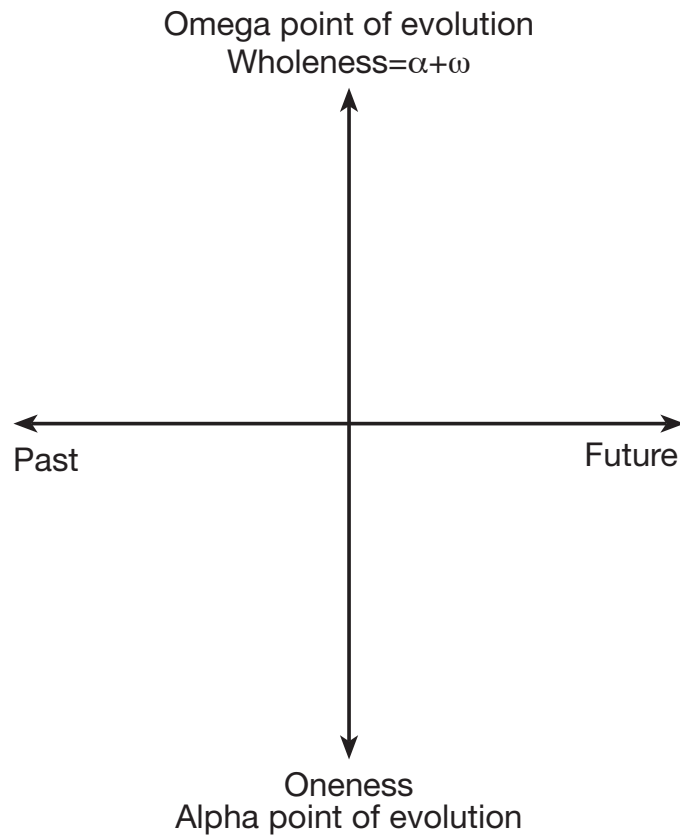


Awakening to Timeless Evolution



Paul Hague

January 2006

Background

The overall purpose of this document is to help awaken humanity to the evolutionary energies that cause us all to behave as we do. For while evolution as a principle is now widely accepted, our religious, scientific, and economic conditioning inhibits us from adapting to the accelerating pace of evolutionary change that we are all experiencing today, which puts us all in a pretty perilous predicament. If we are to conquer our fear of change with Love and Intelligence, and so realize our fullest potential as divine, conscious beings, it is vital that we see our lives in the overall context of evolution as a whole. Awakening to ourselves is absolutely essential if we are ever to end the wars and conflicts that infect so much of society today and so learn to live in love, peace, and harmony with each other and our environment.

This document is called a research paper because, while the overall vision described here is crystal clear, some of the details need to be further clarified. For I am a generalist, using the enterprise modelling methods of information systems architects in business to integrate all knowledge in all cultures and disciplines at all times into a coherent whole and so build a comprehensive model of our rapidly changing society. However, I am not an expert in all the disciplines addressed in this paper, anymore than an information systems architect working in business understands all the business processes taking place in the various departments of an organization. So I am seeking specialists in various fields to help build an all-inclusive picture that we can all agree with, no matter what our cultural or disciplinary background.

For myself, the synthesis of everything that Life has revealed to me has taken me to the Omega point of evolution at the end of time. So while I am a mathematician and computer scientist working in business by background—mostly with IBM in sales, marketing, and software development—I am also a mystic and visionary, able to see the whole of evolution from beginning to end. It is this vision of Wholeness that I am endeavouring to convey in this document.

This research paper is a development of my book *The Paragonian Manifesto: Revealing the Coherent Light of Consciousness*, going into more detail in some areas. In turn, this book is an introduction to *Ineffable, Nondual Wholeness: The Union of All Opposites*, a major work of scholarship that I have been researching and writing for many years.

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Imagine

*Imagine there's no heaven
it's easy if you try
no hell below us
above us only sky
imagine all the people
living for today ...*

*Imagine there's no countries
it isn't hard to do
nothing to kill or die for
and no religion too
imagine all the people
living life in peace ...*

*You may say I'm a dreamer
but I'm not the only one
I hope someday you'll join us
and the world will be as one*

*Imagine no possessions
I wonder if you can
no need for greed or hunger
a brotherhood of man
imagine all the people
sharing all the world ...*

*You may say I'm a dreamer
but I'm not the only one
I hope someday you'll join us
and the world will live as one*

John Lennon (1940–1980)

Awakening to Timeless Evolution

Paul Hague

It is now some 5,000 years since our ancestors invented time at the start of recorded history and nearly 150 years since Charles Darwin's *The Origin of Species by Means of Natural Selection* was published,¹ showing that we human beings have evolved from the other animals, challenging some of the most deeply held beliefs of the Western world of his time. But what are these discoveries telling us about what it means to be a human being and our place in the overall scheme of things? Above all, can evolution tell us about where we have come from and about our ultimate destiny as a species?

Indeed it can. For as Julian Huxley has pointed out, "in modern scientific man, evolution [is] at last becoming conscious of itself."² But has science yet discovered all there is to be known about evolution? Could our mystical experiences, which lie outside science as it is conceived today, tell us something about evolution that science does not yet recognize? The answer to these two questions is a resounding 'no' and 'yes', respectively.

For when we unify mathematics, the traditional language of science, with the deep inner knowing of the mystics, we can see that evolution is currently passing through a period of accelerating change that is unprecedented in the whole fourteen-billion years of evolution, seen from our perspective on Earth. The purpose of this research paper is to reveal the vision that results from this great unification, which is, of course, the product of all these years of evolution. If all the atoms, molecules, stars, planets, cells, species, religious scriptures, philosophical treatises, scientific theories, economic ideologies, and civilizations had not evolved over all these years, we would not be able to see what we can today.

Unifying mathematics and mysticism

The central reason why it is absolutely imperative that we learn to unify mathematics and mysticism, and hence science and spirituality, as fast as possible is that on Monday 21st June 1948 a group of engineers, scientists, and mathematicians at Manchester University in England successfully ran the first program on a stored-program computer.³ While this machine was just a prototype, it was nevertheless the most momentous event in the whole history of technology. For the first time, we had created a general-purpose machine that rather than extending our physical abilities, could extend our mental abilities, and in some cases could replace them.

Two years later, wondering just what we human beings had invented, Alan Turing, often considered the father of modern computer science, wrote an historic article that began with the words, "I propose to consider the question 'Can machines think?'"⁴ He went on to write, "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."⁵

Since then, despite all the efforts of computer scientists to create artificial intelligence,⁶ consciousness,⁷ and even life,⁸ Turing's prediction does not seem to have come to pass. I know of no machine in the world that has passed the Turing test, that claims that it is at least as intelligent as human beings. Why is this? Well, we can get an inkling for this 'failure' from the insightful memoir on Charles Babbage's Analytical Engine,⁹ written in 1843 by Ada Lovelace,¹⁰ the poet Byron's daughter, which Turing quoted in his article.¹¹ Ada wrote:

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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.¹²



Inspired by Ada's brilliant intuitive insight, let us rephrase Turing's question, "Could a computer program itself without human intervention?" Well, such a prospect is certainly possible. For instance, APL (A Programming Language), created by Kenneth Iverson of Harvard and IBM in the 1950s and 60s¹³ to facilitate mathematical processing and much used by IBM as a management information tool in the 1970s, has facilities within it by which programs can be dynamically created in flight, executed, and then destroyed.¹⁴ But does this mean that it is possible for an APL program to create something radically new; this research paper, for instance?

Well, as it turns out, it is not possible to answer this question within the framework of either reductionist science, based on a mechanistic world-view, or holistic science, based on an organistic world-view. To answer this question, we need a mystical world-view that admits Life or God the Creator into its domain of discourse. Rather surprisingly, we can create such a vital science from enterprise modelling methods that either originated in IBM¹⁵ or are today owned by IBM.¹⁶

The key here is to adopt a thoroughly consistent approach to concept formation, similar to the way that mathematicians, computer programmers, and information systems architects think and organize their ideas. At the suggestion of Chris Clarke, an eminent professor of mathematical physics in England, I call this commonsensical approach to human learning *radical equalitarianism*,¹⁷ paradoxically leading to a radically new science of reason called *relational logic*.

What this means is that if we wish to heal the splits in the fragmented and divisive mind, no concept should be given special, preferential treatment; all concepts should be created in exactly the same manner. So in the world-view described in this paper, the concepts of mass, space, time, human being, Universe, Absolute, and God, which traditionally embody fixed assumptions about ourselves and the world we live in, are treated no differently from any other concepts. In this way, we can build a thoroughly coherent body of knowledge on the abstract concepts of structure, form, relationships, and meaning, central to the Information Society we live in today.

In essence, what this all-inclusive model shows is that Consciousness is the overall context for all our lives, unifying the concepts of Universe and God, which provide the separate contexts for science and religion, respectively. Such a world-view is currently gaining widespread acceptance. For instance, Amit Goswami, who appeared in the popular movie *What the Bleep Do We Know?*, has said that the paradoxical phenomena of quantum physics can only really be understood when we recognize that it is Consciousness that creates the physical world.¹⁸ In saying this, he is one with the Advaita sage and former president of the Bank of India, Ramesh S. Balsekar, who famously makes crystal clear in *Consciousness Speaks* that Consciousness is all there is.¹⁹

However, this revolutionary transformation of consciousness might give the more conservative and fundamentalist members of society some difficulty in accepting what is an even more radical change in Western world-view than that introduced by Copernicus, Kepler, Galileo, and Newton in the sixteenth and seventeenth centuries. Such resistance to change is most noticeable in the USA, where there has long been a war going on between the Creationists, recently promoting the

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principle of intelligent design, and the Darwinists, who deny any divine intervention in evolutionary processes.

This issue came to a head in December 2005 when John Jones III, a US federal judge appointed by George W. Bush, ruled that it was unconstitutional to teach intelligent design in biology classes in the schools in Dover, Pennsylvania, at least.²⁰ So by throwing out the spiritual baby with the religious bathwater, Judge Jones did nothing to help us bring Life back to science. This ruling was seen as a victory for science over religion. However, it was not a victory for humanity, for because Darwinism denies the role of Life in our creative activities, it is a theory of evolution that is out of touch with Reality.

While this ruling does not state that it is illegal to heal the split mind by unifying mathematics and mysticism, it seems to imply that it is illegal to teach such a unification in American schools. We thus face a very critical situation in the world today. Conservatism and fundamentalism, whether these attitudes be religious, scientific, or economic in character, are threatening the very survival of our species. For any species that does not adapt to its changing environment can expect to survive for long.

Towards the timeless

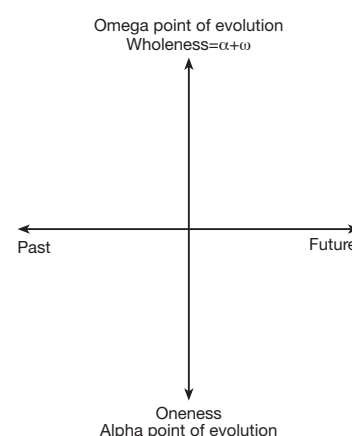
In a nutshell, what evolution is showing us is that to live without fear and stress with the accelerating rate of change we are experiencing today, we need to be carried through time to the timeless, the eternal Now, at the end of time. This paradoxical situation might seem very strange because time plays such a dominant role in our lives. Each of us gets up each morning, goes about our daily activities, and goes to bed each night. These daily routines, which we can creatively change as the need arises, for we are the most adaptable of all the species, happen to most of us some 20 to 30 thousand times in our life times.

Yet, when we look deeply into ourselves, as the mystics have taught, we discover that all this activity arises from Stillness, from our divine Source, through the irrepressible power of Life. So the origin of the Universe is not some point of time in the past and our ultimate destiny as a species is not at some point in the future.

The Alpha point of evolution is Oneness, which we experience as union with the Divine, as the radiant light of Consciousness shines brilliantly through us, and the Omega point of evolution is Wholeness, when our individual consciousness broadens and deepens to such an extent that it becomes coterminous with the vast ocean of Consciousness.

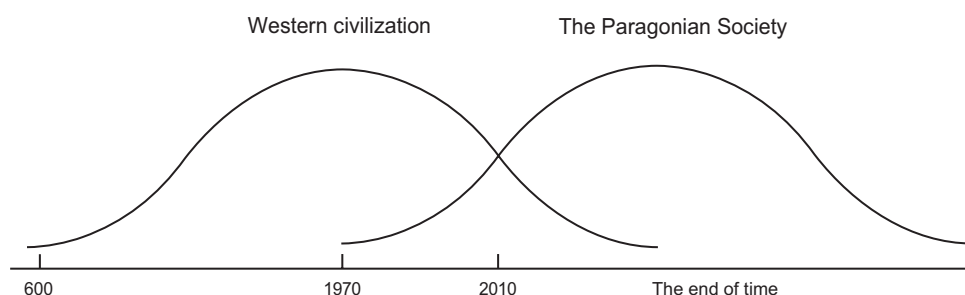
There are many signs that evolution is carrying us to the timeless today. For instance, Eckhart Tolle's book *The Power of Now*²¹ has sold some 700,000 copies the last time I saw the figures. So even if all the readers of this best-selling book are not yet fully conscious that time is an illusion, the trend is quite clear. In *Stillness Speaks*, Eckhart goes on to say that the situation we face today is of great urgency:

The transformation of human consciousness is no longer a luxury, so to speak, available to only a few isolated individuals [the mystics of all ages and cultures], but a necessity if humankind is not to destroy itself. At the present time, the dysfunction of the old consciousness and the arising of the new are both accelerating. Paradoxically, things are getting worse and better at the same time, although the worse is more apparent because it makes most 'noise'.²²



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So we are clearly at present in a transition stage between civilizations, as the physicist and systems theorist, Fritjof Capra, shows in this diagram,²³ which I have extended to reflect humanity's awakening consciousness:



In practical terms, as Western civilization, which dominates the world today through the global economy, disintegrates in the next decade, we shall experience a great awakening of Love, Consciousness, and Intelligence. As Love is our true Essence, we shall thus learn to cooperate with each other, to cocreate a peaceful and harmonious way of being and living, which has been the great dream of humanity for thousands of years.

I call this new civilization the Paragonian Society, from the Greek *para* 'beyond' and *agon* 'contest' or 'conflict', a word that is also the root of *agony*, until the 17th century meaning 'mental stress', and *antagonist*, 'a person that one struggles against'. So *paragonian* means 'beyond conflict and suffering', a healthy, liberated, and awakened way of being that we can realize when we live consciously in Oneness, in union with the Divine, at the Alpha point of evolution.

Faced with the increasing violence in today's society, many are sceptical that this great transformation will happen so quickly. But Life is helping us to dispel these doubts, teaching us to view our lives in the context of evolution from beginning to end. For evolution is an accumulative process that proceeds by synergistically building on the structures that have previously emerged, a fact that can be simply expressed mathematically in exponential formulae.

Yet paradoxically, if we are to awaken to timeless evolution, awaken to ourselves, we need to awaken to total revolution, as Vimala Thakar has pointed out²⁴. I therefore begin this research paper by looking at what this evolutionary revolution means from a scientific perspective, for scientists and other academics are generally most resistant to change, to awakening to Life and Freedom. It then continues by looking briefly at the mathematics of exponential series, using no more advanced mathematics than is understood by fifteen-year-olds. Using the work of Carl Johan Calleman, a Mayan scholar living in Sweden, we then look at the Mayan calendar, for this calendar is the only one in the world that is exponential. This enables us to match significant events in this calendar with major evolutionary turning points, which makes it possible for us to look at the Mayan prophecy of the end of time from a mathematical perspective.

We then show how Nick Hoggard, an Englishman living in Sweden at the turn of the millennium, has expressed the Mayan model of evolution in terms of generally recognized systems theory. This shows beyond any shadow of a doubt that evolution has reached its point of accumulation, the most significant event in the whole history of evolution.

The major limitation of systems theory today is that it is based on the notion of self-organization, denying the divine role of Life in evolution. So I then show how Life can be brought back to science using the enterprise modelling methods of information systems architects in business. Finally, I use this comprehensive theory of evolution to show that technological development cannot drive economic growth for more than a few more years, and that it is thus

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imperative that we turn the focus of our attention inwards, to human rather than machine development. In this way, Love can conquer the fears that drive so much of our behaviour today.

