

Where Do We Attach the Head?

Until a new approach is taken to scientific work, there is no way the AIDS epidemic can be effectively countered. By Lyndon H. LaRouche, Jr.

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“It,” as the laboratory’s night-janitor described that eerie contraption, was known as “Doctor Ike,” a marvel of blended genome patent-work and silicon. Each sub-assembly had been duly benchmarked, and outsourced for cost-savings, with each step of the assembly carefully plotted by the World-Wide Committee. At the official unveiling, the Committee had presented it as the definitive breakthrough to the Arrival of the Age of Artificial Intellects (AAAI). The Committee named the final result “Isaac Galileo Newton,” but the Nerds, who assembled the thing, referred to it as “Doctor Ike.”

The initial claims were definitive, but, as time passed, the claimed success was clearly not.

Perhaps the second big mistake, was the decision to make “Doctor Ike” look like a living human being: sort of. The compromises were perhaps inevitable, the tensions between the Committee and the Nerds being what they were. Take, for example, the decision to attach the head of “Doctor Ike” to his midriff, and the addition of a functionally unneeded rectum-port, as what one Committee member referred to wryly, as “a mere air of verisimilitude.” There were other complications.

The net result was, as its least worst, that nothing was really in the right place, neither from the standpoint of aesthetics, nor function. Speaking plainly, “Doctor Ike” was both ugly, and, as a problem-solver, worse than useless. For that reason, the Nerds liked him all the more; as the seasoned Committee member, speaking *sotto voce*, made the point, the Nerds took him for one of their own.

The lesson which was finally, one might say belatedly, learned from the “Doctor Ike” project, was, that it was most fortunate, that neither that Committee, nor those Nerds, had had anything to do with the earlier designing, and building of the Solar System. You might say, the very name of the project doomed it from the start; no system designed in the spirit of either Galileo, or any Isaac Newton, would ever, actually work as specified. It had been a snipe-hunt, from the start. That had been the first mistake. The folly of the “Doctor Ike” project was systemic.

‘Doctor Ike’ Is a Typical Case

The relevance of the example of this case, that of “Doctor Ike,” is pointed up by the implications of a recent CIA report, the one underscored recently by the U.S. National Security Council.¹

For reasons which my associates and I have stressed, repeatedly, since my first policy-memorandum on that matter, issued back in early Spring 1973, the world now faces a complex of threats from so-called AIDS and other epidemic disease, which constitutes, in effect, an active, major strategic security threat to the U.S.A., among all other nations. The CIA report repeats, essentially, the general arguments which my associates and I have issued repeatedly during the course of the recent twenty-seven years, including our mid-1980s assessment of the so-called AIDS pandemic.

In addition to the traditional measures, learned largely from the modern military medicine of total wars, measures which are needed for a global public health mobilization against this present strategic security threat, the world urgently requires the opening of new dimensions of scientific work, to supplement, and even largely supersede, the methods currently used for countering deadly combinations of pathogens of both old and new types and varieties.

The roster of relevant, much needed terminology, features such terms as “biophotons.” The latter term, by itself, takes us into a new dimensionality of biological and related experimental systems, as the work of Bernhard Riemann gave more exact meaning to the proper scientific use and application of the term systemic. Thus, in the setting of this strategic security threat, for the U.S. and other nations, the urgency of the problem does not permit scientists and relevant others to continue their customary, actually, childish prattle about “generally accepted classroom methods of mathematical physics.”

Specifically, in dealing with certain among the relevant aspects of living processes, we are operating in a systemic domain which does not permit reliance upon those varieties

1. “The Global Infectious Disease Threat and Its Implications for the United States,” NIE 99-17D, January 2000, unclassified CIA report.



in all trends in U.S.A. health-care policy, since the initial introduction and adoption of the HMO law, during 1971-1973. We must restore the depth of defense of public health, which we had learned from the experiences of total wars over the period from the U.S. Civil War, through the experience of World War II and its aftermath, reversing every recent politically imposed trend in U.S. health-care policy, for example, since the mid-1970s. Anyone who opposes that, is an enemy of U.S. national security.

