

# Mathematics: The Method Of Madness

by William Ferguson

*“The point is, we’re living in a society where most people have beliefs, and the beliefs are based on certain conditioning, but they always really are thinking, either in the fantasy of the future, or try to rely upon the past as the substitute for future, for understanding the future. And the problem is, how do you get people to get free of that?”*

*... I’ve taken a tougher position on this thing, because I realize that most of our citizens, who think they have knowledge, don’t, because of the idea of being practical; or the idea of being deductive. And all humanity, and the very characteristic of humanity, good humanity, is to see a future, which mankind had never experienced before. That’s the characteristic of mankind... Animals cannot do that. They cannot see that. Only human beings have the power to see the future... And unfortunately, only the few human beings, who understand what the meaning of the future is.*

*And therefore, today, I find most of what I have to do, is I have to correct the mistakes of popular opinion, correct the error in which people put confidence in popular opinion...*

*We don’t have science any more; we have mathematics. Mathematics is the substitute, officially since the Twentieth Century, as a replacement, for science. In other words, mathematics and the methods of mathematics, are treated as a mere substitute, for what is actually science, and that means the very idea of understanding the future. But remember, mankind is the only species which is truly, intrinsically creative by its nature. No form of mere animal life, is capable of understanding the future. And most people, today, act like animals do, when they call that ‘being practical.’ So that’s what we’ve got to overcome.”*

—Lyndon LaRouche,  
Fireside Chat, July 23, 2015

In the above statement, Lyndon LaRouche addresses the fundamental errors in thinking that must be overcome if mankind is to reject its current course toward thermonuclear annihilation, and instead choose survival, a human future, the course toward a thermo-

nuclear fusion-based economy, through the implementation of his [Four Cardinal Laws](#).

“Practical” people believe that “experience” has taught them the way things work, or appear to work. They say “Everybody knows that...,” or “My mother always told me that...,” or “I read in the *New York Times* that...”. Practicality lies in the neighborhood of sense perception and fear of the unknown: on the corner of “I’ll believe it when I see it,” and “I need to go along to get along.”

Consider why, during his eight years in office, not one Congressman introduced legislation to impeach Barack Obama, the worst President in American history and one whose treasonous crimes were a matter of public record. It wasn’t “practical”; such an action would not have the (mathematical) support of other members of Congress; it was not worth the risk of losing a few campaign dollars, losing an election, or losing even one’s life, even if the failure to take such action placed the world on a future path toward nuclear annihilation. And what of individual citizens? Why have your friends, neighbors, or even you yourself, tolerated the evil of the trans-Atlantic Wall Street-London system for so many years, and done so little to act on behalf of a better future?

The universal genius Gottfried Leibniz, whose *Monadology* LaRouche has described as “perhaps the most essential document in all of physics,” states the problem of practicality precisely:

*“There is interconnection among the perceptions of animals which bears some resemblance to reason; but this interconnection is only founded in the memory of facts or effects, and not at all in the knowledge of causes. That is why a dog runs away from the stick with which he was beaten, because his memory represents to him the pain which the stick caused him. And men, to the extent that they are empirical, that is, in three fourths of their actions, act only like beasts. For example, we expect the day to dawn tomorrow because we have always experienced it thus; only an astronomer foresees it by reason, and even this prediction will fi-*

nally fail, when the cause of day dawning, which is not eternal, shall cease.”

Most people in today’s degenerate culture have no education in the method of thinking, through which we transcend “the memory of facts or effects” to achieve “the knowledge of causes,” and therefore, like the poor dog Leibniz describes, are intimidated by the stick of popular opinion, wielded by institutions under Wall Street’s influence, for example. They run away from the challenge of political responsibility and leadership, to affiliate, commiserate, escape with others who have withdrawn into whatever distractions will serve, into a mutual comfort zone, to experience something akin to the feeling of cozy familiar warmth, sounds, and smells of cubs snuggled together in the den, chicks in the nest, or cattle herded on the way to the slaughterhouse. That is why your fellow citizens did not shut down Wall Street or throw Obama out of office yesterday. But as for tomorrow...

Human beings can, and if they are to survive, must choose to break out of the virtual reality of sense perception, to live in the actual world of ideas, of discovery of the unseen principle that governs the development of the universe, and live in service to a higher ideal, on behalf of a vision of the future.