Awakening to total revolution

The first of Arthur Koestler's iconoclastic trilogy on the history of science, aptly called *The Sleepwalkers*,²⁵ traced humanity's changing vision of the Universe from the ancient Greeks to the scientific revolution of the sixteenth and seventeenth centuries. Yet despite the great advances in science and technology since then, we are still sleepwalkers, or maybe it would be better to say sleeprunners or even sleepdrivers. For with the accelerating pace of evolutionary change we are experiencing today, we are driving our cars down the highway with our eyes closed, or at best partially sighted, causing severe psychological and ecological damage.

In *Spirituality and Social Action*, Vimala Thakar, a protégée of J. Krishnamurti, said, "in a time when the survival of the human race is in question, continuing with the status quo is to cooperate with insanity, to contribute to chaos."²⁶ In a similar fashion, David Bohm, a friend and colleague of both Albert Einstein and Krishnamurti, said in 1985 in an interview discussing the latter's enlightened approach to education, if we do not question our fixed beliefs and assumptions, then humanity is not a viable species.

What is Enlightenment? magazine is one of many organizations addressing this critical issue for it

is dedicated to a revolution in human consciousness and human culture. Guided by the evolving vision of founder Andrew Cohen, we are in search of a radical new moral and philosophical architecture for twenty-first-century society. We believe that finding this framework for transformation—rooted in the timeless revelation of enlightenment, reaching toward a truly coherent ethics for postmodern world—is imperative, not only for the evolution of our species, but for our very survival.²⁷

In 1986, Willis Harman, then president of the Institute of Noetic Sciences, expressed a similar vision when he said, "Most educated people in this country [the USA] would think it pretty preposterous to suggest that the change that is taking place is at as deep a level as the change that took place during the Scientific Revolution, because that would imply, of course, that the near future—the early part of the next century—would be as different from present times as present times are from the Middle Ages."²⁸

Willis then went on to cofound the World Business Academy with these words: "business is the dominant institution in society today and the one most capable of responding to rapid change. As such, business must adopt a new tradition of responsibility for the whole. It must do this by defining business interests within the wider perspective of society in order to create a positive and sustainable future."²⁹

However, all these visionaries have greatly underestimated the extent of the revolution taking place in the world today. As a consequence, many scientists, philosophers, and religionists are very resistant to taking what Peter Russell calls our next "evolutionary leap",³⁰ like the Aristotelians and Christians, who opposed the Copernican revolution. In essence, if the children born since the beginning of this millennium are to have any chance of growing old enough to have children of their own, everything must change. If we are to adapt to the accelerating pace of evolutionary change, we cannot afford to hold on to anything whatsoever. There are no safe havens in the prevailing culture, which many engaged in the emerging civilization are sadly holding on to. Awakening to total revolution means being completely free, with no scientific, religious, or economic beliefs or assumptions inhibiting us from flowing easily with Love and Life.

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Of course, there is no lack of teachers of Oneness in the world today.³¹ But while Oneness, when we live in union with the Divine at the Alpha point of evolution, is necessary, it is not sufficient. For evolution is carrying us Home to Wholeness, the Omega point of evolution, much as Pierre Teilhard de Chardin prophesied in *The Human Phenomenon*,³² which he wrote between 1938 and 1940,³³ but which was only posthumously published in French in 1955 because of opposition from his Catholic superiors.

So we can best provide an evolutionary overview for this research paper by briefly looking at Teilhard's extraordinary vision. The four parts of his book are called 'Prelife', 'Life', 'Thought', and 'Superlife', covering the four stages of evolution from beginning to end. The first three phases of the overall process of cosmogenesis or hologenesis of the past fourteen billion years were the evolution of matter and the physical universe, of forms of life, and of concepts in the mind, which we can call hylogenesis, biomorphogenesis, and noogenesis, respectively. Narrowing the focus of our attention, the transition between the second and third phases took place during the comparatively peaceful age of the Great Mother,³⁴ coming to an end about 4,500 years ago³⁵ with the birth of history, marked in the West by the mythical Garden of Eden.

During the patriarchal, mental-egoic age (me-epoch) that followed, some twenty major civilizations have been born,³⁶ most naturally dying in the course of time. This includes Western civilization, which today dominates the world through the global economy. In turn, this great civilization is now dying because it is based on the false assumption that we human beings are separate from God, Nature, and each other, when the truth is that we are in gnostic union with the Divine at every instant of our lives.

It is now crystal clear that we are entering the fourth and final stage of evolution in general and the third and final phase of human evolution. The war-ridden, self-centred epoch is being transformed into a holistic, wisdom society, which is emerging very fast because evolution is an accumulative process that has been accelerating exponentially for fourteen billion years and has now reached mind-shattering speeds—literally.

And just as Teilhard prophesied, this eschatological age of universal spirit (us-epoch) is coming about because all the diverse streams of evolution are converging in a megasynthesis leading to an amazing awakening of Love, Consciousness, and Intelligence. This megasynthesis is the ultimate theory of science, defined as a coherent body of knowledge that corresponds to all our experiences from the mystical to the mundane. It is the Theory of Everything or Grand Unified Theory, the complete integration of all knowledge in all cultures and disciplines at all times, past, present, and future, which can only come about at the Omega point of evolution, from whose vantage point this research paper is being written.

Now, the first three major stages of evolution, which began some 14 billion, 3.5 billion, and 5,000 years ago, are of rapidly decreasing duration because of the accumulative nature of evolutionary processes. But they lack detail and cannot directly be expressed as an exponential series in mathematics, the language of science. So let us next look at how the exponential series can awaken us to timeless evolution.

Exponential series

The way that compound interest accumulates is the most familiar example of an exponential series. If we invest \$100 dollars at 5% or 10% interest, after one year it becomes \$105 or \$110, after 10 years we have \$163 or \$259, and after 100 years, the \$100 has accumulated to \$13,150 or

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\$1,378,061! These are examples of a divergent series; the numbers get bigger and bigger by a factor of 1.05 or 1.1, in these cases.

If we look at evolutionary history, backwards in time, we can see a similar divergent series. The time periods between the major turning points get longer and longer as we look backwards. But if we look forwards in time, towards the present moment, the time periods between the major turning points get shorter and shorter.

It was David Attenborough's enthralling television series *Life on Earth*, broadcast in 1979, which graphically brought the exponential rate of evolutionary change to my attention. It is now some 3.5 billion years since the first self-reproducing forms of life appeared on this planet. So if we consider 10 million years to be a day, we can map the whole of evolution on this planet to the days of the year.³⁷

This model was made very real to me when I took my children to the Natural History Museum in London in the early 1980s, when they were about eleven and eight years of age. The first two exhibits we saw there were a fossilized tree trunk, some 300 million years old, in the grounds, and a dinosaur skeleton, in the entrance hall.

Using Attenborough's model, if we are now at midnight on 31st December, these two exhibits were alive at the beginning of December and during the week before Christmas. Human beings evolved in the early evening, the early farming communities began to settle about one and half minutes ago, and nearly all the knowledge that we have discovered about ourselves and the world we live in has been learnt in the past minute. The computer age began about half a second ago, if we discount Charles Babbage's Analytical Engine, designed in the middle of the nineteenth century, but never built.

Peter Russell provides a similar metaphor in *The White Hole in Time*³⁸ and its sequel *Waking up in Time*. 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.³⁹

Using this metaphor, the first living cells appeared on the twenty-fifth floor, "photosynthesis evolved around the fiftieth floor, and bacteria that breathed oxygen came another ten floors later—more than halfway up."⁴⁰ Dinosaurs reached floors 104 to 107 and mammals arrived on the top floor. And the time since the first scientific revolution is less than the thickness of the layer of paint on the ceiling of the top floor.

In *The Awakening Earth*⁴¹ and its sequel *The Global Brain Awakens*, Peter extends his view of evolution still further back.⁴² To get a complete picture, we need to look at evolution as starting from the most recent big bang, some fourteen billion years ago.

What these metaphors show is that as we look at evolution forwards in time, the exponential series becomes convergent; the numbers in the series get smaller and smaller. This is a simple example:

$$1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots$$

In this case, the numbers in the series get smaller by a factor of 0.5 or $\frac{1}{2}$. Now in the case of convergent series, the total sum of the series is not infinity; it is a finite number, in this case 2. In general, the sum of a series where we divide each term by n is:

$$\frac{n}{n-1}$$

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So if n is 3, the sum of the series is 1.5, and if n is 11, the sum is 1.1. And if n is 4.669201609 and 20, the sum is 1.272538854 and 1.052631579, respectively. So why have I chosen these two numbers?

The Mayan calendar

Well, the first reason is that the Mayan calendar is vigesimal, it is based on 20, in contrast to our decimal counting system, based on 10, and the binary system in computers. Interestingly, the Mayans created a number of time periods that increased going backwards in time by a factor of 20, with one exception. A uinal (also spelled vinal and winal) is 20 kins or days and a tun is 18 uinals or 360 kins. This one exception to the vigesimal system is probably because the tun then becomes quite close to the length of a solar year. A katun is 20 tuns, 19.7 years because a tun is slightly shorter than a year. This table, taken from Carl Johan Calleman's *The Theory of Everything*, shows the names that the Mayans gave to ever increasing periods of time.⁴³

Period	Factor	Units	Years	Cycles
uinal	20	kins		
tun	18	uinals		13
katun	20	tuns	20	256
baktun	20	katans	394	5,125
piktun	20	baktuns	7,885	102,507
kalabtun	20	piktuns	157,704	2,050,146
kinchiltun	20	kalabtuns	3,154,071	41,002,929
alautun	20	kinchiltuns	63,081,429	820,058,580
hablatun	20	alautuns	1,261,628,585	16,401,171,606

However, they did not measure time in exactly these units. They saw each period of time repeating itself in thirteen cycles, perhaps because there were thirteen gods in the Mayan pantheon. The last column in this table shows the number of years since the beginning of each major cycle. The thirteen baktun cycles of 5,125 years, shown in bold, is called the Great Cycle, or Long Count, which we shall come back to in a moment.

But first we need to be aware that the cycle of thirteen hablatuns, the longest cycle that they gave a name to, is not the Mayans' view of the time since Creation. A stele has been found in Coba in Northern Yucatan Peninsula that places the creation date at $13 \cdot 20^{21}$ tuns ago, 14 orders of magnitude greater than the length of the hablatun series of cycles.⁴⁴ This is 27,262,976,000,000,000,000,000,000 tuns, about 27 octillion years (27 followed by 27 zeroes), pretty big numbers.

Well, not really. As far as I am aware, the largest number that has been given a name is the googolplex, which is 10^{googol} . A googol, in turn, is 10^{100} . Edward Kasner tells us that these names were created by his nine-year-old nephew, who was asked to think up a name for a very big number.⁴⁵ As some know, Google, the popular Web search engine, is named after this latter number, and its headquarters is called, naturally enough, Googolplex.

Yet a googolplex is still a finite number, and there is an infinite number of finite numbers larger than this one. Indeed, there is even an infinite number of *prime* numbers, as Euclid proved in a theorem that many of us learned at school.⁴⁶



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Furthermore, by using the concept of the power set of an infinite set (the set of all subsets of the set), Georg Cantor showed at the end of nineteenth century that there is not just one infinite cardinal, but an infinite number of them.⁴⁷ It would thus seem that the smallest infinity enumerates the infinities; that there are no others than those that Cantor defined. But Kurt Gödel⁴⁸ and Paul Cohen⁴⁹ proved that the generalized continuum hypothesis, which asserts that Cantor's infinities are all there are, can neither be proved nor disproved. So we cannot know using standard axiomatic set theory which infinite cardinal enumerates the infinite cardinals.

This has profound implications for people's belief in eternal life after death: which infinity are they referring to? We can never know because time, infinite time, and eternity are just concepts, appearances in Consciousness, illusions not based on Reality. It is of the utmost importance that we recognize that everything we give a name to, including the human soul, is just a dream, as the English mystic Timothy Freke lucidly explains.⁵⁰ If we are to awaken to timeless evolution, we need to be free of the fear of change and of death, which we shall look at from other angles later.

In the meantime, let us look at the conventional, Western view of the universe. The estimate of time since the physical universe was created has varied between 12 and 16 billion years during the past few decades, with 14 billion being most often quoted. Now this is reasonably close to the length of the cycle of thirteen hablatuns: about 16 billion years. As I have already indicated, the limit of this series

$$1 + \frac{1}{20} + \frac{1}{400} + \frac{1}{8000} + \frac{1}{16000} + \dots$$

is 1.052631579. Let us suppose then that the 16,401,171,606 years of the hablatun cycle is the sum of this series multiplied by some factor. The first term in the series would then be 15,581,113,026, the length of the period from the beginning of the hablatun cycle to the beginning of the alautun cycle. So we can reverse the table above to show these periods decreasing in length. But as 16,401,171,606 years is actually 5,990,400,000,000 days, we can more accurately perform the calculations in days, with 5,690,880,000,000 as the starting point, as follows:

Cycle	# in series	Days between periods	Accumulative days	Accumulative years
hablatun	1	5,690,880,000,000		
alautun	2	284,544,000,000	5,975,424,000,000	16,360,168,677
kinchiltun	3	14,227,200,000	5,989,651,200,000	16,399,121,460
kalabtun	4	711,360,000	5,990,362,560,000	16,401,069,099
piktun	5	35,568,000	5,990,398,128,000	16,401,166,481
baktun	6	1,778,400	5,990,399,906,400	16,401,171,350
katun	7	88,920	5,990,399,995,320	16,401,171,593
tun	8	4,446	5,990,399,999,766	16,401,171,605
(uinal)	9	222.3	5,990,399,999,988	16,401,171,606
(kin)	10	11.115	5,990,399,999,999	16,401,171,606
	11	0.55575	5,990,400,000,000	16,401,171,606
	12	0.0277875	5,990,400,000,000	16,401,171,606
	13	0.001389375	5,990,400,000,000	16,401,171,606

This table shows that by the 11th term, the time between periods is less than one day; in just 13 terms, the series has decreased from 5 trillion days to 2 minutes. There is no need to add any more terms, because the accumulative total in days has been reached. Furthermore, the series is not very sensitive to the starting number. It could be 10 or 20 billion years, and the series would still converge after eleven terms. Neither is the series affected by the fact that the tun in 18 uinals, not 20. These are insignificant details.

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As the beginning of the hablatun cycle roughly corresponds to the most recent big bang, can we find any other correlations between the beginning of the other cycles and significant points in evolutionary history? Well, this is exactly what Carl Johan Calleman of Dalarna University in Sweden has done. This is a table taken from his book *The Theory of Everything*, slightly modified:⁵¹

Cycle	Formula	Years from 'today'	Initiating phenomenon	Modern dating in years
hablatun	$13 * 20^7 \text{ tun}$	16,401,171,606	First matter, "Big Bang"	14–16 billion
alautun	$13 * 20^6 \text{ tun}$	820,058,580	First animals	850 million
kinchiltun	$13 * 20^5 \text{ tun}$	41,002,929	First monkeys	40 million
kalabtun	$13 * 20^4 \text{ tun}$	2,050,146	First tool-makers (<i>Homo</i>)	2 million
piktun	$13 * 20^3 \text{ tun}$	102,507	First object-makers (<i>Homo</i>)	100,000
baktun	$13 * 20^2 \text{ tun}$	5,125	First construction-makers (<i>Homo</i>)	5,100
katun	$13 * 20^1 \text{ tun}$	256	First machine-makers (<i>Homo</i>)	242
tun	$13 * 20^0 \text{ tun}$	13	?	?
(uinal)	$13 * 20 \text{ kin}$	1	?	?

The key point, as far as the people living on this planet are concerned, is what day is marked by the 11th term in the series; what is 'today' in the third column in the table above? Well, 'today' for Carl Johan is 28th October 2011,⁵² his estimate of the end of the Long Count, not accepted by the majority of Mayan scholars. This date is 242 years after 1769, when James Watts invented the steam engine, sometimes regarded as marking the beginning of the industrial era. This year corresponds very closely to the vision I have had since 1979. For when I was then engaged in marketing management information systems and personal computing for IBM (UK), I saw quite clearly that the invention of the stored-program computer is incompatible with both capitalism and communism and both would self-destruct within about thirty years, when my children would be in their late thirties, presumably bringing up children of their own.

However, can we improve on Carl Johan's table? Can we fill in the question marks? Above all, can we add the most significant evolutionary event missing from this table: the emergence of the first self-reproducing forms of life about 3.5 billion years ago?

Adding some points

Well, this is exactly what Nick Hoggard was prompted to do when Carl Johan gave a talk to students at Holma College of Holistic Studies in southern Sweden in the late 1990s. Nick spotted that as $\sqrt{20}$ is 4.472, not only could the beginnings of life, as science understands it today, be accommodated in the table, but many other intermediate points could also be inserted.