That summarizes what is merely the most obvious, first level of response required by the situation described in the CIA report. That will not be adequate for dealing with the new quality of threat which has emerged over the recent quarter-century. The fostering of new systemic thinking about the threat, and the methods which must be mustered to combat it, are now of the highest priority, for every nation on this planet.

It is time to attack the conventional academic evasiveness on the matter of defining the relevant classes of problems properly classed as systemic.

Systems: Plato to Riemann

The strict meaning of the term mathematical-physical system, is that defined in Professor Bernhard Riemann's famous 1854 habilitation dissertation, the work which completed Carl Gauss's development of orderable series of what are termed hyper-geometries, or multiply-connected manifolds. The relevant significance of that use of the term system, arises in the concluding portion of that Riemann dissertation. There, Riemann supplies mathematics (geometry) with a new, strictly experimental-physical basis.

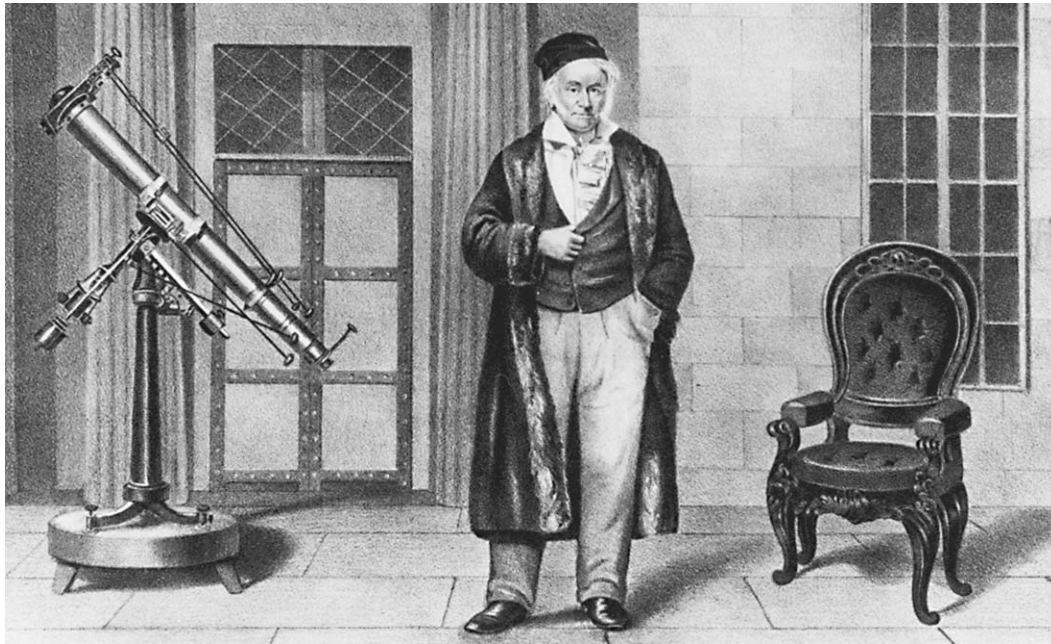
Riemann's revolutionary discovery brought to an approximate completion, a long history in the development of mathematical physics. For our purposes here, the most relevant highlights of that development, feature the names of Plato; Nicholas of Cusa; Cusa followers Luca Pacioli and Leonardo da Vinci; follower of Cusa, Pacioli, and Leonardo, Kepler; Leibniz; Gauss; and Riemann. The rigorous use of the term system, emerges from tracing that historical process of development marked by that series of names.

The consequent, literate use of the term system, emphasizes the axiomatic difference between so-called *a priori* geometries, such as those of commonplace secondary-school

of mathematical physics, the which have been developed as subjects of Clausius-Kelvin-Grassmann-Helmholtz-Rayleigh-Boltzmann statistical thermodynamics. By definition, living processes do not conform to the reductionist's choice in statistical-thermodynamical mathematical methods. In approaching the kind of challenge which the CIA report implicitly specifies, the subject-matter is comparable to the case I make for defining non-linear transformations in physical-economic processes.

