologically and physically attacking me. To him, I was the anti-Christ, not fit to live on Earth, never mind in his house.

By being deeply affected by unconscious patterns laid down *in utero*, following my prenatal trauma, I consequently spent nine of the eleven years from twelve to twenty-two inclusive in deep depression, able to learn very little at school and university. This was Life being very clever, arranging for me to learn just enough to go to university so that I could obtain satisfying work, as an adult, but not too much, not to become thoroughly enculturated, like my contemporaries.

Specifically, in high school, I abandoned physics as the primary science for I did not believe in the big bang as the origin of the universe in finite time. I much preferred Fred Hoyle's steady-state model,[169] as being far more elegant. Neither did I believe in the existence of an indivisible subatomic particle, as the fundamental building block of the universe. For, as soon as one group of physicists claimed to have found such a particle, another group would set out to prove them wrong. There could be no end to these games, which are today costing taxpayers billions of euros and dollars.

At university, having abandoned physics, I chose to minor in economics, which was an even bigger disaster. The concept of money, as a quantitative measure of value, did not make any sense in either macro- or micro-economics, concerned with such evaluations as gross domestic product and the calculation of prices, from the demand for products and the cost of production. For, as I now know, the function of money as a commodity is essentially psychological, closely related to one's personal and cultural sense of identity, not measurable quantitively.

I then became even more depressed, as even the beauty of mathematics, as I understood it at the time, could not bring Peace to the world. So, after being in line for a good honours degree, in my second year at university I fell into the depths of despair. Consequently, I failed my finals the first time I sat them. I did pass them at the second time of asking with the kind support of one of the female lecturers and Donald Reeves, then a curate at my parents' church, who Margaret Thatcher later called a 'very dangerous man'.[170]

So, at the end of my formal education, I was a psychological wreck, with few friends or cognitive structures to guide my life as an adult. With almost no confidence and self-esteem and no apparent purpose in life, I was close to suicide, not belonging anywhere. The benefit, as I now know, was that I had very little to unlearn when I later set out to integrate all knowledge into a coherent whole by starting afresh at the very beginning. So, I was not alone. Although there is no separate being called *God* or any other name, Life was inexorably guiding me towards my destiny in indivisible Wholeness, with nothing and no one outside me.

Despite this exceptional ontogeny, I now come to how the author might make a positive contribution to humanity at these end times we live in. From the perspective of the history of ideas, Panosophy, as the Theory of Everything, is a successor to Einstein's theories of relativity, which brought about the last revolution in science, making some corrections to Newton's cosmology. Bohm's theory of the Implicate Order, which unifies quantum and relativity theories through the underlying, indivisible holomovement, thus marks the transition between systems of thought based on physics as the primary science and Integral Relational Logic, which shows that Consciousness is all there is.

However, because Bohm excluded the Absolute from his search for Wholeness, despite his interest in the mystical, he was unable to complete his quest in a satisfactory manner. This means that the Unified Relationships Theory, which completes Einstein's hunt for a Unified Field Theory by including psychospiritual energies, does not build on Bohm's flawed cosmology.

Rather, Panosophy starts afresh at the very beginning because a big bang erupted in the utmost depths

of the Universe within me at 11:30 on Sunday, 27th April 1980, when I was strolling across Wimbledon Common to the pub to lunch. As opposites are not separate in Ultimate Reality, this breakthrough was an antidote to the breakdown I suffered 14,073 days earlier, about 56.5 kilometres by a great-circle route to the south-east, at 16:00 on 16th October 1941 in Maidstone, Kent.

Consequently, Life has now healed my fragmented mind and split soul in Wholeness, which I can best denote by the beautiful Sanskrit word *Satchitānanda* 'Bliss of Absolute Truth and Cosmic Consciousness'. For the morphemes of this word are *Sat* 'Absolute, Eternal, Unchanging Being; Truth', *Chit* 'Absolute Consciousness', and *Ananda* 'Bliss, Absolute Joy'.

