

The Mathematical Universe

A Few Reflections

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In a Mathologer YouTube video on 19th February 2022, Burkard Polster, Professor of Mathematics at Monash University in Melbourne, Australia, said, “I’m convinced that mathematics as a whole is the master key to understanding the Universe.”¹ This was a dream that I also had in the early 1960s, when majoring in mathematics at university in England, attempting to make sense of what I had been taught in religion, science, and economics as a teenager.

However, my maths teachers were not able to show me how I could realize a dream that I had had as a seven-year-old of ending the long-running war between science and religion, essential if we are ever to co-create World Peace. This left me feeling despondent with my formal education. For having been born near London in 1942, I had realized at an early age that I was living in a world at war with itself.

In the event, it was not until I met David Bohm—a friend and colleague of both Albert Einstein and J. Krishnamurti—in November 1980 at Birkbeck College in London that I had the opportunity to set out to develop a coherent mathematical model of the Totality of Existence, as the system of coordinates for the elusive Theory of Everything. Its initial purpose was to answer the most critical unanswered question in science: *What is causing scientists and technologists, aided and abetted by computer technology, to drive the pace of scientific discovery and technological development at unprecedented exponential rates of acceleration?*

But with Vladimir Putin ordering Russian troops to invade Ukraine, this is an opportune moment to reflect on my life’s work, which I described last autumn in a 100-page memoir titled *Humankind: Who are we? Where do we come from? Where are we heading?* If World Peace is only possible by completing the final revolution in science, just as Isaac Newton completed the first with *Mathematical Principles of Natural Philosophy* in 1687, how many would have the necessary depth and breadth of understanding to participate in a life-enhancing system of governance beyond the tyranny of both autocracy and democracy?

The war between science and spirituality continues unabated, as we see in Wikipedia and in *War of the Worldviews: Science vs. Spirituality*, written by Deepak Chopra, a medical practitioner and renowned spiritual teacher, and Leonard Mlodinow, co-author with Stephen W. Hawking of *The Grand Design*. Mathologer’s YouTube video addresses this very point, debunking Nikola Tesla’s obsession with the numbers 3, 6, and 9, which have been incorporated into what Marko Rodin calls ‘Vortex-Based Mathematics’, much attractive to the New Age movement, generally distorting the spiritual journey.

Nor is this all. I have known since 1982 that *Homo sapiens* is not immortal. In conformity with the fundamental law of the Universe, one day a generation of children will be born who will not grow old enough to have children of their own. As we are all interconnected, never separate from the Divine for an instant, for many years, I rather ingenuously hoped that the spiritual renaissance and scientific revolution spreading around the world would enable a few more generations to live in love, peace, and harmony in the eschatological Age of Light, cocreating the sharing economy for the benefit of us all.

¹ Mathologer, ‘Tesla’s 3-6-9 and Vortex Math: Is this really the key to the universe?’, 19th February 2022, <https://youtu.be/6ZrO90AI0c8>. The video is an extension of this one: Mathologer, ‘Times Tables, Mandelbrot and the Heart of Mathematics’, 6th November 2015, <https://youtu.be/qhbuKbxJsk8>.

However, after I met Guy McPherson, Professor Emeritus of Natural Resources at the University of Arizona, for lunch in Oslo in December 2017, I realized that I had been far too optimistic. Transcending the constraints of materialistic, mechanistic science, necessary if we humans are to reach our fullest potential as a species, will actually accelerate global warming. For reducing the pollution of industrial society would bring abrupt climate change ever closer because global-dimming and aerosol-masking are slowing down the effects of greenhouse gases. Since then, Guy has pointed out that an 'ice-free' Arctic Ocean, quite possible in the next year or two, could destroy the habitat that we need to survive during this decade.

So, showing how coherent mathematical reasoning solves the ultimate problem in human learning is unlikely to resolve the great existential crisis that humanity faces today. No matter how awakened we might become, rebuilding the education and economic systems on the Truth, free from delusion and conflict, cannot stop the eighth mass extinction of the species, including humankind.

Nevertheless, I still feel moved to finish the book that I wanted to read as an undergraduate some sixty years ago, titled *Unifying Mysticism and Mathematics: To Reveal Love, Peace, Wholeness, and the Truth*. When I learned about Bohm's theory of the Implicate Order in the summer of 1980, Danah Zohar told us in a short article in a Sunday newspaper that Bohm was seeking an algebra of algebras to establish his revolutionary cosmology as sound science.

To be free of the one-sidedness of Western thought, the primal axiom for this meta-algebra, as an irrefutable truth, is the fundamental law of the Universe, which I call the *Cosmic Equation* or the *Principle of Unity*, stating *Wholeness is the union of all opposites*. However, this universal system of thought, which I call *Integral Relational Logic*, does not belong to mathematics. Rather, this commonsensical art and science of reason is transcultural and transdisciplinary, like the Internet, taking the abstractions of mathematics, computer science, and information systems modelling methods in business to the utmost level of generality, as the first two chapters of *Unifying Mysticism and Mathematics* explain.

In turn, Integral Relational Logic provides the Cosmic Context, Gnostic Foundation, and coordinating framework for a megasynthesis of all knowledge, which I call the *Unified Relationships Theory* or *Panosophy*, inspired by Comenius in the 1600s. Focusing on just mathematics—as the generative art and science of patterns and relationships, emerging directly from the Divine Origin of the Universe—the last three chapters show how I am developing a coherent conceptual model of all mathematical objects and structures, which are resident in the *Cosmic Psyche*, the 99% of the Universe inaccessible to our physical senses. These are titled 'From Zero to Transfinity', 'Sequences, Series, and Spirals', and 'Growth of Algebraic Structures'.

However, studying how algebraic structures have evolved since Joseph-Louis Lagrange's *Réflexions sur la résolution algébrique des équations* 250 years ago could take me the rest of my life. For the interrelationships between equations, polynomials, groups, rings, fields, modules, vectors, matrices, relations, lattices, and graphs are so complex that it is taking me quite a while to paint the big picture that I intuitively visualize.

Unifying Mysticism and Mathematics is not the only book that I have written showing how mathematics as a whole is the master key to understanding the Universe. In my endeavours to view our rapidly changing society from an evolutionary perspective, I wrote two books titled *The Four Spheres: Healing the Split between Mysticism and Science* and *Through Evolution's Accumulation Point: Towards Its Glorious Culmination* in 2015 and 2016, respectively. The first was inspired by Pierre Teilhard de Chardin's *The Human Phenomenon*, popular with evolutionaries today, and the second describes how this evolutionary model can be presented in terms of nonlinear systems dynamics, explaining why society is rapidly degenerating into chaos right now. As we are all the products of some fourteen billion years of evolution since the most recent big bang, these show that there is no one to blame for the mess that the world is in today. So, all we can do at the end of time is to unconditionally accept 'what is', living in Stillness in the Presence of the Divine.