Practicality ultimately is a rejection of the principle, that Man has this potential, and is a species apart from and above the beasts.

### **Axiomatic Revolutionary Advances**

In several writings, Lyndon LaRouche has described the pedagogical exercise of an economy where robots carry out all productive functions: mining, extraction and processing of raw materials, manufacturing, construction, and transportation of machinery, including of the robots themselves, the “economic” activity one may observe through “sense perception,” all directed by an “artificial intelligence.” This robot economy must operate at a fixed level of technology, because even though they might be able to reprogram themselves to make minor improvements in efficiency, the machines are incapable of generating those technological advances which can only result from scientific breakthroughs by the human mind. The finite raw materials resource base defined by that fixed technology level must eventually be depleted, to the point that the economy breaks down. Of course, this is also the fate of any so-called human economy which adopts a “Green” policy. Without increasing the energy-flux density of applied power in an

economy, which is the direct result of technological application of a scientific revolution, an overturning of the axioms of “proven” knowledge, and creation of new, more powerful conceptions of physical principle, mankind degenerates, and perishes.

In reality, mankind has progressed from an economy powered by animal labor, to wind power and wood-burning, to fossil fuel power, and to nuclear fission, and from a world population of a few million to over seven billion.

In “On LaRouche’s Discovery,” LaRouche writes:

*“The central feature of my original contribution to the Leibniz science of physical economy, is the provision of a method for addressing the causal relationship between, on the one side, individuals’ contributions to axiomatically revolutionary advances in scientific and analogous forms of knowledge, and, on the other side, consequent increases in the potential population density of corresponding societies. In its application to political economy, my method focuses analysis upon the central role of the following, three-step sequence: first, axiomatically revolutionary forms of scientific and analogous discovery; second, consequent advances in machine tool and analogous principles; finally, consequent advances in the productive powers of labor.”*

He describes these discoveries as an outcome of his 1948-1952 refutation of the application of statistical methods to living and cognitive processes by MIT mathematician Norbert Wiener.

### **Mathematics Meant to Murder the Mind**

Mathematics is not science and, especially since the 1900 International Congress of Mathematicians in Paris, it has been deployed to destroy the very *idea* of science. At this conference, the German mathematician David Hilbert presented a program for the axiomatization of mathematics and physical science in the Twentieth Century, to reduce all science to a system of propositions logically derived from a finite set of facts assumed to be self-evident from experience, based on the model of Euclid’s *Elements*. Hilbert took it a step further, in that his requirements for a mathematical system used only logical consistency, not physical reality or making any kind of real sense at all, as the standard. This is a form of oligarchical control, the *opposite of science, a conspiracy to assassinate the human mind*.

Earlier, in 1895, the evil British mathematician Bertrand Russell attacked the revolutionary Bernhard Rie-

mann's habilitation dissertation, *On the Hypotheses Which Lie at the Foundations of Geometry*, to attempt to outlaw any truly anti-Euclidean geometry in physics. Within ten years, with the discovery of the quantum of least action and relativity, Max Planck and Albert Einstein continued Riemann's revolution by overturning axioms about energy, matter, space, and time, and proved that Russell was a malicious idiot.<sup>1</sup>

Following Hilbert's program, in his *Principia Mathematica* (which he named in honor of Isaac Newton's famous fraud), Russell attempted to axiomatize arithmetic, to reduce it to mere logic. (After almost four hundred pages of "reasoning," he triumphantly declared it proven, that "1+1=2"). After Einstein's future friend and collaborator Kurt Gödel used mathematical logic to conclusively prove again that Hilbert and Russell were fools, Russell abandoned his mathematical efforts, and pursued other means of mendacity and genocide.

Planck and Einstein, the last of the actual scientists, spent the latter decades of their lives in courageous epistemological warfare with *Wunderkinder* who arrogantly asserted that they had mathematically proven that there is no causality in the Universe. After the passing of these two giants, the mathematical monstrosities became hegemonic, and the consequent scientific and cultural decay have brought the human species to the edge of self-destruction.