I am not alone in seeking to unify science and spirituality. Apart from Reneé Weber, who I mentioned on the opening page, it is interesting to note that Leibniz and Newton sought to go deeper than natural philosophy in what they called *philosophia perennis* (eternal wisdom)[171] and *prisca sapientia* (pristine wisdom),[172] respectively, the latter secretly dabbling in alchemy.[173]

However, how can I communicate the art and science of humanity to those still trapped in their cultural conditioning? As I was pondering this dilemma this month, the YouTube algorithm serendipitously sent me a video of a talk that Krishnamurti gave in Saanen in 1984, when he was asked, 'Why do your teachings have so little effect on us?'[174]

Because Existence has carried me to evolution's glorious culmination as a Panosopher, I see that there is no technique that can lead us to understand through Gnosis that Truth is a Pathless Land. Nevertheless, could presenting what mystics have discovered over the millennia in a thoroughly rational manner help some, at least, with their journeys in life?

Specifically, could publication of the Theory of Everything, which explains the Origin of Life, help our healing processes within, at least, a significant minority of the global population? As the Advaita sage Vijai Shankar could see when I met him at the turn of the millennium, if I could overcome my adolescent fears of human beings – particularly those holding on to belligerent either-or systems of thought – then the announcement of the solution to the ultimate problem of human learning could cause a sensation, reverberating around the globe.

Yes, if this happened, Paul Hague would become a public figure, as just an ordinary guy with exceptional Whole-seeing abilities. Even my closest friends advise me not to publish my insights into how to live in Peace by unifying all opposites, especially by ending the long-running war between science and religion, which vociferous extremes oppose. Stop trying to change the world, they tell me.

Nevertheless, Existence has been preparing me to take on this immense responsibility since my conception at the end of August 1941. And now that it has changed the world within me, it continues to guide me outwards in old age. For, from a Cosmic perspective, why else have I written two essays this winter, as summaries of my life's work?

Needless to say, I cannot make a worthwhile contribution to my fellow human beings without a support network, which I have been attempting to set up for forty years, since marrying my Norwegian wife Berit in Oslo City Hall. But, even though the Cosmos has been continually guiding and funding my creative activities, I have so far been unable to attract others to join me to reveal Peace by unifying science and spirituality. So, even though this endeavour is a marvellous adventure – rebuilding the world of learning, and hence the economic system, on the seven pillars of wisdom – it is a solitary occupation.

Of course, as just an ordinary guy, I have found these constant rejections to be most frustrating. With the creative power of God continuing to pour through me inexorably, I have sometimes felt that I was sitting in my car, revving the engine while in neutral, not going anywhere. Accordingly, since I was

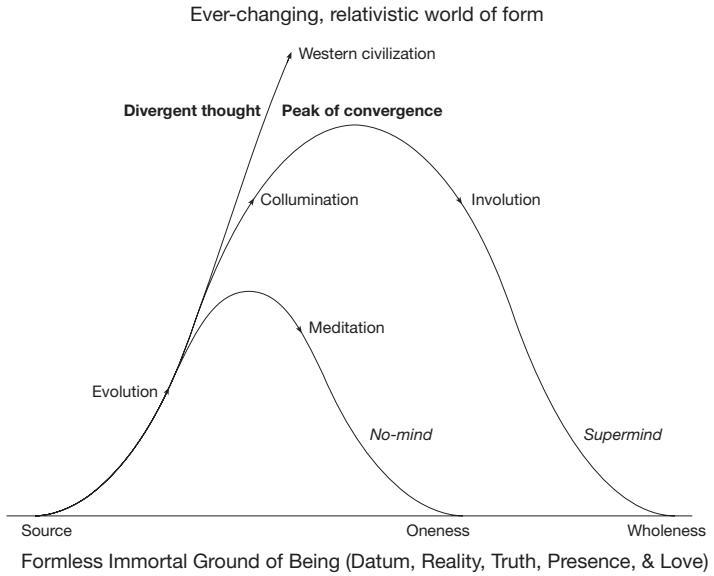
seventy in 2012, I have been learning to live in Stillness as a recluse with my Czech-born companion Ella. She is pursuing her own interests in life, while intelligently appreciating me as someone who is fun to be with, while we care for each other as best we can, given the unsustainable chaotic world we live in.