I met Nick in April 2000, when we both gave a talk at the continental meeting of the Scientific and Medical Network in Växjö in southern Sweden. Nick gave me a draft copy of a book he was writing on his radically new evolutionary theory called *SuperEvolution*, which fitted very closely to the comprehensive theory of evolution I had been working on for the previous twenty years. This table contains some information from his book.

#	Event	Description	Best known date
0	Big Bang	The universe is created and matter starts to evolve into ever more complex forms. This eventually results in the organic molecules, which are needed for life to appear.	13-16 billion years ago
1	Emergence of life	Organic molecules join together in self-contained entities, which are able to replicate and mutate.	3.5-3.8 billion years ago
2	Sexual reproduction	Two organisms are able to combine their genes to produce new, novel organisms. This substantially increases the rate of biological evolution.	1,000 million years ago
3	Passing on learned	Animals start to care for their young. This gives them an	200 million years

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#	Event	Description	Best known date
	behaviour (mammals)	opportunity for them to pass on useful experience to the next generation. This turns out to be a faster way of evolving behaviour than waiting for behaviour to evolve purely genetically.	ago
4	Use of tools (primates & monkeys)	Using tools allows animals to spontaneously extend their bodies. They no longer have to wait for body extensions to evolve biologically.	38-65 million years ago
5	Making tools (great apes)	Animals cease to be limited to the tools they can find lying around. They can actually design them.	10 million years ago
6	Making tools with tools (<i>Homo habilis</i>)	In a simple but crucial change, animals begin to use their tools to make other tools. The first man, <i>Homo habilis</i> , appears.	2-2.5 million years ago
7	<i>Homo sapiens</i>	The appearance of the first of our species gives evidence that yet another major evolutionary change has occurred.	400,000-450,000 years ago
8	<i>Homo sapiens sapiens</i>	Modern man arrives on the scene, coinciding with the appearance of art—a sign that imagination has evolved to a new level.	100,000 years ago
9	Unknown event	The theory predicts a transition which has not been identified, but which perhaps explains the appearance of agriculture.	25,000 years ago
10	First civilization	Diversification of skills means that man moves on to new heights of creativity, technology, and culture.	6,000 years ago
11	First technological revolution	A wave of mechanization gathers pace across Europe and eventually the world.	500-800 AD
12	Industrial revolution	A combination of factors triggers the industrialization of society, revolutionizing daily life.	1733
13	Invention of computer	The universal machine is invented, and technological development moves from hardware to software.	1946-1948
14	Cyberspace (World Wide Web)	The invention of cyberspace connects people in an interactive environment free from the limitations of physical distance.	1990

The terms marked in bold correspond to entries in the table that Carl Johan Calleman drew up based on the Mayan calendar. Nick pointed out that each of the transitions in his table created a new, faster way of generating evolutionary solutions, building on what had gone before, not replacing the old ways. It is interesting to note that the midpoint in his table marks the emergence of the first humans on this planet. Also, many of the turning points in Nick's table mark a technological leap of some sort; they are more concerned with external evolution than inner development of the individual and the species.

The exceptions are 7, 8, and 9, the first two completing the biological period of evolution that began at the first turning point in the series. Nick wonders about point 9. Well, for me, this is the most important turning point in the whole of evolution. For this was about when we human beings acquired reflective intelligence, the ability to look inwards to our divine Source, as well as outwards. It was this development that gave rise in many cultures to the myths of gods and goddesses with divine powers, as Barry Long explains.⁵³ But these ancestors were really like babies in adult bodies, as yet having no conceptual understanding of what was happening to them. It has taken 25 to 40,000 years of turbulent development for us to understand what is happening to us all.

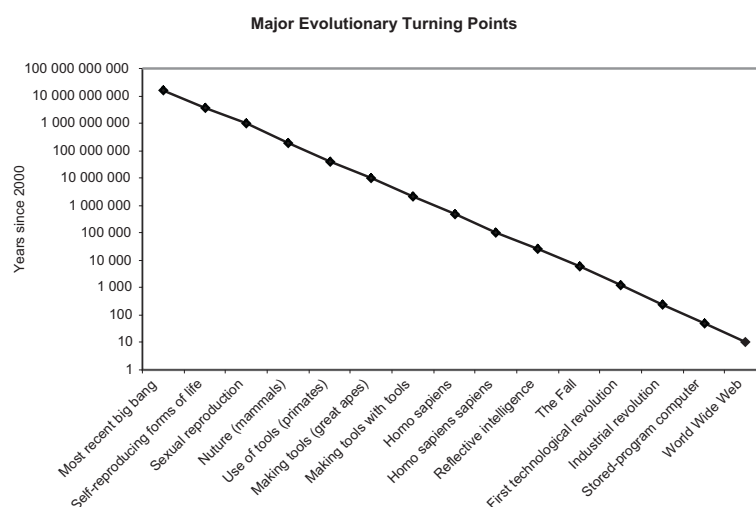
Nick estimated that this series would converge around 2002, just two years after he gave me his book. Being curious, I have done my own calculation, given in this table.

#	Event	Date	Years ago	Factor
0	Most recent big bang		14,000,000,000	
1	Self-reproducing forms of life		3,600,000,000	
2	Sexual reproduction		1,000,000,000	4.00
3	Nurture (mammals)		200,000,000	3.25
4	Use of tools (primates)		40,000,000	5.00
5	Making tools (great apes)		10,000,000	5.33
6	Making tools with tools		2,200,000	3.85
7	<i>Homo sapiens</i>		500,000	4.59
8	<i>Homo sapiens sapiens</i>		100,000	4.25
9	Reflective intelligence		25,000	5.33

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#	Event	Date	Years ago	Factor
10	The Fall		6,000	3.95
11	First technological revolution		1,300	4.04
12	Industrial revolution	1733		4.57
13	Invention of computer	21st June 1948		4.76
14	Introduction of WWW	6th August 1991		5.01
15		8th May 2003		4.67
16		21st November 2003		4.67
17		2nd January 2004		4.67
18		11th January 2004		4.67
19		13th January 2004		4.67
20		13th January 2004		4.67

Here is a graph of this table at a logarithmic scale:



It might seem surprising to put the introduction of the World Wide Web on the same chart as the emergence of self-reproducing forms of life on Earth. But as the periods of time between each major turning point decrease, the events they mark decrease in significance in the cosmic scale of things. Nevertheless, these events mark significant turning points for those living at these momentous times.

The first 11 points are based on a best estimate of when the various major turning points took place. The factors between them are calculated in this way:

$$\frac{f(n-2) - f(n-1)}{f(n-1) - f(n)}$$

You can see that the factor between the periods varies quite a lot, but the points nevertheless are quite close to a straight line in the logarithmic graph above. Furthermore, the average is 4.37, not far from 4.472. However, we know the dates of the last three points with reasonable accuracy. Well, the date of the beginning of the industrial revolution varies quite a lot. I have used Nick's date of 1733, although if I remember rightly, Arnold Toynbee,⁵⁴ the uncle of the author of *A Brief Study of History*, with the same name, used 1760.

I have taken 21st June 1948 as the invention of the computer, for this is when engineers at Manchester University switched on the first stored-program computer called 'Small-Scale Experimental Machine',⁵⁵ although the EDVAC was the first practical stored-program computer, which ran its first program on 6th May 1949 at Cambridge University.⁵⁶

These were the most significant events in the whole history of technology, for programs were stored in the computer's memory for the first time, rather than externally. We had thus built a

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machine that enhances our mental abilities; in contrast to the many tools we have created over the years to extend our rather limited physical abilities, such as the wheel, the steam engine, the telephone, and the aeroplane. And we know that Tim Berners-Lee launched his first web site at CERN on 6th August 1991.⁵⁷

Using a factor of 4.669, for reasons that I will shortly explain, I then calculated when this series would converge. Of course, 13th January 2004, a revision of the date I gave in my book *The Paragonian Manifesto*, is one of spurious accuracy. But this series is not very sensitive to either the starting point or the exponential factor. I have done some sensitivity tests with 13, 14, and 15 billion years as the starting point, and with evolutionary factors ranging from 4.4 to 4.7. In all cases, the 21st term was less than a day.

This convergent point of around 2004 does not quite match the end of the Long Count in the Mayan calendar. However, in the cosmic view of evolution, which I am endeavouring to describe here, these differences are not significant.

What is significant, however, is that we are clearly living at the most momentous time in evolutionary history. So in the remainder of this research paper, we shall look at what this means for the future of humanity.

A systems perspective

When Nick Hoggard began his studies of evolutionary theory, he looked for a scientific explanation for the patterns he was observing. To do this, he first noticed that 4.472 is reasonably close to 4.669, the Feigenbaum constant in complexity theory.⁵⁸ And 4.669^2 is 21.8, quite close to the factor of 20 in the Mayan calendar. So he set out to study the history of evolution in terms of systems theory, described in his unpublished book *SuperEvolution*.

He is not alone in this endeavour. For instance, in *The Phenomenon of Science*, the Russian Valentin Turchin explored the history of evolution in terms of cybernetics.⁵⁹ And the biologist Elisabet Sahtouris is well known for presenting evolutionary processes in terms of conventional systems theory.⁶⁰ However, Nick has made a major contribution to our growing understanding of evolutionary processes. Here is a brief summary of his findings.

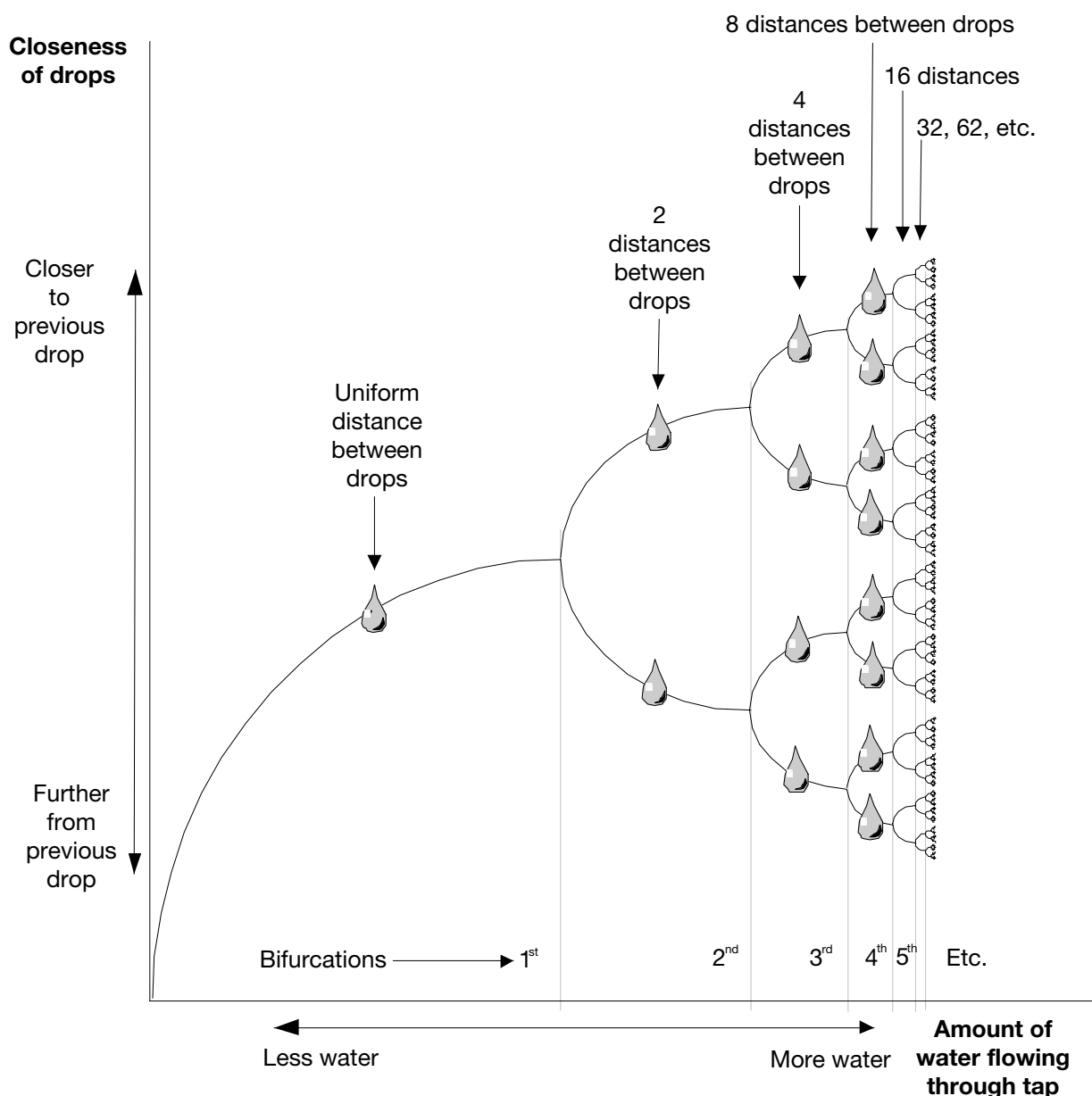
Like many others, Nick turned to systems theory because evolutionary processes can be seen as examples of autopoiesis or self-organization, which sadly does not recognize the existence of Life arising directly from our divine Source. A self-organizing system is one in which order arises out of chaos, giving rise to systems of ever-increasing complexity, which Pierre Teilhard de Chardin called the law of complexity-consciousness, the greater the complexity, the greater the consciousness.⁶¹

But paradoxically, underlying all this complexity are patterns of great simplicity. One of these patterns is that systems do not develop steadily; they pass through sudden leaps in levels of complexity. Leaps in complexity in self-organizing systems are known as bifurcations, divisions into two forks or branches. Such bifurcations have been studied by a physicist called Mitchell Feigenbaum at the Los Alamos Laboratory in 1975. He noticed that these bifurcations occur faster and faster diminishing by a factor of 4.6692016090, now known as the Feigenbaum number, which can be calculated to any level of precision, like π and e . The Feigenbaum number is thus a fundamental constant of nature.

A simple example of bifurcation is a dripping tap. When it is first turned on, the drips are equally spaced: drip-drip-drip. But as more water flows, the drips form pairs, with a larger distance between the pairs than within the pairs: drip-drip---drip-drip---drip-drip. This is the first

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bifurcation. Then, as the tap is opened up, the number of different distances between the drops doubles: drip-drip---drip--drip----drip-drip---drip--drip. At each bifurcation, the number of different distances doubles each time, as illustrated in this diagram from Nick's book:



As this diagram indicates, the bifurcations get closer and closer together at each point, the bifurcations decreasing by a factor that gets closer and closer to the Feigenbaum number. (Actually, Nick drew this diagram with a factor that is close to 2 because if he had used 4.6992, the bifurcations would have got too close together too fast.) Now this series has the same form as the other exponential series we have looked at, with each term diminishing by 4.6692 at each point:

$$1 + \frac{1}{4.6692} + \frac{1}{21.801} + \frac{1}{101.79} + \frac{1}{475.30} + \dots$$

And like the other series, it has a finite limit, even though there are an infinite number of terms. The limit is 1.272538854. What does this mean in terms of the dripping tap? Well, when the finite limit is reached, the tap stops dripping; the water flows continuously. In complexity theory, this limit is known as the accumulation point.

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Now what Nick noticed in his evolutionary calculations, which are slightly different from mine, is that the time periods between the evolutionary turning points get closer and closer to the Feigenbaum number. And, as I have indicated, this series reached a finite limit around 2004. We can therefore say that all the accumulating evolutionary processes of the past 14 billion years or so have reached the evolutionary accumulation point. There are no longer any major turning points that can be discerned. Evolution is now flowing continuously, like a tap that is turned full on, the most fundamental change in the whole history of evolution.

Transcending mass, space, and time

So why should a theory that applies to the distances between drops in a dripping tap apply equally to the time periods between evolutionary turning points over billions of years? Well, let us look at how mathematicians treat mass, space, and time. As we can see, the equation $s=vt$ has exactly the same form as $V=iR$, $F=ma$, and $c=q \cdot p$. These equations show the relationships between distance, velocity, and time, between volts, amps, and ohms in electricity, between force, mass, and acceleration—Isaac Newton’s famous equation—and between cost, quantity, and price, which we use every time we buy a few kilograms of potatoes in our local shop.