Essentially, there is nothing in the CIA report which I have not personally stated, repeatedly, to be the global nature of the problem, over the course of the 1970s and 1980s. In my attacks on the IMF's and related policy-dictates imposed upon developing and other nations, I have warned explicitly of the epidemiological threat, and related increases of morbidity being produced by such presently continuing, policies of practice. The difference in the situation today, as marked by the CIA report, and the emphasis placed upon it by the U.S. National Security Council, is the outcome of what the IMF and others have done to Africa, for example, where the effects of the cruelty inflicted upon that continent, have now reached the level of being an undeniable, immediate, epidemiological, and related threat to the national security of the U.S.A. itself.

This now global and immediate threat, requires a reversal



Carl Friedrich Gauss
(1777-1855).

Euclidean geometry, and a geometry, that first defined by Riemann's habilitation dissertation, whose axiomatic dimensions of space, time, and matter, are based strictly upon evidence of what are best identified as unique physical experiments.

Keeping the CIA report in the corner of our mind's eye, let us begin by focussing on the most crucially relevant feature of the work of Riemann. Then, trace the development of that conception, from Plato's *Timaeus* dialogue, through the specifically relevant work of Cusa, Pacioli, and Leonardo, into the work of Kepler, and from there, through Leibniz, to Gauss and Riemann. Having thus reached the point of Riemann's work, proceed to what I have to add of relevance to the situation today.

Were we to assume, that the definitions of mathematics and geometry, began at approximately the level of today's generally accepted secondary-school and university-undergraduate classroom mathematics, the term system would appear to be little more than a literary convention. The axiomatically significant use of that term begins, once we seriously doubt the arbitrary, childish presumption, that space and time are extended, self-evidently and infinitely, in simple, linear, straight-line directions. The beginning of the modern, functional notion of a system, is found in a topic featured in Plato's *Timaeus*, in which Plato emphasizes a discovery developed by his Academy at that time. The strictly functional notion of a system arises with the demonstration, as in that location, that physical space-time is, functionally, a characteristically curved space-time, not straight-line space and time.

The *Timaeus* is not the first location in which Plato takes up that matter; but, it is the most relevant from the standpoint of that later work of Cusa, Pacioli, and Leonardo, which leads

directly into the chain of discoveries by Kepler, Leibniz, Gauss, and Riemann. The critical proof, that there exist physical space-times which are characteristically, which is to say axiomatically curved, rather than defined, elementarily, by pair-wise action at a distance along straight-line pathways, is the beginning of all serious discussion of axiomatically pervasive, systemic distinctions among differing qualities of real processes. It is Plato, for example, who emphasizes the systemic differences of this sort, between non-living and living processes.

Plato demonstrated two closely related, but distinct such points. First, that the astrophysical universe is curved, not four-square. (For example, try to map the distances as measured on a flat map of the Earth, in correspondence with the actual distances on the surface of the globe.) Second, however, he also demonstrated, that the difference between living and non-living processes, is that living processes are, systemically, subjects of the kind of curvature implied by the so-called Five Platonic Solids, as Plato followers Pacioli, Leonardo, and Kepler did later. Such differences in curvature, give us the most elementary mathematical definition of distinctions in the geometry of physical systems.

Kepler began where the known work of his predecessors, Plato, Eratosthenes, Cusa, Pacioli, and Leonardo apparently stopped. The modern scientific notion of systemic characteristics of entire systems, centers around Kepler's writing of his *New Astronomy*, the work which Isaac Newton attempted, rather unsuccessfully, to plagiarize. The turning-point is found, most simply and directly, by viewing all of Kepler's development of the foundations of modern astrophysics, as pivoting around the implications of his approach to the measurement of the Mars orbit.

The significance of Kepler's contribution to our modern understanding of systems, is highlighted most efficiently, by considering the fact that Newton's so-called laws, which were simplified versions of what are commonly misnamed "Kepler's three laws," led poor Newton into the systemic paradox of the so-called "three-body problem." This poses the question: why does Newton's bowdlerized version of Kepler's discoveries, result in a "three-body" paradox which does not in exist in the original astrophysics, Kepler's, from which bleary-eyed Newton poorly copied? That deserves to be regarded as typical of the systemic fallacy of Newton's system.

