

Hilbert and Russell: The Suffocation Of Science by Mathematics

by Phil Rubinstein

“As a mathematician he was disturbed by a certain lack of order in the triumphs of the physicists.”

—*A biographer on David Hilbert*

June 9—The Twentieth Century, into the present early phase of the Twenty-First, has witnessed the near-total destruction of the progress in human self-conception, that occurred from the Fifteenth Century Golden Renaissance to the end of the Nineteenth Century.

Then a new revolution in science was at hand, in the successive breakthroughs of Bernhard Riemann, Albert Einstein, and Max Planck. But the idea of human nature and nature's God that had been at the core of the American Revolution, and which drove those great scientists, was directly attacked by the likes of Bertrand Russell, who held an abiding hatred of mankind, and especially science-driven industrial development. The attack was begun by a school led by the mathematician David Hilbert, which aimed to replace the human mind by logic-ruled axiomatic systems modeled on the failed Euclid.

The combined impact of Hilbert's 1900 presentation to an international mathematics conference seeking to axiomatize all human knowledge, and Russell's direct assault on Einstein and Planck, has undermined the morality of Western Civilization. Lyndon LaRouche has made clear the critical and unique role of these two characters in the horrors of the recent 100 years.

The typical American, especially, would fail to understand how this could be so. How could a mathematician and a so-called philosopher have such an effect?

The fact that this question would arise, indicates the

problem. It is the *culture*, the hegemonic ideas about man and nature, that determine the development of the individual and the science produced. The view of human nature expressed by Hilbert and Russell has been the leading factor in both the ending of true science, and the consequent immorality.

The same destructive process in music, at the same tragic historical moment, is discussed in a following article.

Mathematical Rigor (Mortis)

In August of 1900, Hilbert, as a leading mathematician from Göttingen University, was invited to present a future for mathematics, at the international Congress of Mathematics. His proposal involved 23 problems to be solved, although he only read 10 of them in his presentation. It is in this presentation that the program of reducing knowledge to axioms is, in fact, laid out.

While Hilbert identified a number of individual problems, such as Fermat's theorem, the crucial feature is Hilbert's program of proving the formal basis of mathematics through its reduction to logic, and the reduction of physical science to an axiomatic system. In essence, this program of reductionism has fundamentally reigned ever since, regardless of denials.

Russell had spent time in the 1890s in Göttingen, and was encouraged by this program to move to axiomatize Arithmetic in his *Principia Mathematica*, modeled on Newton and Euclid. Keep in mind that by 1900, the latter two had been fundamentally discredited by the work of Riemann regarding Euclid as well as Newton. But, ignoring Riemann, the whole model for



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The devastation of World War I, being surveyed by an American soldier at Montfaucon, France, 1918.

Hilbert's project was Euclid, stripped of specific axioms and reduced to the form of axiomatizing.

To quote the problems as Hilbert stated them: Number two in his list was "To investigate the consistency of the Arithmetic axioms"; and number six, "To axiomatize those physical sciences in which mathematics plays an important role."

For a science to be valid, it must be of this type, as Hilbert later expressed the primacy of mathematical rigor for physics. And "progress" must be the reduction of science to this form of mathematical rigor.

This meant that all of science in principle, as well as our view of the universe, reduces to a minimum of accepted truths and rules of derivation. Such a system could then be proven only to be *consistent and complete* by a formal proof. It would contain all, and only, the truths of arithmetic, physics, etc. There would be nothing new in the universe. Scholars would merely deduce the truths and wait to find the corresponding experience.

This is much of what we see practiced today, for example in the so-called Standard Model of the universe.

What Hilbert and Russell did was to make deduction the only standard of truth. But with this view, there is no creative human mind that represents access to the real world, and it is the hegemony of this outlook that

marks the decline of intellectual morality in the Twentieth Century.

Against Creative Discovery

This attack on creativity occurred just as science had been brought to the verge of a complete revolution, based on the creation of fundamentally new principles upon which to base our understanding and action in the universe in which we exist.