To use a slightly more complicated example, Albert Einstein showed in his special theory of relativity that the kinetic energy of a material point of mass m is given by:⁶²

$$\frac{mc^2}{\sqrt{1-\frac{v^2}{c^2}}}$$

where c is the speed of light, leading to his famous equation $E=mc^2$. Furthermore, Einstein used the principle of relativity—natural phenomena run their course according to exactly the same general laws regardless of the observer—to abandon Newton’s absolute framework of space and time in his special theory of relativity.⁶³ In this way, he showed that simultaneity is a relativistic concept. Two events A and B can appear simultaneous to one observer, but to other observers, A might appear before B and vice versa.

So given the fact that mathematicians (and computer programmers) treat mass, space, and time in exactly the same way as all other variables, it is curious that most scientists and the general public still believe that the physical universe is the ultimate reality, the overall context for all our lives. Neither Einstein, nor David Bohm, the most innovative scientist of his generation, could free themselves completely of this belief.

We can see that this belief runs very deep in the Western psyche from the Greek root of the word *physics*, which is *phusike*, meaning ‘nature’. In turn, *nature* has a Latin root *nasci* meaning ‘to be born’. But materialistic science does not study the birth of beings, including our own thoughts, since to do so it would need to include God the Creator, which I call Life, in its inquiries. So what is called supernatural is actually natural. And what was called ‘natural philosophy’ in Newton’s time and what is called ‘natural science’ today are very far from being natural. Science today studies only the superficial appearance of beings, not their innate essence.

The scientists themselves tell us why it is so difficult to let go of traditional habits of thought. In the *Presence of the Past*, Rupert Sheldrake shows that once a particular structure evolves, it tends to repeat itself by habit.⁶⁴ Structures, from crystals to human beings, inherit a collective memory of their kind through morphic resonance.⁶⁵ So until we awaken to timeless evolution, we are driven by forces that we do not understand. Under such circumstances, evolution is blind, as Richard

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Dawkins explains in *The Blind Watchmaker*.⁶⁶ So we can hardly call ourselves *Homo sapiens sapiens*, 'wise, wise human'. We are very far from acting wisely because of our ignorance of the evolutionary energies that cause us to behave as we do.

The concept of homeostasis in general systems theory⁶⁷ can also explain why it is so difficult to change our habits of thought. Walter Cannon coined *homeostasis* in 1932 from the Greek *homo* 'same, like' and *stasis* 'standing still'. "Homeostasis is the property of an open system, especially living organisms, to regulate its internal environment to maintain a stable, constant condition, by means of multiple dynamic equilibrium adjustments, controlled by interrelated regulation mechanisms."⁶⁸

"Many ecological, biological, and social systems are homeostatic. They oppose change to maintain equilibrium. If the system does not succeed in reestablishing its balance, it may ultimately lead the system to stop functioning."⁶⁹ That is exactly what is happening in society today. Because we as individuals are egoically more focused in maintaining our positions in society than on society as a whole, we are threatening the very survival of the human race. It is only when we see ourselves in the context of the Whole that we have any chance of adapting to the accelerating pace of evolutionary change that we are experiencing today.

Thankfully, there are some signs that the physicists are beginning to become free of their straitjackets. For instance, Fritjof Capra has said, "In transcending the metaphor of the world as a machine, we also have to abandon the idea of physics as the basis of all science."⁷⁰

But this is still not enough to awaken the world to timeless evolution, and thereby to understand the evolutionary energies that cause us to behave as we do. We need to go much broader and deeper, recognizing that there is no reason to suppose that quantum physicists and astronomers can tell us how the Universe is designed, that biologists can tell us how evolution functions, or that psychologists or neuroscientists can tell us how the mind works. To truly know ourselves, we can once again turn to the mathematicians, leading to the same realization that the mystics have made over the millennia.

Integral business modelling

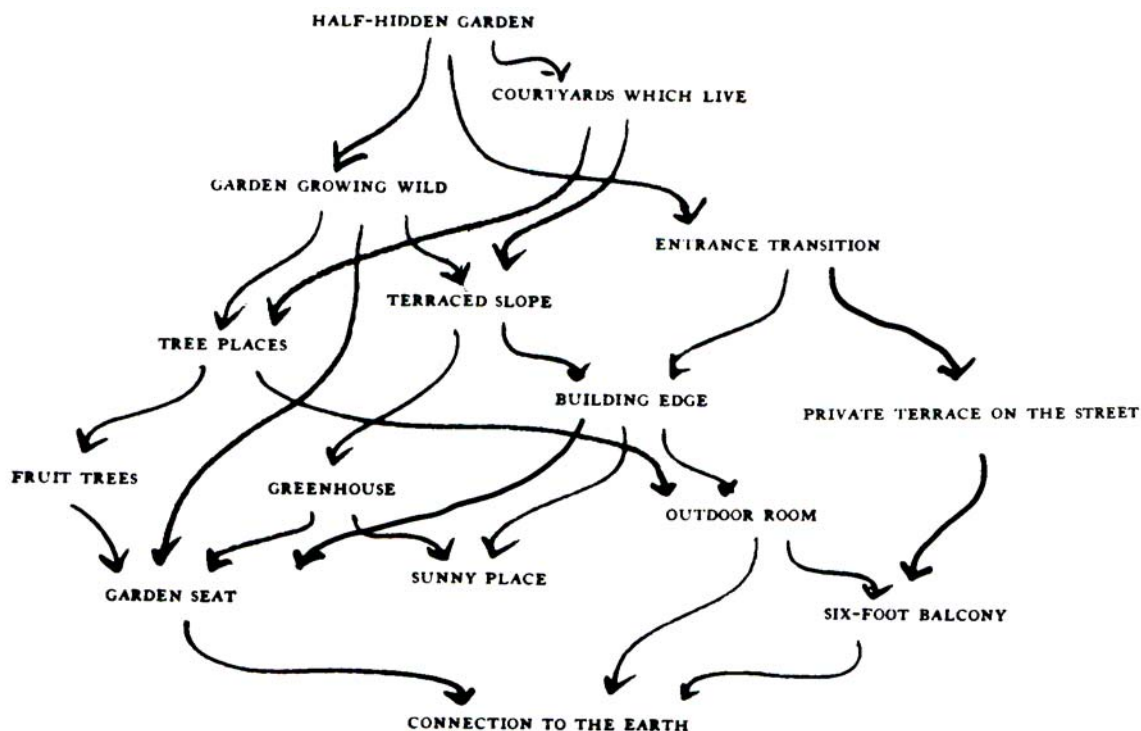
Mathematicians (and philosophers) are people who have historically developed concepts of ever greater abstraction and generality. For instance, the concept of number in mathematics has expanded over the years to include the positive integers, zero and negative integers, rational, real, and complex numbers, and so on.

Building on this trend, during the past few decades, an occupation has emerged in the business world that uses even more abstract concepts: the information systems architect. So let us see how we can adapt the enterprise modelling methods of information systems architects in business to awaken to total revolution. Like mathematicians and computer programmers, information systems (IS) architects use a consistent approach to concept formation, not the illogical approach of physicists and other scientists. Because IS architects use modelling methods of the utmost abstraction and generality, all concepts, such as employee, product, customer, and delivery, are treated in exactly the same way.

The word *architect* is appropriate here for it derives from the Greek *arch*, meaning 'chief', and *tehton*, 'builder'. So an IS architect is the master builder, someone who can see the big picture: how all the parts of a system fit together to form a coherent whole. It is therefore not surprising that IS architects are adapting the pattern language of the architect Christopher Alexander⁷¹ to build

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systems that evolve naturally as living wholes.⁷² Here is an example of how patterns relate to each other,⁷³ a diagram that is known as a directed graph in mathematics:



Like architects who design buildings, IS architects begin their design processes by developing models of the systems they are going to build. The most fundamental of the business modelling methods being used today is the relational model of data introduced by Ted Codd of IBM in 1970.⁷⁴ Because it evolved from the mathematical theory of relations and first-order predicate logic, this modelling method provided, for the first time, a mathematical representation of the basic resource of the data-processing industry: data itself. Since Codd's seminal eleven-page paper was published, it has spawned a multibillion-dollar industry. You cannot order a book or an airline ticket on the Internet without using the relational model of data behind the scenes.

The basic structure in the relational model is very simple. It is a table, known as a relation in mathematics, like this familiar example of a telephone directory:

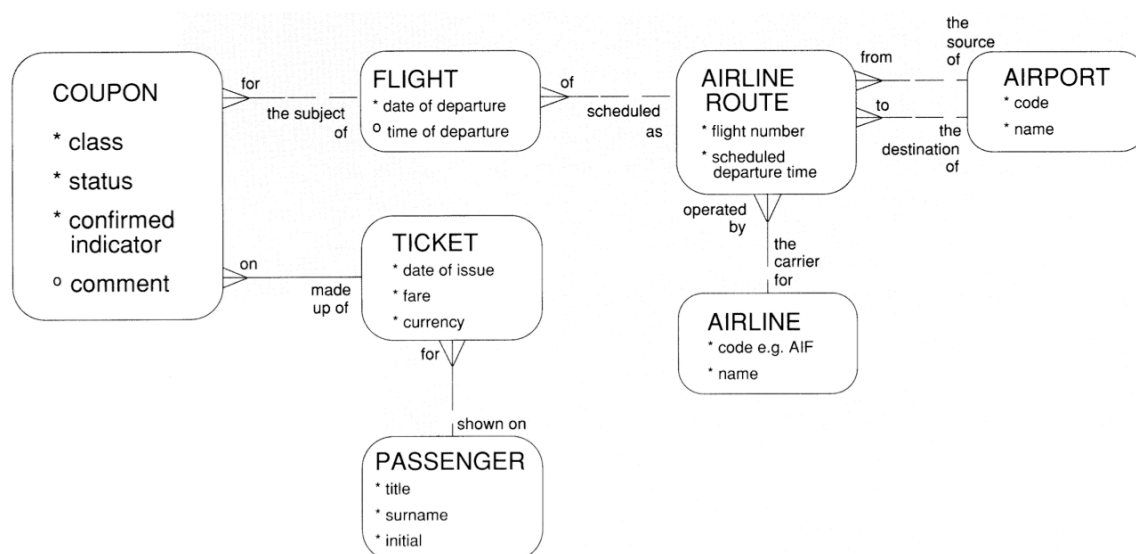
Class name	<i>Telephone subscriber</i>		
Attribute name	<i>Name</i>	<i>Address</i>	<i>Telephone no.</i>
Attribute values	Fred Wheeler	4 Meadow Walk	624 4582
	Anne Potter	72 Grove Road	982 3356
	Richard Cooper	31 Beech Boulevard	104 3911
	Elizabeth Tanner	7 Chestnut Avenue	310 4574
	Jackie Butler	25 Orchard Way	955 4395
	David Butcher	67 Willow Crescent	109 2661
	Jenny Cutler	22 Heather Drive	893 2748
	Andrew Fisher	60 Oak Hillside	227 5369

Organizing our knowledge in tabular form has a long history. For instance, pictorial tablets from 3100 BCE found in Uruk (Erech) in Mesopotamia contain cuneiforms in the Sumerian language that have been interpreted as "lists or ledgers of commodities identified by drawings of the objects and accompanied by numerals and personal names".⁷⁵

However, tables are not sufficient to show all the relationships between entities and classes. So beginning with Peter Chen in 1976,⁷⁶ a number of entity-relationship modelling techniques were

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developed. Here is one example using Oracle's CASE*METHOD, illustrating an airline booking system:



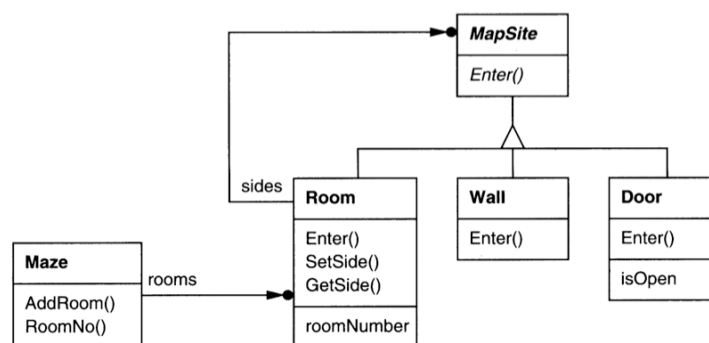
Beginning in the 1980s, the relational model was augmented by object-oriented modelling methods, which had their origin in the programming language Simula, introduced by Ole-Johan Dahl, Bjørn Myhrhaug, and Kristen Nygaard at the Norwegian Computing Center in Oslo in 1965.⁷⁷ This language was so named because it was designed to develop simulations of the dynamics of the world we live in. Simula introduced the concepts of object and class of objects, which greatly facilitate such mappings.

The object-oriented modelling paradigm led to the desktop metaphor introduced in the Apple Macintosh in the 1980s, enabling the graphical interface of computers to simulate the way we organize our files and documents, leading to the familiar term 'user-friendly'. In turn, this led to object-oriented programming languages, like C++, Java, and Smalltalk, used by most professional programmers today.

Such languages greatly increased programmer productivity through the concept of reuse. When programmers began writing programs in the 1950s, they had no bricks, windows, tiles, or any of the many other components that make up a house; they had to create these themselves, reinventing the wheel many times. But over the years, libraries of components were developed that could be reused in building systems. And the more abstract these libraries, the less the need to rewrite programs in the event of a new class of object being introduced into the system.

Today, object-oriented programmers are using very abstract patterns to accelerate the developmental process. Here is an example of the use of a creational pattern, used to create a maze of rooms in a computer game. Creational patterns make a system independent of how its objects are created, composed, and represented, a very abstract notion.⁷⁸

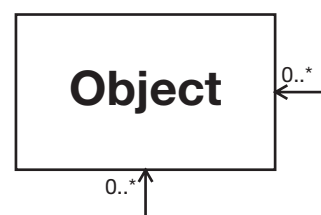
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This diagram uses the notation of Unified Modeling Language (UML),⁷⁹ developed in the 1990s by Grady Booch, James Rumbaugh, and Ivar Jacobson of Rational Software Corporation, now a subsidiary of IBM. The classes **Room** and **Door** illustrate a key feature of object-oriented development. Both functions, like *Enter()*, which define object behaviour, and class attributes, like *roomNumber*, are encapsulated as a whole in the class, called information hiding. This arrangement leads to far more robust systems that are much easier to maintain and develop because they reflect the way we organize our ideas.

In business terms, the UML has become the de facto standard for object-oriented modelling methods. UML models can be very complex, reflecting the complexity of the territory being mapped. But underlying all these models is a class model of the utmost simplicity and abstraction, shown here.⁸⁰

The word *object* in this class diagram denotes the superclass, at the top of the class hierarchy. All other classes are subclasses of **Object**. The diagram shows that instances of any class in the system, called objects, can have zero or more relationships with an object in any other class, including itself. The diagram is thus a depiction of the entire business world, of the global economy.



Starting afresh at the very beginning

Well, not exactly. While the UML is a pretty comprehensive modelling method, it cannot, as it stands, model the process of creating models of the processes in an enterprise. The UML is not self-reflective. This is a very critical situation, because it means that evolution is blind. We are running our business lives today having little understanding of what we are doing or why we are doing it. This is rather like driving along the highway faster and faster with our eyes closed. Sooner or later, there is going to be a great pile-up, to put it bluntly.

We can open our eyes by looking inwards with our self-reflective, divine Intelligence, an activity that is either forbidden or discouraged by Western religion, science, and business. This means that if humanity is to survive the collapse of the global economy in the next decade, evolution must take a radically new direction. We cannot get to where we are going by starting where we are today.

This is not completely unprecedented in evolutionary history. As Arthur Koestler explains, while evolution is generally an accumulative process building on structures that already exist, sometimes it backtracks to an earlier point and starts afresh from there. These quite different evolutionary processes are denoted by the words *gerontomorphosis*, the ‘shaping or forming of the old’, and *pedomorphosis*, ‘the shaping or forming of the young’.

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During gerontomorphosis, evolution progresses from immediately preceding forms and structures. However, as Koestler puts it, “gerontomorphosis cannot lead to radical changes and new departures; it can only carry an already specialized evolutionary line one more step further in the same direction—as a rule into a dead end of the maze.”⁸¹

During pædomorphosis, on the other hand, evolution retraces its steps to an earlier point and makes a fresh start in a quite new direction. Pædomorphosis is thus a rejuvenating, reascent process; it leads to new vitality, new energies, and new possibilities. And generally, this process does not begin on the scale of the species; it begins at the individual level. In pædomorphosis, phylogeny recapitulates ontogeny, rather than the other way round, as in gerontomorphosis.