Now, we are on the track of discovering why the Nerds ended up attaching poor Doctor Ike's head to that dummy's midriff.

Kepler's astrophysics defines the lawful ordering of the entire Solar system as determined by a single, systemic principle, rather than assuming that there is some simple abstract law, such as assuming, falsely, that Galileo's "pair-wise action-at-a-distance" gimmick, which can be freely moved about in four-square space-time, could be adopted, to determine the interrelationship among the Solar bodies. Kepler defined the orbits as determined by harmonic principles consistent with, and pervasively subsumed by the characteristic curvature of a Solar system in which the Sun was located at one of the two centers of an ellipsoidal field.

One feature of Kepler's work would, nearly two centuries after *The New Astronomy*, totally vindicate Kepler's work, against the attempted revisions by Galileo, Newton, and their followers. That proof came in the form of Gauss's determination of the orbit of the asteroid Ceres, to conform to harmonic-orbital values projected for a missing, disintegrated planet, which Kepler proposed must have lain, in the past, between the orbits of Mars and Jupiter.

The importance of the latter connection, is not merely that Gauss's work verified Kepler's method experimentally. The point is, that Gauss's method was based on the successive work of Leibniz and others, in their continuing the related work which Kepler had bequeathed publicly to future mathematicians.

The crucially relevant point is, therefore, the following.

Kepler's method defined a principle of curvature for the internal "structure" of the Solar system as a unified whole. When this method is contrasted with that of Galileo and Newton, one recognizes the same issue posed successively by Plato's *Timaeus*, and Cusa, Pacioli, and Leonardo before Kepler. Newton's astronomy is Cartesian; Gauss's and Riemann's, like Kepler's and Leibniz's, what is to be strictly defined today, as that of an anti-Euclidean, multiply-connected manifold, a so-called physical hyper-geometry.

The Principled Difference

As the most ancient known Zodiacs indicate, mankind's first systematic astronomy measured the angular changes, not



Statue of Johannes Kepler (1571-1620) in Weil der Stadt, Germany.

assumed distances, in the positions of celestial bodies. There was no arbitrary assumption of straight-line distances, only angular measurements implicitly reducible to approximations of a spherical universe. The significance of the related role played by the Five Platonic Solids in Plato's dialogues, is that the derivation of those solids as characteristic of spherical physical space-time, showed that we have means for determining, conclusively, as a matter of principle, whether the universe is organized as a four-square or (approximately) spherical universe. Indeed, as Eratosthenes' measurement of the Great Circle of Earth, and estimates of some intra-Solar distances, as by aid of eclipses, show: well-defined, principled notions of adducible distances, were developed as by-products of investigations of the systemically distinct curvatures of the relevant processes.

The same tactic presents life as consistent with the universe, and non-living processes as inferior to living ones. The same method defines Classical beauty, as Plato and the poet John Keats define it, as superior to non-Classical forms of art. These notions are already notions of systemic qualities of fundamental difference among different kinds of physical geometries.

With the continuation of this approach, through Gauss's work on asteroid orbits, or geodesy, and on general principles of curved surfaces, the root-conceptions met in Plato's work have become more richly comprehended. Riemann's revolu-

tion is the direct outcome of the state of the matter coinciding with the approaching moment of Gauss's death.

The evidence presently at hand, directs us to define the most general kinds of systems in the following way.

There are three primary distinctions among systems of physical behavior in the presently known universe: 1) Qualitative differences as scale is increased, or decreased, a) from macrophysical toward astrophysical, or, b) from macrophysical into microphysical directions; 2) the difference between living and non-living processes; and, 3) the systemic uniqueness of physical processes ordered by individual cognitive processes, relative to all other behavior of living systems.

Thus, we have, presently, four primary classes of systemic deviation from mechanical-like ordering of sense-perceived events on the scale of simple macrophysics. At specific levels of scale, there are systemic changes (e.g., molecular, atomic, nuclear, etc.). Living processes are distinguished as classes, in a similar fashion, as are cognitive processes. At the base of each of these four classes, so to speak, there are multiply-connected arrays of experimentally validated universal physical principles, known, or yet to be discovered.