Of course, mathematics, like a computer, can be a useful tool, and learning to use it can serve many noble purposes, including science. But if instead you are taught to think like a computer, your mind is being destroyed. The model of education since 1900 is to take a student eager to study science, and to so indoctrinate him in axiomatic-deductive mathematics, that he has mastered mathematical techniques at the expense of his creative potential for actual scientific discovery, or is forced to quit the course in frustration.<sup>2</sup>

1. See [http://action.larouchepac.com/riemann\\_vs\\_russell](http://action.larouchepac.com/riemann_vs_russell)

2. This is seen today in the phenomenon of large numbers of college-age science students who are channeled into "Computer Science,"

## Euclid's Elements: Believe in Your Rulers, Not in Your Mind

Is the government of a nation a system of enforcement of rules imposed upon a group of individuals to keep them under control as they pursue their narrowly perceived self-interest?

Is the purpose of education to train young people in skills and knowledge so that they will be "employable" as adults and obedient (or otherwise controllable) under the government?

Is science a system of rules and formulas that describe how the world appears to work, a "true opinion" accounting for the phenomena of sense-perception?

For an oligarchical elite, Euclid's *Elements* has served as a model useful tool for these purposes.

If you examine Book I, it consists of 23 definitions of geometrical objects, 5 postulates regarding how to draw objects and on the relationships between them, 5 common notions about magnitudes, and 48 propositions which can be logically derived from all of these.

It all leads up to, and concludes with, what we know as the *Pythagorean theorem* and its converse. Each "element" appears to be true, i.e. truly consistent with what we see and can draw with a compass and straight-edge on a flat surface.

This is the kind of education which Lyndon LaRouche flatly

rejected "axiomatically" in junior high school.

What's the problem, you might ask, as long as all the propositions are true? It works, doesn't it?

In truth, at least some, if not all, of Euclid's propositions were not originally discovered by this method, certainly not the Pythagorean theorem.

This system presents the illusion of a clean, sanitized universe of fixed relations, and serves as the model for thousands of years of textbooks designed to smooth over the actual processes of discovery. You get the "facts"; a neatly arranged, lifeless corpse, but not the spirit or the substance of actual science.

where they are drilled in the use of "mathematical algorithms," which supposedly mimic and predict all aspects of human activity and thought.



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Lord Bertrand Russell

As LaRouche described in the passage above, the substance of science, the subject of technology, is “axiomatic revolutionary advance.” A human being uses his mind to discover a truth about the universe, which, when communicated and applied to human activity, increases the species’ power to act on the universe, measured in terms of increase in potential population density, and increases the power of individuals to achieve, transmit, and assimilate future discoveries.

The point should not be for the student to “learn” the “fact” of the Pythagorean theorem, but to rediscover it for himself, to replicate the process of discovery in his own mind, and thereby develop the capabilities for a life of sequential rediscoveries, ideally going to the highest level, to that of an original discovery of knowledge new to the human race; an “axiomatically revolutionary advance.”

### Knowing That You Don’t Know

Instead of Euclid’s *Elements*, the model of education should be, and has historically been, the Socratic dialogues of Plato, where Socrates provokes his interlocutors to question, and overthrow their own assumptions, in the process of constructing a new, higher hypothesis.

In the *Meno* dialogue, Socrates guides an uneducated slaveboy to discover geometric truths from within himself. He draws a 2-foot by 2-foot square, and asks him if he can name the side of a square with an area twice as large, i.e., 8 square feet. The boy confidently and triumphantly states that to double the size of the square, the sides should be doubled, and gives the answer: 4 feet. Socrates draws the 4 by 4 square, and the boy recognizes it is four times as big as the original. The boy is somewhat deflated, but continues on. He tries again, and since four feet was too big, he proposes a 3 by 3 square, and then accepts that this too is wrong.

As Socrates points out to Meno, the boy has gone from a confidence while in error (he does not know, but does not *know* that he does not know), to a state of perplexity and wonder (he does not know, and he *knows* that he does not know), and is therefore in the perfect condition to discover the solution, because he has become eager to know it. And he indeed does finally recognize the necessary construction.

This is the substance of an educational method for creating geniuses; individuals who will generate the revolutionary discoveries upon which human survival and progress depend.

### Metaphor, not Mathematics

Mathematics is the grinding out of the consequences of what you assume that you already know. It is a codification of the practical. Everything valid that can be developed as true in mathematics, is a discovery of the *past*.