In 1900 Planck discovered the Quantum in which radiation was packaged, contrary to the simple continuum idea of electro-magnetic radiation that had existed until then. This was followed by Einstein's Special, and then later General, Relativity from 1905 to 1912-1915, which changed entirely our concept of Space-Time;

and Einstein's hypothesis of the photon—the quantum of light—as well.

Also reflecting the potential for a higher-order breakthrough, was the work of Louis Pasteur, Pierre Curie, and Vladimir Vernadsky. The possibility of developing Physics from the standpoint of life, and more, was at hand.

Of these three, only Vernadsky survived much past 1900, and he was increasingly committed to the question of life in its relation to the non-living; or, better put, that we have to know the non-living from the standpoint of the living. In this regard he saw the work of Curie on dissymmetry as critical. Vernadsky's hypothesis later took the form of whether we could identify the changes in Space-Time that occurred in Life and even in the Mind.

Precisely this constellation of new or hypothesized principles remain the direction in which science needs to go, a century later.

The work of Planck, Einstein, and Vernadsky formed a potential triad, like the one identified by Lyndon LaRouche that led to the achievements of the Renaissance: Brunelleschi, Cusa, and Kepler. As in the first triad, we have the microcosm, the macrocosm, and the systemic unity of the two.

Such a scientific revolution can only be brought to

fruition by the creation of a new system, beyond the reach of, but subsuming, prior ideas. This would mean not giving up causality, but rather a new systemic conception of cause. Einstein, for example, once said, that causality in the quantum realm may be more like a Bach fugue.

On the contrary, *creative change* in human knowledge and capability was ruled out by Hilbert and Russell as a standard of truth or knowability. Russell took this to a dark extreme of pseudo-scientific pessimism and cynicism about humanity, becoming over the ensuing 60 years one of the most famous, and the most evil man of the Twentieth Century.

Morality Destroyed

To get at the destruction wrought by this, one has to grasp the moral dimension. This lies in the nature of LaRouche's physical economy conception, as it developed from the political and economic conception of Alexander Hamilton.

The critical distinction of LaRouche's physical economy is the recognition that value in human economy is the production of a growth in the development of the powers of labor. This is what Hamilton calls artificial labor. It is the production of the capacity for creativity. In reality, value lies in a higher order of activity than we are presently capable of. It is the future potential, systemically, of the power and extension of the reach of that power into new domains of the Universe, which is value. Value is always systemic, and lies in the potential future. It can never be limited to a system, it can never be axiomatic or deductive. This is the nature of man, as economics is the science of the reproduction of the human species. We do not reproduce ourselves as animals do, merely biologically.

This also gives us insight into the Twentieth Century, its wars, its degeneration, and the seminal role of Hilbert and Russell. By their definitions, there was no human mind, no creativity, no action on the future, and therefore no moral purpose, no mission for the human species. Thus there was no reason for the individual to exist.

In fact, all of modern economics, from Adam Smith to game theory, rests itself on this premise of the amorality of the humankind. The effort to effect the future—call it government, society, or as you wish—is to be ruled out as interference in the workings of nature. From there, it is a relatively short step to treat the poor as biological failures, to countenance euthanasia for the sick and elderly, to see a war of all against all in society,

and to promote depopulation—Russell's favorite. For this system of monetarism, value lies not in human beings but in the price of financial instruments, without regard to any change in productivity. It is far from an accident that by the end of the Twentieth Century, nearly all "top" investment bank and hedge fund speculative traders had been educated as mathematicians, and this continued true after the crash they brought on us in 2008.

That Hilbert and Russell led to this is not an accidental feature of their theoretical outlook. Hilbert makes it clear that the real world is subordinate to the rigor of an axiomatic system. To quote a favorable biographer, Constance Reid, "But as a mathematician he was disturbed by a certain lack of order in the triumphs of the physicists." Then, "A few fundamental phenomena should be set up as the axioms from which all observable data could then be derived by rigorous mathematical deduction as smoothly and as satisfyingly as the theorems of Euclid had been derived from his axioms. But this project required a mathematician."¹

The case of Russell has been covered extensively by Lyndon LaRouche, both in *EIR* and in a major *Fidelio* article in 1994, "How Bertrand Russell Became an Evil Man."² Here I will only add some material that gives us an insight into his uniquely oligarchic hatred of humanity in its creative form.