Respecting each universal phase-space so defined, there is a measurement of curvature, which coincides with the validation of any multiply-connected array of the principles presumed to be effective in that phase-space. Experiments which test for the necessary inclusion of any one such proposed universal principle, within that phase-space, are unique experiments, which thus validate the existence of the principle. Those experiments are distinguished from, and superior to the frequently sophistry-ridden forms, those of mere classroom and related forms of demonstration-experiments.

As Riemann emphasizes, within the concluding portion of his habilitation dissertation, we can never define the curvature of a specific physical-space-time, by ivory-tower methods of *a priori* geometry, or axiomatic algebra. Those curvatures must be defined and validated by unique experimental methods which show the necessary existence of the relevant principle within the phase-space in which it is suspected to be efficiently situated.

The fact that what is otherwise the same apparent quality of material, may be encountered in two or more of the four classes of axiomatic phase-spaces I have listed above, poses such questions as: how must we distinguish, in these terms, between living and non-living processes? It is precisely in such matters, that the difference between some material as functionally part of a living process, or not, should attract our attention. How must we distinguish, so, between the behavioral characteristics of living processes in general, and living processes expressing the cognitive characteristics unique to the human species?

The general answer to such types of questions, is that there must be some functional difference in the characteristic of a process operating under the regime of one class of phase-space, as compared with the characteristic of what is other-

wise ostensibly the same material, operating under the regime characteristic of a different class of phase-space. Such, of course, are the measurable differences, by means of which validatable universal physical principles are to be incorporated into an axiomatic class of phase-space. Such are the implications of an acceptable standard for unique experimental proofs of principle.

These characteristic differences otherwise define a systemic characteristic, as Kepler defines the entire Solar system as subject to a single, pervasive, set of orbital-harmonic characteristics. There lies the awesome importance of Gauss's Keplerian solutions for the asteroid orbits.

Bring Back the Entrepreneurs!

Capitalism, as defined by the pro-satanic Mont Pelerin Society, the American Enterprise Institute, and Ayn Rand fanatic Alan Greenspan, is a giant, pro-feudalist fantasy and fraud. The timely imperative today, is to purge our agriculture, manufacturing, and government of the C.E.O.'s, and bring back the entrepreneur. Free civilization from the grip of the Invisible Hand of that Great Pickpocket which serves as the puppet-master for such poor wretches as Lady Margaret Thatcher, the modern New Babble-On's Magicians. What is urgent, is to free society from the neo-feudalist high priests of infinitely licentious Bernard Mandeville and François Quesnay's *laissez-faire*.

The object of a viable form of agro-industrial economy, is constant technological progress of the type which is dependent absolutely on an ongoing flow of validatable discoveries of new universal physical principles. Or, to state the same thing in other words, on an ongoing flow of progressive changes in the characteristic curvature of the rate at which mankind's potential relative population-density is increased, in the universe, per capita and per square kilometer of the Earth's surface-area.

It is solely from gains in curvature defined as increase of potential relative population-density, per capita and per square kilometer, that true gain, legitimate profit, is defined, and in no other way. This gain never occurs through mystical tricks of invisible hands; it occurs solely through willful innovations to the effect of increasing mankind's power, per capita and per square kilometer, in and over the universe.

In our American System of political-economy, as Hamilton, the Careys, and List defined it, and as I have raised that knowledge to a higher, more powerful level for practice, the function of the state is the following.

1. To promote the general welfare of all the living and their posterity, as the sole basis for the legitimate functions and authority of government. This is the universal principle of natural law, to which all government, and all law-making is properly subordinate.

2. To create the preconditions for those forms of technological progress through private enterprise, which will increase the potential relative population-density of the human

species, per capita and per square kilometer. This means developing the conditions of the entire land-area and of the population, in such ways as will foster both such general welfare and the potential for useful forms of private enterprise.

3. To give preferential consideration to those kinds of private enterprise which do, by their nature, foster the relatively higher rates of scientific and technological fecundity of the total economy's rate of increase of its potential relative population-density.