These principles of pædomorphosis and gerontomorphosis apply equally in the noosphere. What Thomas S. Kuhn called ‘normal science’ is a good example of gerontomorphosis at work at any one time. “‘Normal science’ means research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice.”⁸²

In contrast, “at times of revolution, when the normal-scientific tradition changes, the scientist’s perception of his environment must be re-educated—in some familiar situations he must learn to see a new gestalt.”⁸³ Such scientific revolutions sometimes display pædomorphic characteristics. For instance, Copernicus’ heliocentric theory of the solar system effectively returned to Aristarchus’ heliocentric view developed before the Ptolemaic view gained a grip on conventional thinking.

Today, the evolution of Western civilization, based as it is on the past, is coming to a dead end. We are thus entering a process of pædomorphosis as the futurist Hazel Henderson points out. As she says, individuals always learn faster than institutions, which often rigidify, resisting change until they become brittle and shatter, or simply stagnate and decay.⁸⁴

But how far back in time do we need to go if we are to reach the Omega point, the glorious culmination of fourteen billion years of evolution? Well, fairly obviously, it is not enough to go back to the Garden of Eden, to the birth of *Homo sapiens*, or even to the origin of the species. We need to go back fourteen billion years and allow a big bang to explode in consciousness.

Well, not really. As the origin of the Universe does not exist in time, to see the whole of evolution from beginning to end, we need to dive into Oneness, at the Alpha point of evolution, as the diagram on page 7 illustrates. In other words, we need to move from the horizontal line of time to the vertical, in the timeless. This is essential if we are to escape from the prison cells our mechanistic minds incarcerate us in. For the essence of a machine is that it functions only in the horizontal dimension of time, as I describe in my book.⁸⁵ And if we live predominantly in time, we act as human automata, just like our machines, as the popular movie *The Matrix* illustrates only too well.

As the movie shows, if we are to rise above our mechanistic minds, we need to turn our learning inwards by following the maxim in the Oracle’s kitchen, TEMET NOSCE (‘Know Yourself’), originally inscribed in Greek *gnothi seauton* on the temple of Apollo at Delphi. Nothing less will do if we are to be masters of our computers, rather than being slaves to technology, as many of us are at present. This means that if we are to awaken to timeless evolution, we need to be born again, stripped bare, deprogrammed, and deconditioned, as Neo dramatically was in the movie.

This is what René Descartes attempted to do in the seventeenth century. On the night of 10th November 1619, when resting in Ulm in Bavaria, Descartes had a dream⁸⁶ of “the unification and illumination of the whole of science, even the whole of knowledge, by one and the same method:

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the method of *reason*.”⁸⁷ Using the principle of scepticism, eighteen years later he published the results of his deliberations in *Discourse on the Method of Properly Conducting One’s Reason and of Seeking the Truth in the Sciences*, to give his epoch-making book its full title.

Bertrand Russell wrote this about Descartes’ significance in the history of ideas, “While it is true that he retains much of scholasticism, he does not accept the foundations laid down by predecessors, but endeavours to construct a complete philosophic edifice *de novo*. This had not happened since Aristotle, and is a sign of the new self-confidence that resulted from the progress of science.”⁸⁸

Unfortunately, Descartes, often regarded as the father of modern philosophy, did not begin his reasoning at the very beginning. He began it with the statement *Je pense, donc je suis*, writing in his native French because he wished to reach “the cultured public of society, the ladies of the ‘salons’ rather than the pedants of the University”.⁸⁹ It was only later that his work was translated into Latin so that the academics could read it, leading to the most famous statement in modern philosophy *cogito, ergo sum*, usually translated as “I think, therefore I am.”⁹⁰

So Descartes was not able to free himself of his dualistic mind. In *Meditations on the First Philosophy in Which the Existence of God and the Real Distinction Between the Soul and the Body of Man Are Demonstrated*, he created a separation between mind and body with the concepts of *res cogitans*⁹¹ and *res extensa*,⁹² thinking and extended things or substances.

While Descartes realized, like the mystics, that if he ceased to think, he would not exist,⁹³ he failed to discover, because of his mechanistic cultural conditioning, that the origin of the Universe is Oneness, our nondual, divine Source. Transcending our mechanistic minds is essentially a spiritual process, not unlike the path of *jnana-yoga*, the path of abstract knowledge in the East. To answer the fundamental question of human existence, “Who am I?”, we test every possibility with *neti, neti*, ‘not this, not this’. Eventually, we realize that who we truly are is not our minds, bodies, or souls; our true Essence is Ultimate Reality. This is the rock-solid Ground of Being on which we can rebuild the entire world of learning, thus healing our fragmented and divisive minds.

Integrating all knowledge

Now because the business modelling methods used by information systems architects are but an expression of the underlying structure of our minds and hence of the Universe, we can use these methods as a mirror of our own thought processes. So as it is necessary for us to pass through a death and rebirth process to awaken to timeless evolution, let us imagine that we are a computer that switches itself off and on again so that it has no programs or data within it, not even a bootstrap program to load the operating system. Then without any external authorities to tell us what we should learn and how we should learn it, we have the task of organizing all knowledge in all cultures and disciplines at all times into a coherent whole, rather like the Internet is becoming.

This is not a trivial task. So let us see what we can learn from the way that systems architects work. As I have said, they form all concepts involved in business as subclasses of **Object**. But this sometimes gives them quite a problem. For if the different systems being used in the various departments are to form a coherent whole, then the meanings of words need to match. It is not uncommon for different departments to have quite different views of what appear to be the same words and concepts.

For example, finance, marketing, and distribution departments may well have different views of the meaning of the concept of customer. Similarly, a salesperson and a production manager may

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have quite a different perspective of what a backlog is. A salesperson usually regards a backlog as an order that has not yet been delivered to a customer, while for a production manager, a backlog is work that is behind schedule.

These differences in the meaning of *backlog* are also reflected in the way that the Americans and British use this word. They use the word rather like the salesperson and production manager, respectively; a backlog can be both something in reserve and arrears of unfulfilled orders. If a theatre production on Broadway bombs, this means that it was a flop. On the other hand, if a play in London's West End is a bomb, it is a great success. It is little wonder that George Bernard Shaw is attributed with saying, "England and America are two countries divided by a common language."

We can use a similar approach when integrating all knowledge in all cultures and disciplines and thereby create the megasynthesis that Pierre Teilhard de Chardin prophesied would emerge at the Omega point of evolution. But now the task is a little bigger. For different cultures use different words for essentially the same human experience and use words with many meanings in different contexts. Nevertheless, by beginning with the most general concepts and proceeding from there, we can build a comprehensive, self-reflective model of the Universe, thus awakening to timeless evolution.

We can imagine this task as doing a gigantic jigsaw. However, the pieces in the jigsaw come from different boxes. So we need to change some of the pieces so that they all fit together to reveal a comprehensive view of the Totality of Existence. Using another metaphor, what we are doing is like taking many flat-earth maps of particular localities on Earth, and fitting them together into a spherical shape.

Using a popular metaphor from 2005, this exercise is rather like doing a sudoku puzzle. When all 81 cells in the puzzle are filled, we know that we have the right answer because there is no other way that the numbers can fit in. Similarly, when building a coherent conceptual model that corresponds to all our experiences from the mystical to the mundane, we know that we have succeeded because there is no other way that all the pieces fit together in such a simple and elegant manner.

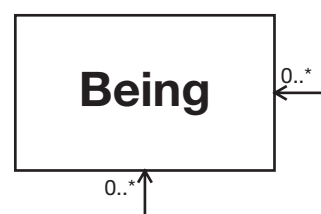
To generalize the semantic models used by IS architects in business, we begin by replacing the word *object* with that of *being*, the concept that formed the basis of Aristotle's *Metaphysics*. This is what Aristotle wrote about being:

There is a science which studies Being *qua* Being, and the properties inherent in it in virtue of its own nature. This science is not the same as any of the so-called particular sciences, for none of the others contemplates Being generally *qua* Being; they divide off some portion of it and study the attribute of this portion, as do for example the mathematical sciences.⁹⁴

By regarding **Being** as the superclass of all other classes, we can thus develop a completely general science to balance the particular sciences. In this way, we can develop a comprehensive, self-inclusive model of the Totality of Existence, of the entire Universe, illustrated in this diagram.

This shows that every being in the Universe, felt and viewed as Consciousness, is related to every other being in potentially an infinite number of ways. There are thus no autonomous beings in the Universe that can act freely and independently of any other being. In human terms, we are all in the same boat, interdependent on each other for maintaining the health and wellbeing, not only of ourselves, but also of our physical environment.

Being does not just denote an object. The word represents any object, event, process, system, organism, state, feeling, form, structure, relationship, field, concept, class, character, symbol,





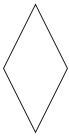




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religion, discipline, ism, ology, osophy, theory, language, culture, civilization, or any other entity that I, or any other knowing being, can perceive, conceive, or imagine.

Beginning from the class **Being**, we can adapt the IS design principles of conceptual clarity, integrity, simplicity, and consistency to interpret the data patterns of our experience to form a meaningful set of concepts that relate to each other as a coherent whole. By watching our thoughts arise directly from their divine Source, we can use exactly the same process of thought that young children use to sort blocks of different shapes and colours into groups. Data patterns with similar attributes we put in one set, and those with dissimilar attributes we put in different sets. As David Bohm points out, paying careful attention to the similar differences and different similarities between beings leads to universal order,⁹⁵ thus healing the fragmented mind.

Another mathematical physics professor, Chris Clarke, has pointed out that this commonsensical approach to learning is actually very original, an approach that he calls ‘radical equalitarianism’.⁹⁶ This is exactly what is needed to heal the great schism between science and spirituality, between mathematics and mysticism. As this great unification is not science, philosophy, or religion in the sense that these words are used today, I call the abstract science that has evolved from business modelling methods *panosophy*, a word first used in English in 1642, albeit with a slightly different spelling, to mean ‘a scheme or cyclopædic work embracing the whole body of human knowledge’.⁹⁷ Panosophy is a unified relationships theory, the Theory of Everything that such figures as Stephen W. Hawking⁹⁸ and Ken Wilber⁹⁹ are attempting to develop today. For panosophy is a coherent body of knowledge that describes all the forces of Nature—both physical and nonphysical—within a single, all-encompassing framework,¹⁰⁰ called *relational logic*.

Just as information can be organized in tables in business, we can organize our knowledge in general in tables, such as this table of quadrilaterals. This is the British version of the table, using the words *trapezium* and *trapezoid* in the original meanings given by Proclus in the fifth century. In the late eighteenth century, the meanings of these two words were confusingly transposed, and they still are in US English.

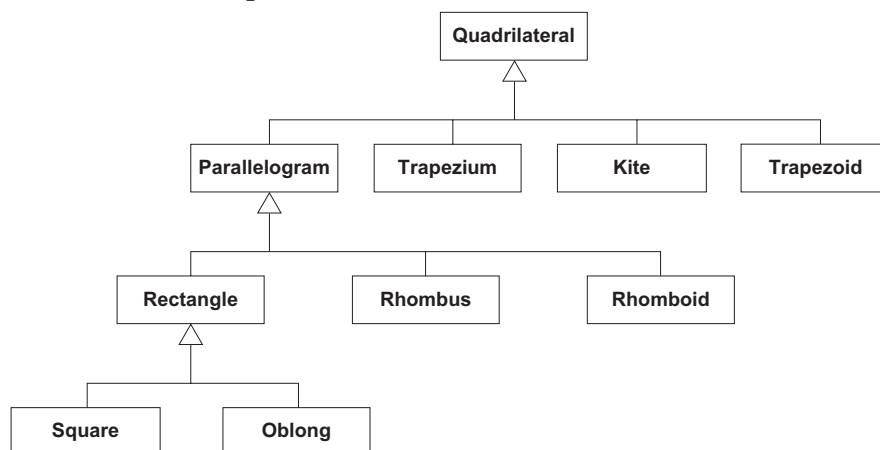
Class name	<i>Quadrilateral</i>				
Attribute name	<i>name</i>	<i>shape</i>	Defining attributes		
			<i>parallel sides</i>	<i>equality of adjacent sides</i>	<i>angle</i>
Attribute values	square		opposite pairs	equal	right
	oblong		opposite pairs	unequal	right
	rhombus		opposite pairs	equal	oblique
	rhomboid		opposite pairs	unequal	oblique
	trapezium		only two		
	kite		none	two pairs equal	
	trapezoid		none		

Furthermore, by organizing our knowledge in tables like this, we can put all the knowledge in italics—the class and attribute names—in tables like the system catalogue in relational database

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management systems such as IBM's DB2.¹⁰¹ This metaknowledge thus has exactly the same structure as knowledge itself, neatly avoiding the problem of infinite regress, which Christian de Quincey of the Institute of Noetic Sciences believes is unavoidable when developing the Theory of Everything.¹⁰²

However, tables do not generally capture all the relationships between entities. We can use the diagramming techniques of the UML to do this, such as this class diagram, which shows the hierarchical generalization relationships between the various classes:



So there is nothing mysterious about this nonaxiomatic, holographic, self-reflective science of reason, which can be regarded as a semantic system of coordinates for all knowledge, rather like Descartes' analytical system of coordinates for Euclidean space. Relational logic simply makes explicit the way that we all implicitly organize our thoughts and ideas, guided by the Logos, the rational principle governing the Cosmos.¹⁰³ Yet, paradoxically, because relational logic enables us to integrate all knowledge in all cultures and disciplines at all times into a coherent whole, it introduces the most radical change in the way we think in the history of human learning.

In relational logic, we form all concepts in exactly the same way, just like the mathematicians, computer programmers, and IS architects. No concept is given preferential treatment as is so often arrogantly done, leading to much pain, conflict, and suffering. In this way, we can humbly see humanity's place in the overall scheme of things free of any delusions about what it means to be a human being. Although it is our destiny to understand how the Universe is designed, we have no special place in the Universe. The laws of Nature apply to us all, just like every other being. As Shakyamuni Buddha pointed out in his three marks of being, there are no permanent structures in the Universe, and if we do not accept this, we shall suffer.¹⁰⁴

As the Theory of Everything embraces all knowledge in all cultures and disciplines at all times, it is potentially infinite in scope. To cut this down to a manageable size, for many years, I have been attempting to complete a major work of scholarship of some 800 pages, called *Ineffable, Nondual Wholeness: The Union of All Opposites*. A friend asked me a couple of years ago, when I was going to finish this magnum opus. In response, I realized that the Theory of Everything could be written in just five pages, indeed, just five sentences. Here they are:

1. The origin of the Universe is the Datum, that which is given, which is without form, and void.
2. It is from this Emptiness that Life creates all structures, forms, and relationships in the manifest universe, called data patterns prior to interpretation by a gnostic being.

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3. Through the action of the Logos, called *Dharma*, *Tao*, or *Rita* in the East, these data patterns can be interpreted and organized showing that the Universe has a deep underlying structure described as an infinitely dimensional network of hierarchical relationships.
4. All the concepts that are formed by this process of interpretation are in pairs of opposites, revealing the fundamental design principle of the Universe: *Wholeness is the union of all opposites*, called the Principle of Duality.
5. The Principle of Duality unifies the nondual, formless Absolute and the relativistic world of dual forms, which leads back to the Datum of the Universe at the end of time, when Alpha and Omega are one.

A full description is given in Act II of this 800-page book, called ‘An Experiment in Learning’, downloadable from the Internet at www.paragonian.org/wholeness.shtml. However, there are two topics that need to be included in this research paper because they are not summarized in my first book or in any of the articles available on the Web. Specifically we look at how the crisis in the foundations of mathematics, which preoccupied mathematicians for much of the first half of the twentieth century, was caused by the inherent limitations of mathematical reasoning and logical inference, which are essentially mechanistic in nature. To overcome the limitation that mathematics lives only in the horizontal dimension of time, I then show how the concept of the Absolute can be consistently included in this mystical world-view. In this way, the concept of God becomes a scientific one.

The limits of mathematics

The first point is that relational logic provides mathematics, what Carl Friedrich Gauss called “the queen of the sciences”,¹⁰⁵ with a solid foundation. Such a foundation has been lacking ever since paradoxes were found in Cantor’s set theory at the end of the nineteenth century.¹⁰⁶ In 1895, Cantor considered the size of the set of all sets, which must be the largest set. However, the power set of a set is bigger than the set itself. So the set of all sets is both the largest and not the largest.

