From the desk of Pierre Beaudry

AN INFERENTIAL TENSOR FOR SCANNING

THE DISCONTINUITIES OF GOD'S CONTINUUM

(When and why mathematics is a deadly disease.)

by Pierre Beaudry, 9/01/2010

"Morality in man is the analog of perfection in God."

Gottfried Leibniz

"The concepts of modern mathematics project the individual out of the world of reality into a pure fiction of thought, and lead to what Einstein called the most degenerate form of imagination—"*pathological individualism*." S.S. Van Dine, *The Bishop Murder Case*.

"The only thing conclusive about knowledge is that it is open-ended." Dehors Debonneheure.

"So that's the point: We're dealing with a fundamental change in an understanding of man's practical day-by-day relationship to this planet, and implicitly to this Solar System! And that's what you have to think! That's the alternative."

Lyndon LaRouche.

This report was originally intended as an introduction to some of the required conditions for the construction of an epistemological tensor, as opposed to a mathematical tensor. The investigation was meant to involve, essentially, the study of the *Coriolis Effect* and the Leibniz *Principle of Continuity* as two of the necessary components of an ontological safeguard measure against Euclidean tripwires in the study of history, science, and classical artistic composition.

However, during the preparatory scanning phase of this investigation, I stumbled on an unexpected discontinuity that emerged as a surprisingly lawful bit of serendipity; this was the discovery of how the *Criminality of Mathematics* had been used to solve the mystery of *The Bishop Murder Case*, a fictional American detective story that S.S. Van Dine had situated in New York City, immediately after the Solvay Conference of 1927, and just before the Wall Street Crash of 1929.

This historically specific story was not a mere coincidence, nor simply a fiction. In fact, the Van Dine story is a brilliant demonstration of the infantile and criminal intention of modern mathematics as taught by the present-day academic failed personalities of our Universities. Is it so surprising, therefore, that President Barak Obama has caught the same disease? And how do you explain that one cannot find a single copy of the Van Dine book, or a DVD of the 1929 movie, in our public libraries today?

INTRODUCTION

On the day you discover that in order to be certain, you no longer have to have your two feet on fixed and solid ground, because you have discovered that everything is changing around you, including yourself, and that the ground on which you walk is also in constant motion, don't be scared, you are not going to fall into some big black hole like the ancient sophists said about Thales. Don't be afraid to look at the stars, because, if you can keep your balance, that day will be the wondrous moment when you will also discover that you can navigate the Ocean of the Heavens without the fear of losing your footing and of getting lost. The reason will be that you will have discovered the *Coriolis Effect of your mental tensor*. "What is this," you ask? This is a special sort of stabilizing effect that ancient mariners discovered more than 10,000 years ago, and used during their travels to prevent cosmic sickness caused by Euclidean disturbances of sense-perception.

The beauty of this discovery is that you don't need a mathematical tensor to capture the higher complexity when you study cosmic radiation, and you can maintain your equilibrium while relating, proportionately, the orbits of your reason to the orbits of the Cosmos as a whole. But, in order to get there, you require a mental scanner, a sort of mental compass which is tuned to the inferential frequencies that exist amongst history, science, and artistic composition. Such a compass gives you a triply connected direction finder whose bearings change all the time, but which secures you, nevertheless, in the knowledge that the universe is always well ordered as a complete system in its unity of effect, The question then becomes: how do you construct such an inferential compass for scanning the universe? The answer is: not with mathematics, but, with your creative imagination and the radiating glue of morality.

Take the following three cases of mathematical discontinuities and combine all three together to solve the paradoxes that they raise. The first one is the *Coriolis Effect* that was developed by Ecole Polytechnique scientist, Gaspard-Gustave Coriolis, who proved that the disturbing Euclidean effects, caused by the paradoxical perception between linear and non-linear motions, can be corrected; the second is the Gottfried Leibniz *Continuity Principle* which demonstrates that morality is the precondition for scientific perfectibility; and the third is the *Criminality of Mathematics* that detective fiction writer S.S. Van Dine used in order to solved *The Bishop Murder Case*. All three cases of discontinuities demonstrate the failure of sense-perception and of its *deductive logic* against the success of creative *inferential knowledge*.