4. Any contrary standard for performance and for making public policy, is folly, and probably also an abomination to be abhorred. In other words, any contrary policy were a systemic folly.

In summary, therefore, the situation is this.

The U.S.A. requires no C.E.O.'s, as such curious creatures are customarily defined and much overpaid today. We require a return to power of the private entrepreneurs, as in the tradition of the Thomas Edison who proved infinitely wiser, and a more electrifying contributor to our nation's cultural life than his envious, science-hating critic, that pseudo-literate, quasi-gentrified co-thinker of the Nashville Agrarians, the *New York Times*.

To that end, we require the development of the basic economic infrastructure of our land-area and of the cultural conditions of social life, the which are in accord with high rates of such increase of the physically defined productive powers of labor. This public responsibility for ensuring the suitable development of the potential for growth represented by the development of all of the land-area and all of the inhabitants, creates the indispensable preconditions for the proper role of leadership provided by the true entrepreneur as opposed to today's rentier style of C.E.O. in the private sector.

In the private sector, we require relatively high rates of net capital formation (after calculating for depletion and attrition), as capital formation is defined in physical, rather than financial terms. We favor credit, banking, and taxation policies which encourage high rates of such net capital formation, as to be measured per capita and per square kilometer; we encourage relatively high rates of capital formation, insofar as this reflects increase of potential relative population-density through the functions of such enterprises.

Restated summarily, these considerations are subsumed by a commitment to a systemically high rate of increase of the potential relative population-density of the society, and of humanity as a whole. This expresses an efficient commitment to the promotion of the general welfare for the living and their posterity.

The focal point of the system of statecraft so defined, is the intersection of fundamental scientific and technological progress, a point of intersection which coincides with the required systemic characteristic of the society as a whole. The functional characteristic of that point of intersection, is

located in the interface between fundamental scientific progress (i.e., the discovery of validatable new universal physical principles) and the quality of machine-tool design-work which overlaps the construction of the proof-of-principle experimental apparatus, upon which the experimental validation of newly discovered physical principles depends.

As the case of the circles associated with Philadelphia's Henry C. Carey and Alexander Dallas Bache, situates the 1861-1876 U.S. economic miracle, and the resulting emergence of such results as the work of Thomas A. Edison, this interface of fundamental scientific discovery and immediately related machine-tool development, is the essence of effective entrepreneurship. The form of private ownership associated with that quality of interface, is what our government should prefer to protect and foster, against all opposing, predator forms of private economic activity.

Precisely there, is where Doctor Ike failed as miserably as that project did. One must never simply paste systems together according to bench-marking, outsourcing, and related foolishnesses. If this precaution is overlooked, one never knows where and when the body's sundry organs will come out, or for what purpose.

Above all else, there is the human factor, which the World-Wide Committee, and its Nerds, alike, never considered. Indeed, they seem to have hated even the mention of that topic. The highest known systemic ordering in the universe, is that defined by the ordered self-development of those cognitive processes of the individual human mind, by means of which, man, and no other species, increases its species control within and over the universe at large. The propensity of the universe to obey such commands, when expressed as systemically validated discoveries of principle, is the highest known ordering of every other process in the universe yet known, or knowable, to man.

What the Nerds hated so viciously, was the proposition, that they could not succeed in building a mere machine which could out-think, and enslave mankind. The satanic lust to build an electromechanical God-machine, the goal of those satanists known as the fanatics of "information society," was the new, doomed Tower of Babel, which the Committee proposed, and its Nerds set out to build. So, Doctor Ike's head, like certain other parts, came out in inappropriate places. Such incidental incongruities were inevitable; but that was not the worst of the matter. "Information society," the cult which prefers to worship Gaea's dirt, rather than the Composer of this universe, is but another in the long list of ill-fated insolences of the satan-worshippers of Babble-On. Once, the satanists worshipped idols of gold; today, the idols are less vulnerable, and cheaper: they exist only in the realm of virtual unreality.

The Nerds have always hated God. Since they never knew God personally, they directed their hatred against a more accessible target, the human species and that species' systemic characteristic, cognition.