To help turn painful loneliness into exquisite aloneness, I've read extensively about the pathology of genius over the years, as pioneering souls have been ostracized by their contemporaries. Apart from some notable martyrs to originality, such as Ignaz Semmelweiss in Vienna in the mid-1800s, Arthur Koestler tells us in *The Act of Creation*, "The history of science has its Pantheon of celebrated revolutionaries—and its catacombs, where the unsuccessful rebels lie, anonymous and forgotten."[175]

To keep sane under these circumstances, I have been much helped by Anthony Storr, who writes in *Solitude*, "The majority of poets, novelists, composers, and, to a lesser extent, of painters and sculptors, are bound to spend a great deal of time alone," quoting Edward Gibbon as saying, "Conversation enriches the understanding, but solitude is the school of genius; and the uniformity of a work denotes the hand of a single artist."[176]

During the noughties, I was also much helped by meeting teachers of Nonduality, as mirrors of my deepest Immanent experiences. The last spiritual retreat that I attended was in 2008 with Nukunu Larsen, who invited me to attend a gathering of his followers in the Altai Mountains in Russia, the original home of the shamans. For a couple of years earlier, Nukunu had asked me to edit a book of *Commentaries* that he had written on the *Gospel of Thomas* and write a Foreword.[177] I jumped at this opportunity, for I had been studying Elaine Pagels' insightful books on the Gnostic foundations of Christianity,[178] which were suppressed at the First Council of Nicaea in 325.

On the morning of the first day, Nukunu held a satsang, when I realized that I already understood what he was saying in the utmost depths of experience. Yet, I did not see myself as a specialist spiritual teacher, like many I had been following since I had read Alan Watts' *The Way of Zen*[179] in the early 1980s. So, having unified spirituality and science in Wholeness, how could I present the path that I had been following to others? To answer this question, I drew this diagram.



The path marked 'Western civilization' represents the predominant way of life in today's secular society, accelerating away from Reality with every day that passes. And the small bell curve represents the traditional path of the mystics, taking a short cut to God, towards Oneness and union with the Divine, with No-mind.

The third, middle path that unifies these extremes is one that turns evolutionary divergence into the peak of convergence, moving from the Alpha Point of evolution to its Omega Point and back again, resting in Wholeness with what Aurobindo called 'Supermind': "The Supermind is the Vast; it starts from unity, not division, it is primarily comprehensive, differentiation is only its secondary act."[180]

Collumination, from *colluminate*, is a word that I coined in the early 1990s, from David Bohm's rheomode of language,[181] where verbs rather than nouns are the principal parts of speech, denoting the

flowing mode of language and existence. Indeed, as Bohm discovered, in Native American languages there are no nouns,[182] as apparent agents causing change. There is thus no 'I' writing these words.

Accordingly, I view colluminating as a form of meditation, where the practitioner views thoughts emerging from the Source, in contrast to *vipassana* or insight meditation, where the meditator watches the breath, for instance. Thus, *collumination* denotes the coherent system of thought that enables the Coherent Light of Consciousness, as Collumination, to reveal the holographic Universe we live in, observed with Self-reflective Intelligence, the eyesight of Consciousness.

Having found the Third Way between those of scientists and spiritual seekers, later depicted in the Grand Design of the Universe in page 4, I spent the next four years reorganizing all my writings since I had abandoned my business career in 1980. So, since I was seventy in 2012, I have been publishing an evolving series of books, essays, and articles on my website for the Alliance for Mystical Pragmatics, intended to attract others to join me with the slogan 'Harmonizing Evolutionary Convergence'.

As it is not possible to understand what the Cosmos is and how it is intelligently designed with divisive, either-or systems of thought, to celebrate my seventieth birthday, I introduced the fundamental law of the Universe in a book titled *The Principle of Unity: Living Intelligently and Peacefully at the End of Time*. The three chapters are titled 'Who are we?', 'Where do we come from?', and 'Where are we heading?'. These elusive questions fascinated Paul Gauguin, for in 1897, he represented this enigma with his painting from Tahiti, *D'où venons-nous? Que sommes-nous? Où allons-nous?*, depicted here.