Socrates and Plato, Nicholas of Cusa, Johannes Kepler, and Leibniz, Bernhard Riemann, and Lyndon LaRouche have demonstrated that the substance of scientific discovery lies in the classical artistic principle of metaphor.

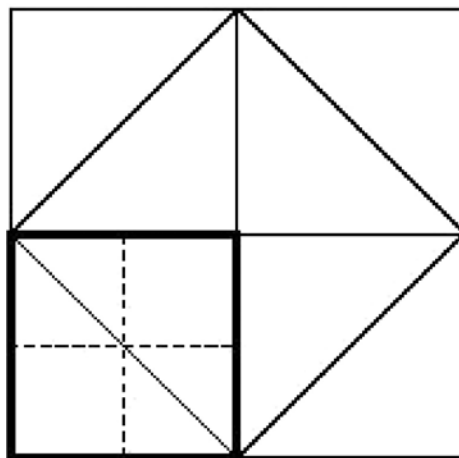
Through the ironical juxtaposition of valid, yet apparently contradictory ideas, the mind can be moved to a higher, less imperfect idea.

The subject of actual science, and of classical artistic composition, is the refutation of the practical. It is the development of the power of the human mind to generate the discovery of what is unknown: the *future*.

Until Kepler’s “creative interruption,”<sup>3</sup> the business of astronomy was the mathematically accurate description and prediction of visual sense impressions of

the motion of the planets in the sky, with no concern as to cause. As a student of the “divine Cusa,” Kepler adopted the mission to glorify the Creator by revealing “the nature of the Universe, God’s motive and plan for creating it,” and created a *New Astronomy* (1609).

Kepler provokes his readers’ powers of reason to join his quest for truth, by demonstrating that the three predominant models of the universe of that time, Ptolemy’s 1,400-year-old geocentric system of circles upon circles, the new Copernican heliocentric system, and Tycho Brahe’s hybrid system, although they are based on contradictory assumptions, could all be configured to yield the same results. Mathematically, practically, they all appeared to work. Therefore the truth must lie outside of the appearances that these models were designed to account for. Some standard other than matching the data of sense-perception must



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The solution to the slave boy’s problem in Plato’s *Meno* dialogue.

3. See [Cusa’s Method of Creative Interruption](#) by William F. Wertz, Jr.

lie at the foundation of actual knowledge.

Kepler then proceeds to construct his “vicarious hypothesis,” a descriptive, predictive model more accurate than all the other three, based on the observed longitudinal motion (around the equator of the sphere of the fixed stars, as defined by the apparent motion of the Sun on that celestial sphere, called the ecliptic), and based on the accepted assumption of circular orbits of uniform motion about a mathematically important, completely fictional point, an equant.

This vastly superior model implies a certain distance between the center of the Mars orbit and the Sun. He then uses observations of the latitudes of Mars (motion above or below the ecliptic), which give a different result for the distance. Identifying this contradiction, Kepler proceeds to adjust the vicarious hypothesis, assuming the observationally true distance derived from latitudes. But this then throws off the highly accurate longitudes. No matter what adjustments he attempts to reconcile the two, there is always a discrepancy. At the point in the orbit of maximum difference, the longitude is off by 8 minutes of arc, 8/60 of one degree; tiny, but not to be ignored by the honest investigator, armed with Tycho Brahe’s measurements, accurate to one or two minutes.

Indeed, this irreconcilable paradox was a goal of Kepler’s intention all along! With this he proved that, after 1,400 years, the assumption of uniform circular planetary orbits must be forever discarded, and that, if astronomy is to be grounded upon truth, it must seek to discover physical principle, not mere description of appearances: “Henceforth I shall lead the way toward that goal according to my own ideas. For, if I had believed that we could ignore these eight minutes, I would have patched up my hypothesis accordingly. But since it was not permissible to ignore them, those eight minutes point the road to a complete reformation of astronomy...”

He had been convinced, since the time of his earlier work, *The Secret of the Universe*, that the cause of the motion of the planets centers upon the Sun. But he knew that, like Socrates, he had to cast his readers into perplexity, in order to enlist recruits to join his “War with Mars” and his mission to discover the principle of universal gravitation.