One such example is from a Russell biographer, himself a British philosopher, who began writing the biography as an admirer. In the introduction to his second volume he says:

The second thought that has come to dominate my reaction to Russell, particularly in the latter half of his life, is how emotionally maimed he was. He was, it sometimes seems, simply not capable of loving another human being. . . . In many of his political writings this notion appears as the duty to love humanity in the sense of regarding all mankind as, in some sense, coextensive with one's own ego. . . . He was unable to conceive of loving a person unless he could regard that person as part of himself.³

1. Reid, Constance. *Hilbert*, Berlin, New York, Springer Verlag, 1970, p. 127.

2. LaRouche, Lyndon. "How Bertrand Russell Became an Evil Man," *Fidelio*, Fall 1994, available at www.schillerinstitute.org.

3. Monk, Ray. *Bertrand Russell, The Ghost of Madness, 1921-1970*, The Free Press, New York, N.Y., 2000, p. 12.



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The devastation of World War II: The center of the city of Stalingrad after liberation from the German occupation, February 1943.

And so it was. This is the Russell, who, despite later denials, advocated the “preventive” use of nuclear weapons against the Soviet Union on at least 12 separate occasions between 1945 and 1948. Later he cynically led the anti-nuclear counterculture of the 1950s and ’60s.

Perhaps the best example of the pure evil of Russell is a short story he wrote in his 30s or 40s entitled “Satan in the Suburbs.” In it, he effectively writes through his fantasy of wiping out humanity, as a consequence of his doing battle with a satanic figure who ultimately convinces him of the irretrievable horror of human beings. Russell as a figure builds a doomsday device, expressing his hatred of people and science.

Giving Up On Reality

The culmination of the mathematical suppression of science occurred as a direct attack on its opposite, the man LaRouche has called the only competent scientist in the United States in the Twentieth Century, Albert Einstein.

At the International Solvay Conference of 1927 and then again in 1930, all the leading figures had direct or indirect ties to Hilbert and Göttingen, such as Born, Heisenberg, Bohr, and others. Their line against Einstein was simply this: In light of the problems arising in Quantum Mechanics, we should give up knowing what occurs in reality; we should accept the mathematical model as all one can say. This is, in fact, the

hallmark of positivism. Those like Einstein who insisted on a real physics, were dinosaurs, stuck in a Classical picture of causality. Mathematics, said the Solvay Conferences, is the only truth. We remain only to deduce.

Einstein argued effectively against this, and continued to do so despite the attempt to ridicule him, which continues to this day. But the media and academic verdict went to the mathematicians, the agnostics, or perhaps in some cases, the atheists. Einstein’s deity had given us the ability to know the creation.

What we are left with is a new version of Ptolemy and his epicycles, only today applied to particles.

Left open is what is the reality. For

those who adhered to the positivist dogma like Heisenberg, the theory was complete. Einstein, as Plato before and Kurt Gödel after him, knew there was no such system.

This was the end of a process begun with the attack on Riemann for his “lack of rigor,” by Weierstrass, Klein, and Hilbert. Perhaps the leading case of this was Riemann’s use of the Dirichlet’s Principle, which was derided by Weierstrass. This is a principle of minimization that indeed works in physics, but lacks a complete formal proof.

Given the role of Riemann and Gauss before him, as scientists developing a new mathematical language subordinated to the needs of science, what began with the attacks on Riemann was a direct negation of the creative scientific discoveries that had driven the Nineteenth Century.

Today we are left with a reduction of creative mind to neural networks, of justice to giving chimpanzees—nasty creatures on their own—the legal standing of persons, and a recurrence of artificial intelligence fantasies, even though this has been known to be fallacious since Plato’s *Parmenides*.

Unless we recognize that it is creativity alone that defines us and, that it is also itself the standard of truth, we will fail in the mission given to us by the Nature of the Universe. This is what the Twentieth Century crime of David Hilbert and Bertrand Russell has taken from us.