As the concept of set is fundamental to concept formation, including the concept of number, this led to a major crisis in the foundations of mathematics. For mathematical proof and logical deduction are based on the assumption that there are no inconsistencies in the axioms. If there are, any theorem can be proved from them. This situation is amusingly described in this little anecdote:

The analyst G. H. Hardy once made the remark at dinner that from a falsity you could prove anything. He was asked by a sceptic to justify it: ‘Given that $2+2=5$, prove that McTaggart is the Pope’. Hardy thought briefly, and replied, ‘We know that $2+2=4$, so that $5=4$. Subtracting 3 we get $2=1$. McTaggart and the Pope are two, hence McTaggart and the Pope are one.’

I have seen a similar story where Bertrand Russell was the mathematician. There could well be other versions of it. Conversely, if it can be shown that a well-formed formula cannot be derived from the axioms, then this would be a proof of the consistency of the axioms. This is possible for the propositional calculus.¹⁰⁷ But can such a proof be found for the axioms of arithmetic?

Well, at the International Congress of Mathematicians in Paris in 1900, David Hilbert presented this problem as the second of twenty-three unsolved problems in mathematics.¹⁰⁸ Then, in 1931 Kurt Gödel published a famous paper showing that it is not possible to prove that the axioms of arithmetic are consistent.¹⁰⁹ By brilliantly representing the metamathematical concept of proof in arithmetic in what are now called Gödel numbers,¹¹⁰ he first proved that the axioms of arithmetic are incomplete by creating a true statement of arithmetic that asserted that it is not provable, rather like the sentence ‘this sentence is not true.’ Thus the concept of truth in

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mathematics is stronger than that of proof. From this incompleteness theorem, Gödel then went on to prove that in any formal theory T of mathematics, T includes a statement of its own consistency if and only if T is inconsistent.¹¹¹

Five years later, Alonzo Church and Alan Turing independently developed a similar result, related to the capability of mechanistic computability in the horizontal dimension of time. What is now called the Church-Turing thesis states that “any calculation that is possible can be performed by an algorithm running on a computer, provided that sufficient time and storage space are available.”¹¹² However, they then went on to consider what is called *Entscheidungsproblem*, ‘decision problem’: does a mechanistic decision procedure or algorithm exist that can determine whether a given set of statements in logic or arithmetic are true or not?¹¹³

Church and Turing showed that no such general algorithm exists. In Turing’s case, he did this by developing the notion of a universal machine, today called a Turing machine. He then asked the question, “Given a description of a program and its initial input, determine whether the program, when executed on this input, ever halts (completes).”¹¹⁴ Turing proved that a general algorithm to solve the halting problem for all possible inputs cannot exist

What all these results show is that mechanistic computability, decidability, provability, and solvability are inherently limited. Furthermore, whichever way that the mathematicians have turned, paradoxes have been found in mathematics. To try to resolve this dilemma, mathematicians created four quite different solutions, none of which can be said to provide mathematics with a solid foundation. These are the logical, intuitive, formalist, and set-theoretic schools.¹¹⁵

This is not really surprising because neither the Universe nor we human beings are machines, which we can discover when we awaken to ourselves, to timeless evolution. And when we discover our true humanity, we have the opportunity to free ourselves of thousands of years of cultural conditioning.

Some mathematicians, who have looked closely at their creative thought processes, have been moving in this direction. Most famously, Albert Einstein wrote a letter in the mid 1940s to Jacques Hadamard, who was doing research into the unconscious and intuitive processes of mathematicians and scientists. Here is an extract from Einstein’s letter:

The words or the language, as they are written or spoken, do not seem to play any role in my mechanism (*sic*) of thought. The psychical entities which seem to serve as elements in thought are certain signs and more or less clear images which can be ‘voluntarily’ reproduced and combined.

There is, of course, a certain connection between those elements and relevant logical concepts. It is also clear that the desire to arrive at logically connected concepts is the emotional basis of this rather vague play with the above mentioned elements. But taken from a psychological viewpoint, this combinatory play seems to be the essential feature in productive thought—before there is any connection with logical construction in words or other kinds of signs which can be communicated to others.¹¹⁶

More recently, Gian-Carlo Rota, writing the introduction to *The Mathematical Experience*, said:

We often hear that mathematics consists mainly in ‘proving theorems’. Is a writer’s job mainly that of ‘writing sentences’? A mathematician’s work is mostly a tangle of guesswork, analogy, wishful thinking, and frustration, and proof, far from being the core of discovery, is more often than not a way of making sure that our minds are not playing tricks.¹¹⁷

These insights have led many to recognize that we human beings are not machines and nothing but machines. Most famously, J. R. Lucas wrote an article in 1964 beginning: “Gödel’s proof seems to me to prove that Mechanism is false, that is, that minds cannot be explained as machines.”¹¹⁸ This article created quite a furore,¹¹⁹ most noticeably among the ardent defenders of mechanism, whose leaders include Douglas R. Hofstadter¹²⁰ and Daniel C. Dennett.¹²¹

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Embracing all opposites

Well, for us, being free of the straitjacket of mathematical logic, we can welcome paradoxes into our reasoning. For if we do not, our models of ourselves and the world we live in cannot possibly be true, for the Universe is inherently paradoxical. It is thus essential that we follow the maxim of map-making stated by E. F. Schumacher “Accept everything; reject nothing.”¹²² Accepting paradoxes does not lead to any difficulties because relational logic is nonaxiomatic and noninferential, unlike all the mathematical ways of reasoning that have evolved from Aristotle and Euclid.

Again, this is simple common sense, adhering to the principle of radical equalitarianism in concept formation. Whenever we form a concept, we inevitably form its opposite. So if we are to return Home to Wholeness and heal our split minds, we can say that a complete conceptual model of the Universe consists entirely of dual sets. In other words, *Wholeness is the union of all opposites*, the fundamental design principle of the Universe, which I call the Principle of Duality.

Being now free of our mechanistic thought processes, the Principle of Duality enables us to look at opposites with a fresh eye. In particular, we can create a circle, triangle, and cross of duality to illustrate patterns that appear over and over again in the world we live in.

The circle of duality enables us to accommodate Aristotle’s Law of Excluded Middle in relational logic. This states that there cannot “be any intermediate between contrary statements”.¹²³ We can represent the Law of Excluded Middle by two points with nothing in between:

True ● ● False

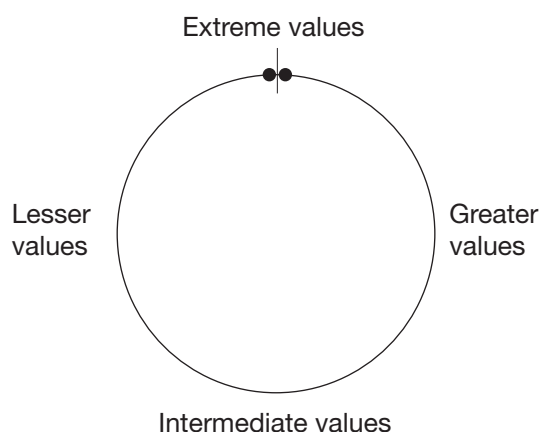
However, not all propositions are exclusively true or false. At any one time, we have many doubts and uncertainties about what is true or false. To represent these doubts, we can draw a line between the extreme points of the range to include the excluded middle, which represents statements whose truth or falsity we are uncertain about:

True ● ————— Doubts ————— ● False

We now have a continuous domain of values for all propositions, which is bounded by those statements that are certainly true or false. So we can say that those propositions that are either true or false are in a set of certainties, which is the dual of the set containing those statements that are uncertain. In other words, the ends of the true-false spectrum of values can be considered to be the dual of the intermediate values.

Any domain of values that consists of a range from one extreme to the other can be put into the set of all entities with this property. This is a pattern that occurs very frequently in the Universe. Now as the limits of such a domain of values have the common property that they are extreme values, I can bend the line that represents the spectrum of values to form a circle so that the ends join. I call this circle the Circle of Duality, which is depicted in this diagram.

Political systems provide a good example of the use of this tool of thought. Extreme left and right political systems, which are most commonly called communism and fascism, respectively, are both totalitarian forms of government, in contrast to political systems that favour



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the freedom of the individual, best called liberalism. Socialism and conservatism would then be represented by the left and right sides of the circle of duality, respectively.

If we are to free ourselves of the dualism of Western thought, the next thing we need to do is show how Aristotle's Law of Contradiction and its opposites can be included in relational logic. This law states, "It is impossible for the same attribute at once to belong and not to belong to the same thing and in the same relation."¹²⁴ This law, which is the unstated axiom of both mathematical proof and logical inference, is based on an either-or view of ourselves and the world we live in, inevitably leading to much conflict and suffering.

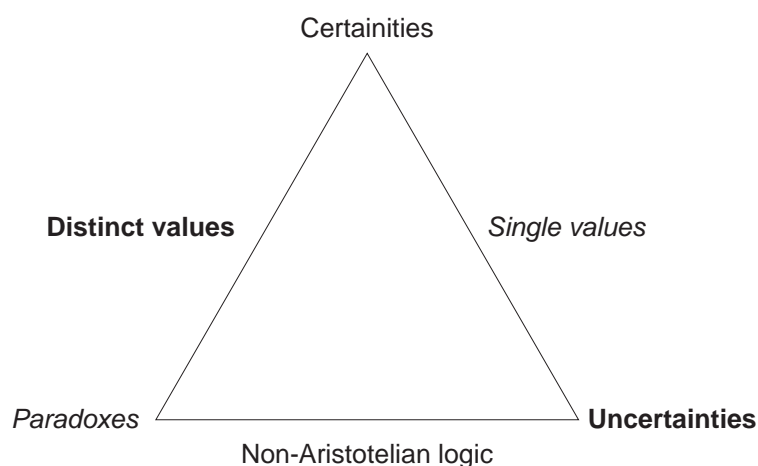
So, in conformity with the aim of the model to be complete and whole, we can classify all propositions into three all-inclusive categories:

Certainties, which are *either* true *or* false.

Uncertainties, which are *neither* true *nor* false.

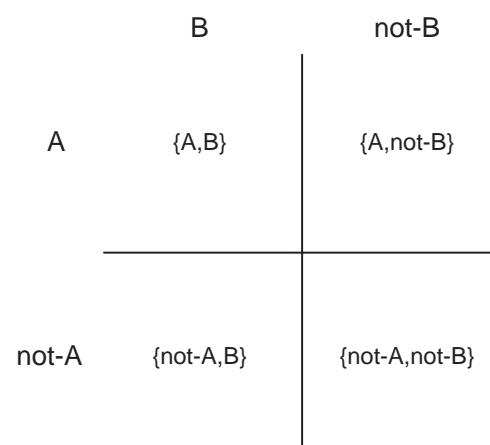
Paradoxes, which are *both* true *and* false.

These three classes form a complete set that can be represented by the vertices of a triangle, in which each vertex is the dual of the other two in some sense. I call this triangle the Triangle of Duality, illustrated here.



So paradoxes and uncertainties are those statements that cannot be handled by Aristotelian logic, the opposite of certainties. Certainties and paradoxes are combined because they both signify distinct values, in contrast to uncertainties. And certainties and uncertainties relate to each other because they both have a single value, contrary to paradoxes.

Thirdly, it is not uncommon to deal with multiple pairs of opposites in our thinking. Taking just two pairs, these can be arranged in the form of a cross, like this, called the Cross of Duality. The characteristics of entities with all four possibilities of pairs of attributes can conveniently be placed inside each of the quadrants. There is no reason why this should be two-dimensional other than this is easily represented on a page or on a monitor. In principle, we could divide a domain of discourse into any number of pairs of opposites, resulting in a multidimensional cross of duality. Carl Jung's psychological types¹²⁵ and Ken Wilber's four-quadrant model of the Kosmos¹²⁶ are well-known examples of the use of the Cross of Duality.



Healing the mind

The central reason why science and religion have been at war with each other for the last few centuries is science's inability to include the concept of the Absolute in its domain of study. As it turns out, using the principle of radical equalitarianism that underpins the modelling methods of

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information systems architects in business, it is not difficult to include the Divine in a comprehensive model of the Universe.

In this way, we can unify mathematics and mysticism, and hence heal the fragmented mind. In finding scientific words to denote the Absolute, I inevitably use the rather prosaic language of relational logic, rather than the language of the mystical poets, such as Rumi¹²⁷ and Kabir.¹²⁸ Yet both poets and mathematicians are using words to describe the indescribable, which is actually an impossible task. It is rather like trying to describe a beautiful sunset to someone over the phone. Shakyamuni Buddha resolved this problem by saying that his “teaching should be considered as a raft used to cross to the other shore or a finger pointing to the moon”.¹²⁹

This does not mean that the indescribable does not exist. On the contrary, not only does the Absolute exist, it is also Reality, which we can ‘know’ with absolute certainty. So Wholeness, which we ‘experience’ when evolution carries us to its glorious culmination, is ineffable, as William James described, although he admitted to never having a mystical experience.¹³⁰ In the words of Lao Tzu:

Tao can be talked about, but not the Eternal Tao.

Names can be named, but not the Eternal Name.

As the origin of heaven-and-earth, it is nameless:

As the ‘Mother’ of all things, it is nameable.¹³¹

Let us then attempt to describe the indescribable. As I said earlier, the commonsensical way to form concepts is to pay careful attention to the similar and different attributes of the data patterns of our experience without giving any particular concept special treatment. This is an utterly consistent approach to understanding ourselves and the world we live in.

In this way, the word *being* in relational logic denotes the Absolute just like any other being in the Universe. So the Absolute, the Supreme Being, generally called God in Western civilization, exists, at least. To deny this is like saying that human beings consist of subatomic particles, atoms, molecules, cells, thoughts, emotions, skills, feelings, and so on, but they do not exist as either an aggregate of these constituents or as a unity.

The question then is “what attributes does the Absolute possess?” Well, in order to maintain the logical consistency of this process of reasoning, we can only answer this question in exactly the same way that we determine the qualities of any other data pattern in the Universe. That is, by carefully examining the similarities and differences between this data pattern and all others.

Now there is only one Absolute in the Universe. For if there were many, they would not be Absolute; there would be relationships between the different Absolutes. So I can call the uninterpreted data pattern that is the essence of the Absolute the Datum of the Universe. It is the Datum that is given; it is the foundation of everything.

The Datum is the Essence of the Universe, which exists prior to being, a notion encapsulated in the word *presence*, which derives from the Latin word *praesense*, consisting of two parts, *prae*, ‘before’ and *esse*, ‘to be’. So *presence* literally means ‘before being’ or ‘prior to existence’. The concept of being is thus the simplest possible application of Ockham’s razor, known as the “principle of ontological economy, usually formulated as ‘Entities are not to be multiplied beyond necessity’”.¹³²

So what do we discover when we look at the relationship between the Datum and all the other data patterns in the Universe? Well, in conformity with the principle that Wholeness is the union of all opposites, we must make this comparison in two ways: by viewing the Absolute as a unity, consisting simply of itself, and as a whole, consisting of both itself and the aggregate of all its parts.

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When we view the Absolute as a unity we can see that it differs from all of its parts, for the Datum is the only data pattern that is not limited in some way. When we define a data pattern relativistically as a part we give it boundaries, we say what it is and what it is not. This is obvious from the root of the word *define*, which comes from the Latin word *definire* meaning ‘to limit’ or ‘to end’.

But because the Datum is beyond the limits of all parts of the Universe it is not possible to define it or to give it any qualities whatsoever that belong to the world of form. For if we were to do so we would be treating the Absolute relativistically, and it would no longer be absolute. We can therefore see that the Absolute is, and will forever remain, unknowable, indefinable and, of course, unanalysable, qualities that can best be described as transcendent with respect to all beings in the world of form.

On the other hand, when we view the Absolute as the Totality of Existence, we can see that the structure of all its parts is exactly the same as the structure of any of its parts. This situation arises quite simply because the Universe has an underlying unified structure. But as the structure of each part of the Universe is determined solely from these relationships, we can see that ultimately the Universe consists of nothing but these relationships. These relationships lie within everything that is. They are not only the glue that holds the whole Universe together; they are what make the world go round. We can therefore also say that the Absolute also possesses the property of immanence with respect to all beings in the world of form.

So the Absolute has the properties of existence, formlessness, transcendence, and immanence, and to use adjectival forms, it is unknowable, undefinable, and unanalysable. It is thus, to all intents and purposes, attributeless. However, this does not yet make the Absolute a scientific concept. To do this, we must actually experience the Absolute; otherwise we are just engaged in philosophical speculation, of little practical utility.