Kepler proceeds in the mission to discover the principle governing the universe, or as Leibniz would say, the “necessary and sufficient reason” that the universe is organized in the way that it is, and not in some contrary way. In his *Harmony of the World*, he develops this reason as a principle of musical harmony.

## Isaac Newton Doesn’t Give a Fig

The oligarchical forces who rule this dying empire do not want revolutionary thinkers running around loose, so they create and promote myths to prevent the emergence of actual scientists, and suppress actual discoveries and discoverers. One of these myths is that Isaac Newton discovered the principle of gravitation, not Kepler.

You should find it astonishing that English translations of Kepler’s books were not generally available until the late Twentieth Century (and, if one searches online: Kepler’s *New Astronomy*, \$200 and up, few copies available; Newton’s *Principia Mathematica*, under \$20.00).

Newton’s *Principia* is the book in which Newton derives the “law of gravity” from “Kepler’s Three Laws” (so the myth goes). It begins with his outline of axioms, laws of motion, his assumptions of absolute uniform space, and absolute time flowing uniformly. It is clear that he intends, contrary to Kepler, to build a universe from the “ground up.” He is informing you of the properties of an empty box, and that he intends to fill it.

Later he states this “principle,” *Hypotheses non fingo*: “*That which does not follow from the phenomena, should be called a hypothesis, and hypotheses . . . whether metaphysical, physical, whether they involve hidden properties or are mechanical, have no place in experimental physics. In this physics, propositions are derived from the phenomena and generalized by induction.*” As if all those assumptions about absolute space and time, were not hypotheses.

He is saying that his intention is to provide a mathematically precise description of what appears to happen as presented by the senses, without regard to an idea of a reason for it. Practical.

What is the difference between this conception of science, and Ptolemy’s epicycles? Instead of circles upon circles, we have forces acting over a distance instantaneously with nothing in between, which even Newton admitted is absurd, in a letter written five years later. But *it can be made to appear to work*.

In reality, he has learned nothing from Kepler. And he wants to make sure that you will not either.

## Planck and Einstein, the Last Scientists

As a young university student in 1874, Max Planck had been advised by his physics professor not to enter the field, because there was hardly anything left to be discovered.

Despite this advice from a victim of the cult of prac-



tality, Planck, who might also have prospered as a professional classical pianist, chose a career in physics: “My original decision to devote myself to science was a direct result of the discovery which has never ceased to fill me with enthusiasm since my early youth—the comprehension of the far from obvious fact that the laws of human reasoning coincide with the laws governing the sequences of the impressions we receive from the world about us; that therefore pure reasoning can enable man to gain an insight into the mechanisms of the latter.”

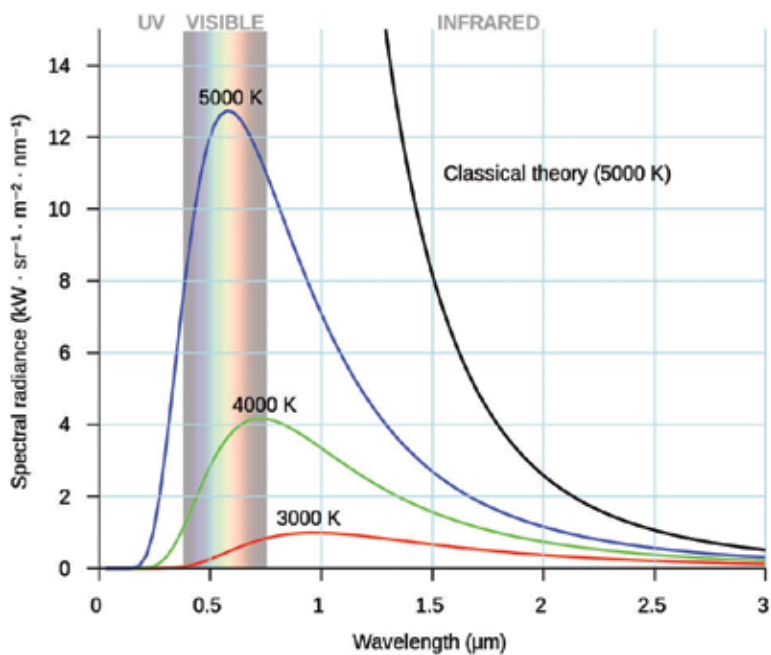
In the late 1890s his attention turned to the “blackbody problem”: how does the proportion of radiation of different frequencies emitted from a heated object change as a function of its temperature? All predictive models based on accepted contemporary physics had failed to match the experimental results.