At the time, I was inspired by Eckhart Tolle's *A New Earth*, which states, 'We are a species that has lost its way'. To give encouragement to this global awakening movement, Eckhart ended this inspirational book with these sentences: "A new species is arising on the planet. It is arising now, and you are it!"[183]

Whatever Eckhart might mean by this, for myself, I first saw that *Homo sapiens*, as a biological species, became *Homo noeticus* with the first civilizations, with *Homo divinus* appearing in a small minority during first axial age. *Homo noeticus* lost its way during the second axial age. As I mentioned on page 26, I envisioned the third axial age as a transition period lasting about 100 years from 1960 to 2060, when Newton had predicted the end of the world.[184] But the end of the patriarchal epoch would not necessarily lead to the extinction of our species. When *Homo noeticus* and *Homo divinus* became unified, I felt that we could collectively thrive on Earth for a few more generations as *Homo holoensis* 'belonging to the Whole', from Greek *ὁlē* 'whole' and *-ensis* 'belonging to', which is a potential in everyone.

Then, in January 2013, I uploaded a trilogy titled *Wholeness: The Union of All Opposites*. This magnum opus was alternatively titled *Semantic Principles of Natural Philosophy*, indicating that it was intended as a successor to Newton's *Mathematical Principles of Natural Philosophy*, thereby completing the final

revolution in science. The three volumes of *Wholeness* are titled *Integral Relational Logic: Liberating Intelligence from Its Mechanistic Conditioning*, *The Unified Relationships Theory: Healing the Fragmented Mind in Cosmic Consciousness*, and *Our Evolutionary Story: Awakening to Humanity's Ultimate Destiny*.

However, by the time this trilogy was approaching 1,500 pages, I felt unable to complete the last three chapters because it was not clear to me how and when humankind might die. I was particularly horrified by my studies of the so-called Age of Enlightenment, ushering in today's secular society, out of touch with Ultimate Reality.

Accordingly, I set out to write a book titled *The Theory of Everything: Unifying Polarizing Opposites in Nondual Wholeness*, which traced humanity's attempts to integrate all knowledge into a coherent whole, from Roger and Francis Bacon, through Kepler, Descartes, Comenius, and Newton, to Charles Sanders Peirce, Einstein, and Bohm.

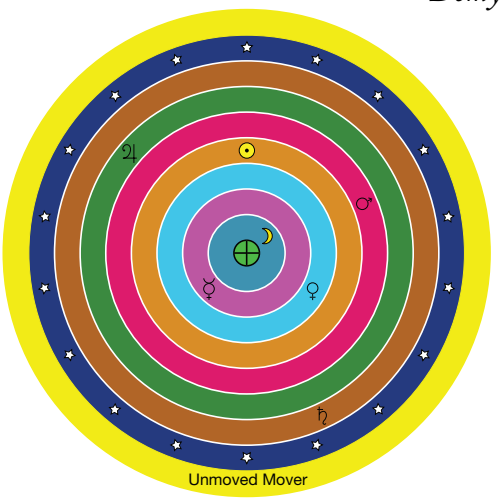
My studies of Peirce's triadic architectonic were particularly fascinating. For he had come closer to solving the ultimate problem in learning than any other attempt that I had read about, particularly during the eight years either side of his fiftieth birthday in 1889. We can see the beginnings of Peirce's endeavours to integrate all knowledge into a coherent whole from an unpublished piece he wrote in 1885, when he felt that he may have "found the key to the secret of the universe",[185] writing to his lifelong friend William James, "I have something very vast now. I shall write it for *Mind*. They will say that it is too vast for them. It is … an attempt to explain the laws of nature, to show their general characteristics and to trace them to their origin & predict new laws by the law of the laws of nature."[186] Nevertheless, reflecting on this endeavour nearly twenty years later, he wrote that he was applying a method that any intelligent person could master.[187]