As the Absolute is beyond compare with no attributes, we cannot experience it with our physical senses or understand it with the intellect. We need to go beyond the mind, utilizing the self-reflective Intelligence that distinguishes us from the other animals and our machines. Once again, we can do this in one of two ways.

First of all, by meditating, we can look deeply into ourselves as the mystics have taught to discover that our true Essence is Stillness and Emptiness, resulting in the exquisite sense of Love, which has no opposite. We are now in union with the Divine, in Oneness, in a state of Unity Consciousness, experiencing the divine Light of Consciousness pouring through us. From this perspective, the Divine is immanent.

Alternatively, we can feel into the Cosmos as an aggregate of all its parts, letting go of all the concepts and forms that constitute the Universe as a whole. This leaves us experiencing the Universe simply as a web of relationships, rather like the web of life of systems theorists.¹³³ Then, as we sink deeper into ourselves, even these relationships disappear, and we are left with the magnificent feeling of Cosmic Consciousness that is limitless and has no divisions or borders within it. It is an empty seamless continuum, yet also full with the utmost potential. It is in this state that we feel awash with the vast ocean of Consciousness, that such writers as Romain Rolland (in a letter to Sigmund Freud)¹³⁴ and Stanislav Grof¹³⁵ describe in their writings. And from this perspective, the Divine is transcendent.

To use a metaphor from Nature, realizing a state of Cosmic Consciousness is rather like climbing to the summit of the mountain of all knowledge, from which vantage point we are able to

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see everything that exists as a coherent whole. And realizing Unity Consciousness arises when we dive to the bottom of the ocean of Consciousness. These opposite points are just mirror images of each other, most dramatically illustrated by the fjords in western Norway. Some of the mountains there are 1000 metres high, plunging into the fjord 1000 metres deep.

In summary, there are two pairs of dual ways in which we can understand and experience the Absolute, given in this table, thus establishing God as a scientific concept:

	Oneness	Wholeness
Conceptual	Transcendent	Immanent
Experiential	Immanent	Transcendent

In practice, of course, there is no separation between the theoretical and empirical views of the Divine. Transcendence and immanence merge in Nonduality, and Unity and Cosmic Consciousness unify in Consciousness, which is not a state, not an altered or nonordinary state of consciousness.¹³⁶ As Wholeness is the union of all opposites, it is the union of Wholeness and Oneness. Using Hegel's logic, if Wholeness is the thesis and Oneness the antithesis, Wholeness is the synthesis. This primary-secondary relationship between opposites is a common feature of the Universe, viewed as a Whole.

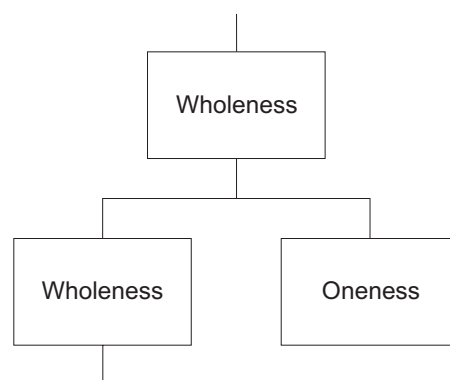
In particular, this means that Consciousness is the primary reality providing the overall context for all our lives, unifying the concepts of God and Universe, which provide the separate contexts for religion and science, respectively. Everything in the relativistic world of form is thus an abstraction from or appearance in Consciousness, just relativistically real, at best. This understanding is of the utmost importance if we are to awaken to timeless evolution. Yet this realization is not new; it is the perennial wisdom that underlies all the religions, which Leibniz called *philosophia perennis*.¹³⁷

Like the mystics of all ages, we are now grounded in peace, perfect peace; there is just pure joy and bliss. There is no longer the sense of a separate self; the experiencer has disappeared, dissolved in Love and Consciousness. The divisive and fragmented mind is completely healed; it has become translucent, revealing the coherent light of Consciousness, which enables us to see the whole of evolution from start to finish, enabling us to say, with John the Divine, "I am Alpha and Omega, the beginning and the end, the first and the last."¹³⁸

Furthermore, all wars, which are just an expression of inner conflict, have come to an end, including those between science and religion and between all the religions, which we can call 'holy wars', wars about the Whole. In particular, we can end the war between the Creationists and the Darwinists. We are all the creations of some fourteen billion years of evolution, brought about by Life arising directly from our divine Source. So we can see that the Universe is intelligently designed, but there is no designer thereof. For just as we human beings are not separate from the Divine for a single instant of our lives, conversely, the Divine is not separate from any being in the relativistic world of form.

So there is no separate entity called 'God' who can be said to rule over us. God is both in and embraces everything, clearly expressed in this Christian hymn, which both puzzled and resonated with me as a child:

God be in my head,
And in my understanding;



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God be in my eyes,
And in my looking;
God be in my mouth,
And in my speaking;
God be in my heart,
And in my thinking;
God be at my end,
And in my departing. Amen.¹³⁹

This hymn, which I often sang at funerals as a choirboy, signifies the immanence of the Divine, from which we can realize that death is an illusion; in Reality, there is no death. What we call birth and death are simply the transformations of energetic structures from one form to another. So when we are free of egoic attachment to our bodies, minds, and souls, the fear of change, and hence of death, disappears. Given the imminent death of Western civilization and the global economy, this realization is of the utmost importance. The Paragonian Society will be one in which time has come to an end, enabling us to accept with equanimity the eventual death of the human race itself, most probably in the next two or three hundred years, maybe even earlier.¹⁴⁰

Building a vital science

Having established the Absolute as a scientific concept, we are now in a position to rebuild science, indeed all knowledge, on the Truth, thus bringing Life back to science. This is absolutely essential if we are to build the infrastructure of the Sharing Economy, which will come into being when the global economy self-destructs at the beginning of the next decade.

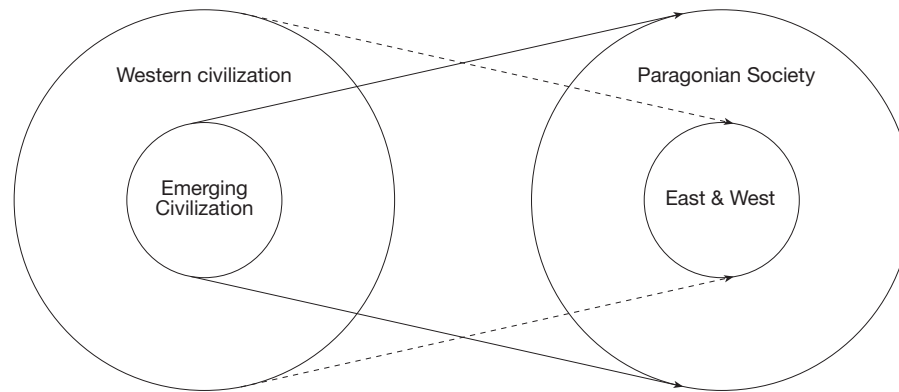
However, this is a task that is beyond any one individual, working entirely on his own. I am therefore currently seeking associates from around the world to set up the Paragonian University with the motto ‘Awakening to ourselves’ and this logo, denoting that Wholeness is the union of all opposites.

A university is a most appropriate place in which to build a coherent body of knowledge that corresponds to all experiences from the mystical to the mundane for the word *university* is cognate with *universe*, from the Latin *universus* ‘whole, entire’ from *unus* ‘one’ and *versus* past participle of *vertere* ‘to turn’. So a university is a centre of learning, of research and education, whose purpose is to turn our understanding of ourselves and the world we live in into one whole. Sadly, universities today are very far from living up to their name. They are deeply fragmented into fields with their various specialists, more focused on analysis and intellect than on synthesis and intelligence. A central purpose of the Paragonian University is to rectify this inhibiting situation.

Basically, what we are engaged in here is putting Western civilization back on its feet, for today it is standing on its head, for Consciousness is all there is. Everything in the world of form is an appearance in or abstraction from Consciousness, including the physical universe and our minds and bodies. Recognizing this fundamental fact of existence is the essence of the revolutionary awakening process that we are all engaged in today. We are engaged in a radical transformation of the overall context that governs all our lives, from the physical universe, God (as the Supreme Being), and the global economy, the contexts for science, religion, and politics, respectively, to Consciousness in the Paragonian Society, as this diagram illustrates.



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This contextual transformation is an enormous challenge. If it is to be effective, everyone in society really needs to make this change simultaneously. We can compare this situation to a country deciding to change from driving on the left hand side of the road to the right. Of course, what we are engaged in cannot happen overnight, as would be the case in such a radical change in road regulations. But evolution is with us. Now that evolution is becoming fully conscious of itself, we are in the fortunate position to be able to live our lives in full consciousness of what we are doing.

In essence, there is now overwhelming evidence that evolution is leading us all towards a great convergence of all the diverse streams of evolution, not only in individuals, but also in the collective, as Pierre Teilhard de Chardin prophesied: “The way out for the world, the gates of the future, the entry into the superhuman, will not open ahead to some privileged few, or to a single people, elect among all peoples. They will yield only to the thrust of *all together* in the direction where all can rejoin and complete one another in a spiritual renewal of the Earth.”¹⁴¹ The Foundation for Creative Evolution, founded by Barbara Marx Hubbard on the concept of co-creation, is an obvious example of this synergistic process.¹⁴²

As the motto of the Paragonian University indicates, the key here is to awaken to ourselves through self-inquiry and whatever other means are appropriate. As Krishnamurti said in the most wonderful book on education that I have ever read, “Intelligence is the capacity to perceive the essential, the *what is*; and to awaken this capacity, in oneself and in others, is education.”¹⁴³

A key to this enlightening approach to learning is the recognition that there is no objective reality independent of a knowing being. This means that everything that we look at in our external world, whether this be the books we read, the people we meet, or the Nature that is around us, is simply a mirror of how we are within. For instance, when I began to study David Bohm’s theory of the implicate order, I knew that his book was based on the notion that the observer and observed are one (which brought Krishnamurti and Bohm together in 1960), in conformity with Heisenberg’s uncertainty principle. So to understand how quantum and relativity theory could be unified, I needed to understand Bohm’s thought processes, and integrate them into my own growing consciousness of how I think.

We shall need to encourage a similar learning process in the Paragonian University. To establish the scientific fact that Consciousness is Reality, a goal that is far more radical than the Copernican revolution of the sixteenth and seventeenth centuries, we need to set up a number of research projects, the first being the framework project. This will then enable us to set up any number of other projects investigating all the implications that Life is the primary energy behind all our creative activities. These will be listed on the Paragonian University’s web site later in the year.

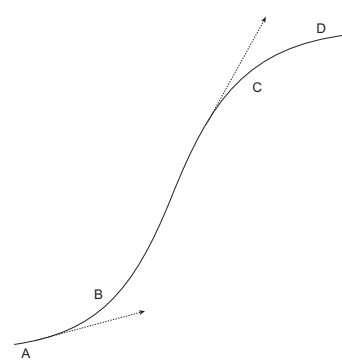
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The limits of technology

Gödel’s incompleteness theorem and the Church-Turing thesis, briefly outlined on pages 29 and 30, show quite clearly that machines are limited compared with human beings and that artificial intelligence, consciousness, and life are impossible dreams. With the great awakening of Love, Consciousness, and Intelligence that we are witnessing today, it is thus evident that technological development cannot drive economic growth for very much longer.

We can see this most clearly by noticing that the growth and development of structures in evolution do not progress at a steady pace. All evolutionary growth processes follow an S-shape, as has been observed by scientists from D’Arcy Wentworth Thompson,¹⁴⁴ through C. H. Waddington¹⁴⁵ and Stephen Jay Gould,¹⁴⁶ to Peter Russell.¹⁴⁷ There have been times when change was very rapid, and other periods of comparatively little change. Niles Eldredge and Stephen Jay Gould called this stop-start process ‘punctuated equilibrium’.¹⁴⁸

The difficulty that we often have with the S-shape of the growth curve, also known as the learning or logistic curve, illustrated here, is that we do not see the characteristic turning points, at B and C, which we can call the coordination and saturation points, respectively. There is a tendency to extrapolate the curve so that when on AB, the assumption is that growth will develop slowly. “I’ll never manage this!” is a familiar cry. And when growth is very fast, people often think that it will continue indefinitely.

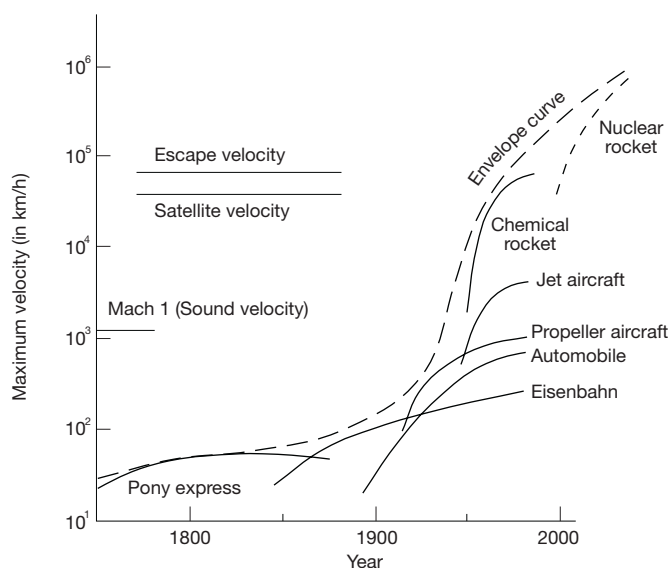


What this curve represents is the growth of structure, which is not easy to represent in mathematical terms. In growth processes, wholes are created that are greater than the sum of the preceding wholes through the new relationships that are formed, apparently out of nothing. Nevertheless, the curve can be expressed in an equation, illustrating the exponential nature of growth processes, although I have never seen an example of this equation actually being used:¹⁴⁹

$$y = \frac{a}{1 + be^{-cx}}$$

In terms of human learning, there have been two axial periods of rapid development: from 600 to 300 BCE and from the seventeenth century to the present day. But it is not true that technological development can drive economic growth indefinitely. To hold such a belief is contrary to the fundamental laws of Nature.

Yes, when a particular technology reaches its limit, another technology has often emerged that continues the pace of accelerating change as illustrated by this diagram created by Erich Jantsch.¹⁵⁰ This shows that a series of growth curves can collectively form an envelope of a growth curve that includes them all. But we cannot indefinitely continue to build machines that can transport us faster and faster. While, in the Concorde, we built an airliner that could cross the Atlantic at supersonic speeds, this has become obsolescent and there are no plans to build another such aircraft as far as I am aware.



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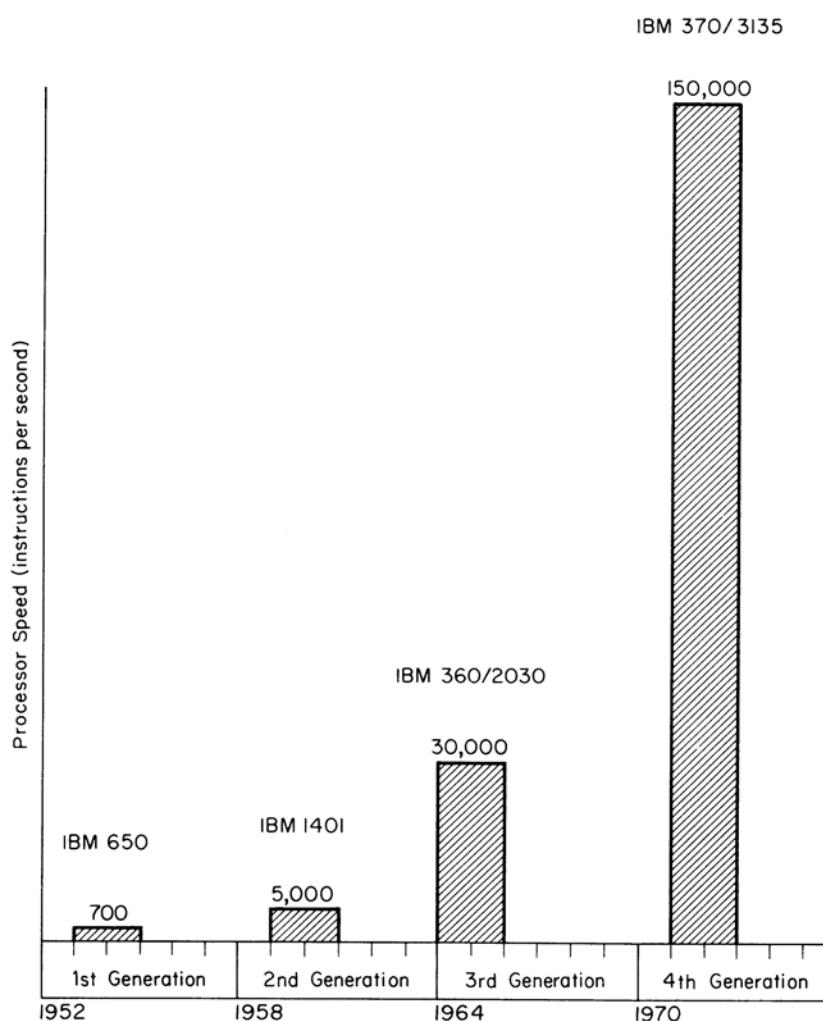
We can see a similar situation in the information technology industry, but with some significant differences. As I have sought to highlight in the research paper, the stored-program computer is a machine that extends our mental abilities, in contrast to the many tools that we have invented over the millennia to extend our *physical* abilities. It is even different from the few other tools that have been invented as mental aids, such as the abacus, the slide rule, the ubiquitous calculator, and the calculating machines of Leibnitz, Pascal, and Babbage.