Planck wrote in his *Scientific Autobiography*, “... this so-called Normal Spectral Energy Distribution represents something absolute, and since I had regarded the search for the absolute as the loftiest goal of all scientific activity, I eagerly set to work.”

In 1900 Planck was able to construct an accurate mathematical formula for the spectrum of blackbody radiation, which was empirically valid but had no physical meaning in terms of the existing concepts of physics. In seeking such, he had to discard the assumption of continuous radiation and introduce a revolutionary new idea: that radiant energy can only be emitted or absorbed in whole number multiples of an elementary physical unit, the quantum of least action ( $E=nh\nu$ , where  $\nu$  is the frequency of the radiation, and  $h$  is Planck’s constant). Despite its great success in explaining and predicting experimental results, Planck was slow to accept the significance of his discovery, and spent years of great effort attempting to fit the quantum into the framework of classical physics.

In 1905, the young patent clerk and violinist Albert Einstein, by asserting that the laws of physics should be universal, and that the speed of light is universally constant, overturned thousands of years of common sense, and demonstrated that matter is a concentrated form of energy:  $E=mc^2$ .

In that same year, Einstein applied Planck’s quantum concept to the photoelectric effect, the phenomenon of the emission of electrons by a metal plate caused



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The Black Body Problem

by light shining on it. Einstein proposed that the light quanta, later known as photons, would cause electrons to be emitted only if they were above a certain threshold frequency. For example, a dim blue light would cause the metal to emit electrons, while an intense red light would not, because the blue light quanta have a higher frequency and are each more energetic than the red, even though there would be more red light quanta. Einstein, who was much less reluctant to accept the idea that the quantum was an actual physical entity instead of a provisional assumption, was proven correct by numerous experimental results in the following years. For their work in developing the quantum hypothesis, Planck and Einstein were awarded the Nobel Prize in 1918 and 1921 respectively.

But their revolution was hijacked, by perpetrators and victims of the Hilbert-Russell program to destroy science.

### Don’t Know. Don’t Care. Shut Up and Calculate!

The experimental results in microphysics in the Twentieth Century generated paradoxes, such as the wave-particle duality. In some experiments light behaves like a particle, in others like a wave, but not both simultaneously. The same is true of subatomic particles. The Uncertainty Principle states that the position

and momentum of a particle cannot both be known simultaneously to an arbitrarily fine degree, i.e. the more you know about the position, the less you can know about the momentum.

But instead of scientists working in the tradition of Planck and Einstein, taking up the epistemological challenge to discover a higher principle which resolves the paradoxes, we have the “Copenhagen Interpretation” of quantum theory, imposed upon physics by Niels Bohr and his co-conspirators, to forbid you from asking the questions. When you conduct the double slit experiment, light behaves like a wave; when you shine it on a metal plate, it behaves like a particle—and in between, when you are not observing, what it does is *none of your damned business*. A vast machinery of mathematics has been constructed to calculate probabilities of destinations and trajectories, but you are not allowed to conceive what is actually going on. There is no causality, there is no *necessary and sufficient reason*. The physics is the mathematics. *Hypotheses non fingo*.

*“I like to think that the moon is there even if I am not looking at it.”*

—Albert Einstein,  
on the Copenhagen Interpretation

*“I think it is safe to say that no one understands quantum mechanics. Do not keep saying to yourself, if you can possibly avoid it, ‘But how can it possibly be like that?’, because you will go down the drain into a blind alley from which nobody has yet escaped. Nobody knows how it can be like that.”*

—Richard Feynman,  
in *The Character of Physical Law* (1965)

*“Some years ago, Freeman Dyson, reasoning on the process of learning and teaching quantum theory, came out with the idea that a physics student, after learning the tricks of the quantum formalism, and getting right answers, ‘begins to worry, because he does not understand what he is doing.’ The student, says Dyson, ‘has no clear physical picture in his head, and tries to arrive at a physical explanation for each of the mathematical tricks. He gets discouraged and after some months of unpleasant and strenuous time, he suddenly says: **I understand now, that there isn’t anything to understand.**”*