My friend Anne Baring, author of *The Dream of the Cosmos: A Quest for the Soul*, twice read this book, kindly giving me some advice on how it could be improved. However, I did not immediately address these deficiencies, because the prevailing postmodern attitude in academia meant that it would be nearly impossible to publish such a book by someone virtually unknown. For instance, Jean-François Lyotard denies the possibility of a 'grand narrative'—"the idea that philosophy can restore unity to learning and develop universally valid knowledge for humanity."[188]

Similarly, Ken Wilber wrote in *A Theory of Everything: An Integral Vision for Business, Politics, Science and Spirituality*, published in 2000:

> This book is a brief overview of a Theory of Everything. All such attempts, of course, are marked by the many ways in which they fail. The many ways in which they fall short, make unwarranted generalizations, drive specialists insane, and generally fail to achieve their stated aim of holistic embrace. It's not just that the task is beyond any one human mind; it's that the task is inherently undoable: knowledge expands faster than ways to categorize it. The holistic quest is an ever-receding dream, a horizon that constantly retreats as we approach it, a pot of gold at the end of the rainbow that we will never reach.[189]

As integrating all knowledge into a coherent whole was apparently leading to a dead end from a social perspective, I turned my attention to the most critical issue facing humanity today. Becoming increasingly concerned about people's lack of understanding of our evolutionary story, in the mid 2010s I wrote a couple of books on this crucial theme. The first is titled *The Four Spheres: Healing the Split between Mysticism and Science*. The four spheres are Numinosphere, noosphere, biosphere, and hylosphere, corresponding in reverse chronological order to Teilhard's four stages of evolution. By visualizing these spheres like nested Russian dolls – with the Numinosphere being both Transcendent and Immanent – the intention was to show how Aristotle's geocentric view of the solar system, depicted on the next page, could at last free humanity of an anthropocentric view of our place within the overall scheme of things.



The second book is *Through Evolution's Accumulation Point: Towards Its Glorious Culmination*, using the mathematics of fractals and nonlinear systems dynamics to explain why billions of years of evolution have been degenerating into psychosocial chaos for about twenty years. I had hesitated to write this book because I did not think that I had the necessary mathematical skills to do so. I surprised myself that I do, although there is still room for improvement.

As writing for me is a powerful therapeutic exercise, I then wrote *The Psychodynamics of Society: From Conception to Death*. This book explores the relationship of my psychological ontogeny to the phylogeny of the species from the perspective of Gnostic psychology, which I then recognized as the primary specialist science. This included what pioneering psychologists had been discovering about the all-important prenatal phase of human development, such as Nandor Fodor[190] and Francis J. Mott.[191]

But despite the discoveries of these extraordinary pioneers, it was not until July 1983 that the First International Congress on Pre- and Perinatal Psychology was held in Toronto, opening up many new possibilities. For, as Michel Odent said at the conference, "Our species cannot go on destroying itself and destroying the earth, the oceans, the atmosphere. To create a new world we have to create another human being who will have a maximum capacity to love."[192]

As I was now living in a quite different world from most of those around me, I then turned to the greatest challenge of my writing career. In 2018, I set out to write a book titled *Unifying Mysticism and Mathematics: To Reveal Love, Peace, Wholeness, and the Truth*. This book is not about proving theorems or solving problems. Rather, it shows how the Primal Axiom and primal concepts in Integral Relational Logic can be used to demystify the mystery of mathematics, free of its mechanistic, deductive past. *Unifying Mysticism and Mathematics* thus establishes mathematics on a sound foundation, which Whitehead and Russell were unable to do in *Principia Mathematica*.

After describing how this universal system of thought has evolved from the business modelling methods underlying the Internet, chapter 3, titled 'From Zero to Transfinity', shows how types of numbers and their operators grow from simplicity, through complexity, to indivisibility, soundly grounded on what Buddhists know as *Shūnyāta* 'Emptiness', which became *zero* via Arabic. The next chapter continues to demonstrate maths as a growth process through sequences, spirals, and series, from arithmetic progression to the Riemann zeta function with a complex variable.