This presents us with a radically different situation from any other time in human history. If we are to live peacefully and harmoniously with the immense changes that this machine is bringing about, we need to use our divine Intelligence, which tragically is stultified by today's education system in favour of the intellect.

By doing this, we can look at the growth of the IT industry in terms of the growth curve, most famously expressed in Moore's law. In 1965, Gordon Moore, cofounder of Intel Corporation, predicted that the number of transistors on a semiconductor would double roughly every eighteen months to two years, as would overall chip performance. So for the past fifty years or so we have seen the exponential growth of the price/performance of computers. This graphic shows the first few generations of IBM's low-end computers.¹⁵¹

Since then, IBM has built a Blue Gene/L supercomputer, which can perform 280.6 trillion calculations a second. This IBM machine, at the US Lawrence Livermore National Laboratory, officially became the most powerful computer on the planet in June 2005.¹⁵² If this computer were included in this diagram, its bar would be about 2 million kilometers long, five times the distance between the Earth and the Moon.

But this process has a limit, for the simple reason that thirty centimetres or one foot is a light nanosecond. There is a physical limit to microminiaturization. In terms of the silicon chip, this limit is likely to be reached within ten years, as many are now forecasting. As Moore told a meeting of the world's top chip designers and engineers on 10th February 2003, "No exponential is forever." But he then went on to say, "Your job is to delay forever."¹⁵³ This is a statement that defies the fundamental laws of the Universe.



16.1 Processor Performance (in instructions per second). Source: IBM Corporation, material prepared for U.S. Department of Justice proceedings, September 5, 1974

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Whether quantum computers, molecular electronics, nanotechnology, or other exotic technologies will one day replace conventional silicon chips is utterly irrelevant. For even though the Qbits of quantum computers reflect the universal principle that Wholeness is the union of all opposites, it is the software in computers, not the hardware, that determines how they function, just as it is our minds, not our brains, that largely affect our behaviour. For as Erich Fromm pointed out, we are the least instinctive of all the animals; nearly all our behaviour is learned,¹⁵⁴ which theoretically, at least, enables us to adapt to our rapidly changing world.

From this perspective, there are no more major discoveries to be made in computer science. The infrastructure of the discipline, and hence of the information technology industry, is now well established. Most particularly, the modelling methods that provide the framework for the IT industry, have reached the saturation point of the growth curve. For they are the closest representation of relational logic in the business world, and relational logic is the framework for the ultimate theory of science. As evolution has now reached its Omega point, all future development can proceed within the overall framework of panosophy.

Similarly, operating systems, such as Mac OS X, Unix, Linux, and Windows, and basic applications, such as Word and Photoshop, are approaching their saturation point. Companies continue to promote a new release of this software every year or two. But most people have no need for the added complication being provided. Similarly, most office workers have no need for computers that go faster and faster. Existing systems are quite sufficient.

Of course, there is no limit to the refinements that can still be made, such as the multitude of gadgets, sometimes called ‘androids’, that are leading to what is called ‘the digital lifestyle’. But these are mere details, of little relevance to the big picture. Computer science as a whole is reaching the saturation point of the learning curve. We are approaching the limits of information technology, which will show it will shortly no longer be true that human beings are both workers and consumers in the economy, as articulated by Adam Smith in the opening words of *The Wealth of Nations*, the book that laid down the foundations of capitalism:

The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes, and which consists always either in the immediate produce of that labour, or in what is purchased with that produce from other nations.¹⁵⁵

What this is telling us is that we human beings are the leading edge of evolution, not our machines. So if we are to live peacefully and harmoniously with the accelerating pace of evolutionary change, it is imperative that we change the focus of our attention away from technological development and towards our inner human development. For it is only by awakening our intelligence¹⁵⁶ that we can possibly live with full consciousness in love, peace, and harmony with each other, our environment, and the Divine.

Conquering fear with Love

We live in a culture that is further removed from Reality than any other civilization in human history. As the egoic mind has become stronger and stronger over the millennia, it has created an ever-widening gulf between God, Nature, and our neighbours. In consequence, Western civilization is a culture driven by fear and anxiety, an extremely unhealthy situation.

It is therefore not surprising that Erich Fromm wrote a book in 1956 called *The Sane Society*, which challenged some of the most fundamental assumptions of our society. In the first two chapters of this book, he asked “Are We Sane?” and “Can a Society be Sick?”, answering these questions with a resounding ‘NO’ and ‘YES’, respectively.¹⁵⁷ What is regarded as the normal

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behaviour of a society can be considered to be pathological. This book was a follow-on to *The Fear of Freedom*,¹⁵⁸ written in the middle of the Second World War, showing that we do not live in a free society, as the politicians claim, but that we are actually afraid of freedom.

Of course, we do not live in fear all the time, for if we did, we would not be able to function at all. So, over the millennia, because of our separation from our immortal Ground of Being, we have developed a number of false immortality symbols as a substitute for Reality to assuage our fear of death.¹⁵⁹

In the early years of human existence, it was the beliefs, myths, and rituals of the major religions of the world that provided these immortality symbols. Most particularly, in the East, the belief in reincarnation, and in the West, the belief in everlasting life after death.

Today, the primary immortality symbol in the world is money. We live in a society where people's sense of security and identity in life is based on financial structures that are inherently unstable, generating much anxiety, which we see in daily newscasts. We can see quite clearly that money is an immortality symbol from the tower blocks that banks build in the centre of major cities today. As James Robertson points out, these buildings play a similar role in society today to the cathedrals that dominated the centres of medieval cities. Both serve to reinforce our belief in immortality symbols; in the Middle Ages, the notion of a personal God, and today, money.¹⁶⁰

As a consequence of our fears, we are utterly unprepared for the catastrophe that is about to happen to us all, just as we were unprepared for the recent tsunamis, earthquakes, and hurricanes that devastated large localities on Earth.

Yet what these acts of God revealed, as the insurance companies call these natural disasters, is that we human beings are inherently kind, not sinful, as the Christian churches teach. For the native English word for *nature* is *kind*, a clear reflection that our true Essence is Love. So the only way forward for humanity today is for us all to invoke the power of Love that we all share, and so learn to work harmoniously together to resolve the great global crisis we all face today.

So how is this miracle to come about? Well, William Shakespeare opened *Twelfth Night* with these words:

If music be the food of love, play on,
Give me excess of it, that, surfeiting,
The appetite may sicken and so die.

Let us then have an excess of music, the food of love, so that fear may die.¹⁶¹ The Live Aid/8 concerts and the annual music festival at Mundekulla in southern Sweden are just two examples of what could be done here. In these and other heart-warming ways, we could collectively invoke the power of Love to conquer our egoic fears, in whatever form they might take.

For instance, in the introduction to the *Mundekulladanser* CD given out at the 2004 Mundekulla Music Festival, Medicine Story (Manitonquat), a native American Indian, resoundingly spoke these words:

I am completely convinced that together we will change the world; together there is nothing we cannot do.
Together, we can weave the common vision of humankind; together there is nothing we cannot do.
It is time for a return to Creation.

The first song on the CD written and produced by Anne and Peter Elmberg contains these words, inspired by Medicine Story:

Return to Creation
Living in celebration
Open up your heart

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Make a brand new start.

Another song on the same CD includes these inspiring words:

We are one people, we are one soul

We're all reaching for the same goal

That's love, love, love, love

If we are to make a brand new start and so at least intuitively understand the evolutionary energies that cause us all to behave as we do, it is of the utmost importance that the pop and film stars of the world reach out to the world, saying that it is time to stop fighting and competing each other. In this way, perhaps we can appeal to corporate America, which constitutes some of the most ferociously competitive institutions on this planet, to change the direction of their policies. I have four companies particularly in mind: IBM, Microsoft, Oracle, and Apple, currently ranked 10, 41, 220, and 263 in the Fortune 500 list of companies.¹⁶²

The chairman of IBM, Samuel J. Palmisano, says this on the company's web-site:

In the on demand era, the enterprises that thrive will be those which successfully achieve totally new levels of integration: of processes, applications and employees inside; of suppliers, distributors and customers outside. Make no mistake, this kind of integration is hard work, but the rewards are well worth the effort—an enterprise that is responsive to changes in its environment, flexible in its operations, focused on its core competencies, and resilient to all manner of challenges and threats.¹⁶³

There are two modelling tools that IBM and its customers are using for these integrative activities, which are simply a manifestation of the harmonic convergence taking place in the world today. The first is the relational model of data, which Ted Codd developed in 1970 when working at IBM's research laboratory in San Jose, California. The second is the Unified Modeling Language, developed by Grady Booch, James Rumbaugh, and Ivar Jacobson of Rational Software Corporation, as I have already mentioned. After twenty or more fruitless years of developing its own business modelling methods, one of which was Business Systems Planning (BSP), IBM bought Rational Software in 2002. It was BSP that gave me the idea in 1980 of creating a comprehensive model of our rapidly changing society. Rational Software has also developed ClearCase, the most amazing software system for managing changes in software development, an issue that was in my job spec in 1978, when working as a manager in an IBM sales office.

Secondly, Larry Ellison, the CEO of Oracle, was inspired by Ted Codd's relational model of data to co-found a company in 1977, with the aim of developing relational database management systems. The relational model, which provides the basic framework for the ultimate theory of science, has now made Larry the ninth richest man in the world.¹⁶⁴

Thirdly, Steve Jobs, the co-founder and current CEO of Apple Computer, worked with Jef Raskin to introduce the graphical user interface of the Apple Macintosh in 1984, which had been inspired by the object-oriented programming language Smalltalk being developed by Alan Kay, at the Xerox Palo Alto Research Center (PARC).

Fourthly, Bill Gates, the co-founder and current chairman of Microsoft has become the richest man in the world through the Windows operating system, another technology based on the object-oriented paradigm, providing the graphical element in relational logic.

So these four gentlemen have the resources at their disposal to help us change the direction of evolution, from a business model based on fear and competition to one based on Love and cooperation. With their positive support, we could then build the infrastructure for the Sharing Economy for the benefit of all humanity, bringing to an end the growing divisions between rich and poor in the world today, which cause so much social instability.

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About me

As my ontogeny has recapitulated the whole of evolution from start to finish, and has not recapitulated the phylogeny of the culture I was born into, I feel that it would be helpful to tell you a little of my unusual background.

I was born in south-east England in the middle of the Second World War and was educated primarily as a mathematician. In parallel with my formal education, I began my search for Wholeness and the Truth as an eight-year-old, when I saw that there would never be world peace until the war between science and religion came to an end. However, I did not make much progress with this project as a child and adolescent because neither science, based on physics and Darwinian evolution, nor religion, based on the Christian concept of God, could provide answers to the fundamental questions I was asking. Nevertheless, the seed was sown for what was to become a giant oak in later life.

After four years as a mathematician/programmer and systems analyst in the electricity industry, I joined IBM in 1968 in London as a systems engineer in a sales office, supporting, designing, and proposing advanced computer systems in the public sector. (The previous year I had married a fine-art student, with whom I had two children, now aged 35 and 33.) In 1972, when designing database management systems for IBM prospective customers, a colleague showed me Ted Codd's paper on the relational model of data. I knew at once that this the most important paper in the whole history of computer science, which was fully confirmed the following year when I heard Codd give a talk in London on how the hierarchical and network approaches to data management could be unified.



However, as I preferred to work with people rather than machines, I was promoted into management in 1974, being responsible for a number of prestigious customers, including British Telecom and British Rail. Becoming aware that information technology was at a watershed, I transferred to marketing in 1979 to develop a UK marketing programme for decisions support systems and personal computing, the most innovative programme of its type in IBM Europe at that time.

This led me to become aware about how little we knew about the long-term psychological and economic implications of society's growing dependency on the computer. For instance, can computer scientists create machines with artificial intelligence, consciousness, and even life? Whatever the answer to this question, what would be the consequences for employment, the profile of job skills required by business, and the quality of life at work? Most particularly, what is causing the pace of evolutionary change to accelerate exponentially?

These questions led me to see that technological development cannot drive economic growth indefinitely. I saw that the stored-program computer is incompatible with both capitalism and communism and that both these monetary economic systems would self-destruct within thirty years, by the time my children reached their late 30s, the age I was then. This vision completely changed my life. Whatever the financial consequences, it was of the utmost importance that I discover how to educate my children to live in the world they would be living in when they were likely to be bringing up children of their own.

To this end, on 27th April 1980, I found the answer to the last of my questions. As it is the knowledge and intellect of technologists, like myself, aided and abetted by corresponding

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constructs in computers, that are causing the pace of change to accelerate, these mental constructs must be types of energy, just like the physical energies I learnt about at school. Three weeks after this eureka! experience, which I now see as the beginning of my spiritual awakening, I resigned from my job with IBM and set out to unify the nonphysical energies I had ‘discovered’ with the physical energies recognized by the physicists, needed to create the Theory of Everything, the ultimate theory of science, the complete union of mathematics and mysticism.

My principal scientific mentor in this endeavour was David Bohm, the most innovative scientist of his time, who had unified relativity and quantum theories with his theory of the implicate order, still not recognized by many scientists. In November 1980, he introduced me to the life-changing notion that all structures are energetic—whether they be physical or nonphysical—enabling Einstein’s unified field theory to evolve into the unified relationships theory, the relational model of data providing the framework.

I have had many spiritual guides, both through their writings and in person. These include J. Krishnamurti, Osho, Barry Long, Ramesh S. Balsekar, Vijai Shankar, Nukunu, and Vasant Swaha. However, none of them have been my master. It is the creative power of Life within me that has been my inner guru throughout my life.

Most particularly, Life has shown me how to convert the enterprise modelling systems used as the framework for the Internet into a semantic system of coordinates for the Theory of Everything. This synthesis of all knowledge took me in 1982 to Cosmic Consciousness in Wholeness, an incredibly exciting experience that I did not fully understand at the time. This is because this experience, like all our experiences, can only be understood in the overall context of the ocean of Consciousness, not in terms of the fragmented scientific, religious, and economic contexts taught in the schools and universities today.

Subsequent deep self-inquiry took me in the early years of this century to Unity Consciousness in Oneness in a series of satoris in the mountains and forests of Norway and Sweden, respectively. Oneness unifies with Wholeness in Consciousness itself at the Alpha/Omega point of evolution, along the lines that Pierre Teilhard de Chardin prophesied in *The Human Phenomenon*. I am thus able to see the whole of evolution from beginning to end, with hardly any clouds preventing the coherent light of Consciousness from shining radiantly through me.

In practical terms, I rejoined IBM in 1990 at its Nordic Software Development Laboratory on Lidingö, a beautiful island in the Stockholm archipelago, as a human interface designer and technical writer. (I had married a Norwegian group leader in 1986, who I had met at The Other Economic Summit (TOES) in London the previous year.) When IBM transferred this mission to other countries, I accepted early retirement in 1997, since supplementing my pension as a computer consultant in five periods of three months each with Front Capital Systems in Stockholm, a company making advanced software products for investment banks.

This has given me the time and money necessary to publish a book on the incredibly simple and elegant vision that has been revealed to me showing where we human beings have come from and what is our ultimate destiny as a species. I am using this book and my evolving web site to reach out to the world, making a number of valuable contacts in several countries. The task now is create coherent structures that will enable us to work harmoniously together with a common vision, necessary for us all to become fully awakened human beings. The Paragonian University is key to this strategy within the overall framework of the Paragonian Foundation.

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