—Pedro Pereyra,  
in *Fundamentals of Quantum Physics: Textbook for Students of Science and Engineering*

The mathematical models of modern quantum physics are highly accurate, and have had many useful and important technological applications. But the mathematical savants themselves admit that they do not understand what is going on—and they are “just fine with that.” Or, one could say, they don’t mind it. Why is this accepted as “science”? *Because it appears to work*, just like the epicycles of Ptolemy, or “Newton’s Laws of motion.” And if you will accept this as a scientific method, or stay away from science because “the math is too hard,” you will not be a threat to the imperial system.

### **Paul Samuelson Takes Credit for Economic Disintegration**

“I don’t care who writes a nation’s laws, or crafts its advanced treaties, if I can write its economics textbooks.”

*“To a person of analytical ability, perceptive enough to realize that mathematical equipment was a powerful sword in economics, the world of economics was his or her oyster in 1935. The terrain was strewn with beautiful theorems begging to be picked up and arranged in unified order.”*

—Paul Samuelson

It might be accurate to assert that the Nobel Laureate mathematical economist Paul Samuelson, did not consider you a computer, but rather, an animal, or a particle. Which axioms lie at the foundations of his theorem lattice? In the first chapter of his textbook, *Economics* (four and a half million copies sold, nineteen editions since 1948), he quotes and lauds Adam Smith as “the founder of modern economics,” as if Gottfried Leibniz had never existed.

In his *Theory of Moral Sentiments*, Smith gives us the very definition of the practical man:

*“The administration of the great system of the universe... the care of the universal happiness of all rational and sensible beings, is the business of God and not of man. To man is allotted a much humbler department, but one much more suitable to the weakness of his powers, and to the narrowness of his comprehension: the care of his own happiness, of that of his family, his friends, his country... But though we are... endowed with a very strong desire of those ends, it has been entrusted to the slow and uncertain determinations of our reason to find out the proper means of bringing them*

*about. Nature has directed us to the greater part of these by original and immediate instincts. Hunger, thirst, the passion which unites the two sexes, the love of pleasure, and the dread of pain, prompt us to apply those means for their own sakes, and without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them."*

For Samuelson, economics is not the Hamiltonian-Leibnizian American System of Political Economy dedicated to the promotion of the General Welfare, but the application of the mathematical methods of classical thermodynamics to "the study of how societies use scarce resources to produce valuable commodities and distribute them to different people." In fact, it is clear that Samuelson hates even the memory of the founder of the science of physical economy. He writes "If Newton had not invented the calculus when he did, Leibniz or someone named Smith would have."

Samuelson is the perfect academic tool of Wall Street to inflict destruction upon the economy and on the cognitive powers of his readers. According to Samuelson's calculus, if you lose your job, cannot afford a life-saving operation, or are starving to death, "Sorry, Buddy, it's nothing personal, that's just how the numbers crunched out." There is however, one difference between Samuelson's mathematical economic frauds, and those of Euclid, Ptolemy, Hilbert and Bohr: unless the total disintegration of the financial system was the intended goal, *it does not appear to have worked*. Not that it didn't make him a filthy rich hedge-fund operator. You could even say he made a killing.

One of Samuelson's most famous students, and hedge-fund partners, is Robert C. Merton, who co-developed the Black-Scholes-Merton mathematical model of financial derivatives markets. Using this model, his hedge-fund, Long Term Capital Management, made tremendous profits in its first three years of operation. In 1997 he was awarded the Nobel Prize in Economics for his invention. In the summer of 1998, LCTM lost \$4.6 billion, and the Federal Reserve had to organize an



Innovation & Business Architectures, Inc.  
Paul Samuelson

emergency bailout of \$3.5 billion for the fund from fourteen financial institutions, in order to avoid a global financial blowout.