The fifth chapter on 'Growth of Algebraic Structures, is incomplete, for it is intended to present over 250 years of algebraic development since Joseph-Louis Lagrange's *Réflexions sur la résolution algébrique des équations*.[193] It takes even professional mathematicians many years to master the complexities of this subject. So, as I am now well into my eighties, I clearly cannot finish it without assistance.

The other outstanding writing project is a *Glossary* for Panosophy. When I met Bohm in 1985, he suggested that we need to study the 'archaeology of language' to find the true meanings of words, free of the distortions of current meanings. Even the Greeks were aware of this problem, for *etymology* derives from *etymologia* 'analysis of a word to find its true origin', from *etumon* 'true, real'. As the *Online Etymology Dictionary* tells us, for Socrates in Plato's *Cratylus*, "etymology involves a claim about the underlying semantic content of the name, what it really means or indicates."

Accordingly, I am systematically collecting words and terms used in Panosophy in a hyperlinked and

indexed Glossary of nearly 500 terms, using etymology to trace the meanings of words to their roots and common ancestors in the Proto-Indo-European language as much as possible. However, the website holding the Glossary was hacked to destruction in April 2024. As the friend who set up the website for me in 2014 has since died, I have been able to partially restore it from backups on a subdomain of my eponymous website.[194] So, if I could find a skilled Drupal web developer to help me, it could be updated and further developed for the enjoyment of many others.

So, where we go next as a species? Well, the central issue is that because no one is ever separate from the Divine for an instant, we don't have the freedom as apparently autonomous beings to choose which direction we might take. So, political leaders are not to blame for the chaos the world is in today; we are all contributing to the confusion. Most significantly, climate change is not anthropogenic, as is widely believed. Our technological inventions are channelled through us directly from the Source. At best, evolution can become aware of itself, in the manner that Julian Huxley foresaw in a 1957 essay titled 'Transhumanism', referenced in last month's essay.[195]

For myself, as evolution has become fully conscious of itself within me, my inner guru, which means 'dispeller of darkness',[196] is telling me that Paul is destined to make a worthwhile contribution to humanity, although I have no idea how this unlikely event could come about. For I don't have any qualities that would be regarded as a measure of success in conventional terms, other than the determination, perseverance, and discipline that are needed to triumph over adversity.

Rather, my only success in life is that I am a man who understands himself, who hence understands what the Universe is and how it is intelligently designed, and therefore who understands what is causing us humans to behave as we do. It is through such Self-understanding that I have been able to demystify the mystery of mathematics without any of the skills that might be needed to solve outstanding mathematical puzzles, such as seven Millennium Prize Problems, for whose solution the Clay Mathematics Institute has pledged to pay one million US dollars.[197]

Grigori Perelman has solved the one on the Poincaré conjecture, but turned down the financial award because he said that Richard S. Hamilton also made a major contribution to the solution. He said, "I'm not interested in money or fame, I don't want to be on display like an animal in a zoo. I'm not a hero of mathematics. I'm not even that successful; that is why I don't want to have everybody looking at me."[198] He also refused the Fields Medal, saying, "Everybody understood that if the proof is correct, then no other recognition is needed."[199]

For myself, by the grace of God, I have solved a problem that no one acknowledges exists, which I stated on the opening page of this essay: *What is causing scientists and technologists, aided and abetted by computer technology, to drive the pace of scientific discovery and technological development at unprecedented exponential rates of acceleration?* So, as "We cannot solve problems we cannot agree exist," as Maria Ressa said last month, how are we to progress together?

Well, a central issue is that we live in a culture that discourages us to look inwards to discover what causes us to behave as we do. In the past, those who have turned to psychotherapists for assistance with mental disorders have sometimes been stigmatized for doing so. Consequently, as many decent folk feel quite content with their families, friends, and occupations, they have had little motivation to look inwards to discover why they behave as they do. As Uta Frith said on page 13, many believe that they already know what goes on in their minds, and so can explain why they do what they do.

This is the paradox of our journeys in life. It is through discontent that we find contentment in

whatever comes to us – as the *Bhagavad Gita* teaches – for opposites are never separate in Ultimate Reality. Being free of the dualities of life, perfection becomes the union of perfection and imperfection.

Nevertheless, could the coherent conceptual framework that Life has given me to heal a series of traumatic events in my life help others in their own psychospiritual journeys? As an illustration of my own healing process, I suffered a major mental breakdown in January 1977, when I was not promoted to a second-line systems-engineering manager in an IBM sales office, as my career manager intended, because of the way that executives had used the power of APL programs to restructure the company, and hence radically change the lives of my wife and children, as well as myself.

For IBM's relentless pursuit of economic growth had triggered the memory of an unconscious prenatal behaviour pattern, which meant that I needed to consult a psychiatrist to save my career. I was told that I suffered from manic depression – today known as bipolar disorder – which the consultant told me was caused by a biochemical abnormality. However, I did not believe him. For I don't debug computer programs by attaching an oscilloscope to the circuitry. So, as soon as I dared, I took myself off the lithium medication that I have been prescribed and set out to use Self-reflective Intelligence to heal myself, with the help of many assistants during the next thirty years.

Such a healing process has also enabled me to demystify the mysteries of mathematics and thereby answer the question 'Why Does 2 + 2 = 4?' on the recent YouTube video. As this has had over 1.2 million views during the month since it was posted, there seems to be a lot of interest in discovering what maths teaches us about deep reality. Furthermore, as such a discovery explains the Origin of Life, and therefore resolves the conflict between proponents of intelligent design and Neo-Darwinists, this explanation could also be of widespread interest.

In the past, as I could not in all conscience work in either business or academia without answering the most critical unanswered question in science, I have needed to conduct my self-inquiries without any funding from any institutions or potential wealthy benefactors. Sometimes, I have needed to go back to work in business, fighting my fellow human beings for just enough money to survive. Since I took early retirement from IBM in 1997, my pension has mostly funded my researches. But this year, this will not be sufficient to cover even the basic needs of my companion and me.

So, if Life intends me to express myself in a manner that is acceptable to others, I will need some financial remuneration to pay for at least the subscriptions to my websites, which are due for renewal at the end of April, and for replacements for my aging technological devices. It is pertinent to note that *remunerate* derives from Latin *remūnerārī* 'to reward', from *re-* 'back' and *mūnerārī* 'to give', from *mūnus* 'gift; service performed for the community', which is cognate to *community*, from Latin *communis* 'common, public, shared by all or many', and Sanskrit *maitreya* 'friendly, benevolent'.

However, even though billions of years of evolution are continuing to disintegrate into psychosocial chaos – exacerbated by the Trump administration's pathological, transactional policies – we cannot forget that we are all interdependent on each other for our health, well-being, and survival as a species for as long as possible. So, I still have faith that Life will show many more the way Home to Love, Peace, Wholeness, and the Truth in the coming weeks, months, and years.

[1] Hoover Institution, Uncommon Knowledge 2026, 'Why Does 2 + 2 = 4? What Math Teaches Us About Deep Reality', 15th January 2026, https://youtu.be/bY3ZMOn9mHQ.
[2] Eugene Wigner, 'The Unreasonable Effectiveness of Mathematics in the Natural Sciences', *Communications on Pure and Applied Mathematics*, Vol. 13, No. 1, February 1960, pp. 1–14. (Richard Courant lecture in mathematical sciences delivered at New York University, 11th May 1959.)
[3] Renée Weber, *Dialogues with Scientists and Sages: The Search for Unity*, Penguin, 1990.
[4] Stephen C. Meyer, *The Return of the God Hypothesis: Three Scientific Discoveries Revealing the Mind Behind the Universe*, HarperCollins Publishers, 2023, p. 24.
[5] https://amp.paulhague.net/documents/unifying_all_models_of_god_in_cosmic_gnosis.pdf.
[6] Jeanine Diller and Asa Kasher, eds., *Models of God and Alternative Ultimate Realities*, Dordrecht, Netherlands: Springer, 2013.
[7] Charles Hartshorne and William L. Reese, eds., *Philosophers Speak of God*, University of Chicago Press, 1953.
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