Perhaps in an attempt to convince you that he is really a good guy after all, or perhaps admitting that he sold his soul way below market value, in the "Valediction" of his tome, Samuelson quotes another of his heroes, "this century's greatest economist," John Maynard Keynes (B.A. Mathematics, Cambridge):

*"Suppose that a hundred years hence, we are eight times better off than today (1930). Assuming no important wars [!] and no important increase in population [!!], the economic problem may be solved... I see us free, therefore, to return to some of the most sure and certain principles of religion and traditional virtue...—that avarice is a vice, that the exaction of usury is a misdemeanor, and the love of money is detestable... We shall once more value ends above means and prefer the good to the useful.*

*"But beware! The time for all this is not yet. For at least another hundred years we must pretend to ourselves and to every one that fair is foul and foul is fair; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight."*

We now face a trans-Atlantic financial and economic disintegration caused by generations of citizens and policy makers brainwashed by the likes of Paul Samuelson. We have a population allowing its most productive agricultural state to die of thirst, next to the largest ocean in the world. We have supposedly educated people who are sincerely concerned about how to make a turkey sandwich with a minimum carbon footprint. Decades after the discovery of nuclear fusion, we have no fusion power plants, only thousands of warheads capable of annihilating the human species.

With the education programs and cultural collapse of the recent decades, we are probably doing much worse than the aforementioned robots.



## The Courage to Change Axioms

In 1995, in a ceremony at the White House marking the success of Israeli-Palestinian peace negotiations, Israeli Prime Minister Yitzhak Rabin said, “If I raise my toast, I will raise it to those who have the courage to change axioms.”

The next necessary step in the progress of mankind, the quantum leap into a fully thermonuclear-powered economy, will require the defeat of the anti-scientific method of mathematical formalism, and a renaissance of the Socratic method in scientific research and physical economy. It will also require the overthrow of the rotten Wall Street/City of London system that has brought us to this point of economic collapse and possible species extinction. How can we rapidly create a citizenry which is equal to this challenge?

In *On the Aesthetical Education of Man*, Friedrich Schiller conducts a Socratic dialogue with a Danish prince, on the subject of “the most perfect of all works of art... the construction of a true political freedom.”

He identifies the contradiction between the necessity of Man’s absolute freedom, to maintain his humanity, and the necessity of government, to maintain his physical existence. A society must have a means to elevate its citizens to be capable of self-government. Schiller writes:

*“All improvement in the political must proceed from the ennoblement of the character...—but how can the character ennoble itself under the influence of a barbaric state constitution? One had thus to search for an instrument to achieve this end, which the state does not provide, to open up springs thereto, which preserve themselves pure and clear in the midst of every political corruption... This instrument is beautiful art, these springs open up in its immortal models.”*

Helga Zepp LaRouche describes his ideal: “Schiller’s special contribution consists precisely in his development not only of Reason, *per se*, but also of a

*method* whereby man is able to ennoble his emotions. He views it as nothing less than the world-historical goal of human development, ‘to establish an inner agreement between his two natures (the sensual and the cognitive), to always be a harmonious unity, and, with his full-voiced humanity, to act.’ And thus, for Schiller, the Beautiful Soul is the pinnacle and highest aim of human development. A Beautiful Soul is a person for whom Freedom and Necessity, duty and passion merge into a unity, such that a person so educated, can always

blindly trust his own emotions, because those emotions would never urge upon him anything other than what his Reason dictates.”<sup>4</sup> The LaRouche Manhattan Project is employing this classical artistic method of Socratic Dialogue and classical music to build a movement capable of accepting and fulfilling the mission of human development. You are welcome to join it.

## The Composition of the Universe

Look around you, wherever you are reading this. Every “object” that you can see, hear, touch, smell or taste, be it an ink pen, a chair, a computer, an

apple, or even the dog pestering you to take it out for a walk, is a product, an embodiment of the continuing process of human scientific discovery applied to human activity, for, hopefully, a beneficent human purpose. Before these objects existed in the realm of the senses, they only existed in a human mind, as an image from the future, which that mind acted to create.

You, too, are a product of the historical process of human development. If you have read this far, you possess the cognitive capacity to imagine a kind of future worthy of the human race—to make the creative decision to accept the mission to bring it into being, and to act Socratically to move your fellow citizens to strive so in concert with you. The alternative may be human extinction.



Portrait of Schiller by Gerhard von Kügelgen

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4. See “[European Culture As a Factor Of Intercivilizational Dialogue](#),” *EIR*, Volume 30, Number 36, September 19, 2003.