For the purpose of this pedagogical exercise, therefore, it is relevant to restate, here, the point that John Quincy Adams made when he discussed this subject in London with his counterpart, the head of the British Foreign Office, and positivist in the extreme, Jeremy Bentham. Adams wrote:

> "It was the last morning walk I took with J. Bentham, and we went as usual through Hyde Park and Kensington Gardens. The written questions upon the state of religious opinions in America, and particularly upon the effect of avowed deism or atheism upon man's reputation and influence in society, with the answers I had given to them, formed the principal subject of our conversation. I perceived that my answers were not exactly such as he would have desired. He spoke with more reserve than usual, as if unwilling to shock prejudices which he had found rooted in my mind. The general tenor of his observations, however, was to discredit all religion, and he intimated doubts of the existence of God. His position was, that all human knowledge was either positive or inferential; that all inferential knowledge was imperfect and uncertain, depending upon a process of the human mind which could not, in its nature, be conclusive; that our knowledge of the physical world was positive, while that of the creator of it was inferential; that God was neither seen nor felt, nor in any manner manifested to our senses, but was the deduction from a syllogism, a mere probability from the combinations of human reason; that of the present existence of matter we have positive knowledge; that there was a time when it did not exist we assume without proof, for the purpose of assuming, equally without proof, an eternal Creator of it.

> I observed in answer to it that inferential knowledge was in numberless cases more to be relied upon than what he called positive knowledge, meaning the mere testimony of the senses; that our knowledge of physical nature, such as it is, consists

entirely of inferential corrections of the testimony of the senses. While we trust the positive knowledge of the senses, we must believe that the sun and the whole firmament of heaven move daily round the earth, and so stubborn are these cheating senses, that after they have been convicted of imposture, and when we know it is the revolution of the earth round its axis that produces all of these phenomena, we persist in saying that the sun, moon, and the stars daily rise and set, and it is only when we sit down to astronomical calculations that we discover the truth, the triumph of inference over the senses. I said that the proofs of intellect in the operations of the material world were as decisive to my mind as those of the existence of matter itself; intellect not residing in matter, but molding and controlling it. What is that intellect, and where is it? Everywhere in its effects; nowhere perceptible to the sense. That this intellect is competent to the creation of matter I know, not from reason, but from revelation; but that it modifies and governs the physical world is apparent to my senses and my reason.

He replied little to this argument, apparently because he saw that my opinions were decided, and he did not wish for controversy…From the general tenor of his part in this conversation, and from several inconsistent remarks of his upon other occasions, I consider him as entertaining inveterate prejudices against all religions, and that he is probably preparing a book against religious establishments. If he had found my sentiments congenial with his own, I have no doubt he would have disclosed his sentiments more fully." (John Quincy Adams, *Memoirs of John Quincy Adams, His Diary from 1795 to 1848,* edited by Charles Francis Adams, Philadelphia, J. B. Lippincott and Co, Vol.? 1877, p.464-5)

Here, John Quincy Adams demonstrates that he is a student of Nicholas of Cusa and of Gottfried Leibniz, by showing that he understood the intention of *inferential knowledge* as being a form of *Learned Ignorance* that gave man the Promethean power of making anti-entropic discoveries to be applied to statecraft. Adams recognized that *inferential knowledge* was able to replicate the process of creativity *in Imago Dei*, and demonstrated that the whole of science, up until then, had been based on the fraud of *positive knowledge*. This means that if you want to harness such a power, you must be able to reproduce the principle of creativity in your own mind and summon its power in your neighbor's mind, proportionately, without relating to positive matter or deductions from sense-perception. However, *inferential* does not mean arbitrary; it means holding everything together analogically by coming to a valid and truthful conclusion, and from a moral standpoint, about the universe as a whole. That is, also, by the way, how mass telepathic communication functions among human minds.

1. THE CORIOLIS EFFECT.

Gaspard-Gustave Coriolis (1792-1843) was a French mechanical engineer from the Ecole Polytechnique who became famous for having coined the term "work" as the equivalent of the

mechanical force corresponding to a certain amount of energy transfer from a machine and expressed in physical economic terms. (See G. G. Coriolis, *Du Calcul de l'effet des machines*, Paris, Carilian-Goeury, Librairie, 1829.) However, Coriolis is best known for his detection and measuring of a curving effect of change in space when a straight line motion is related to an added circular motion.

Figure 1. Gaspard-Gustave Coriolis (1792-1843)

His insights into the nature of work, and of rotating systems, led him to discover a dynamic principle of kinetic energy which he applied to relative motions of machines, but whose application is mostly found today in the study of global weather patterns. The result became known as the *Coriolis Effect*, that is, the actual deflecting motion of a moving body when it appears to be moving in a straight line by a viewer standing still outside of a rotating frame, such as a carousel.

The *Coriolis Effect* is a physical function that measures the curvature of a double motion, a straight line motion and a rotating motion. It causes a destabilizing physical effect for anyone who attempts to walk across the distance of a radius on a rotating carousel, for example, from the center to its circumference, or from its circumference to the center of its rotating motion. Metaphorically speaking, however, the mind goes through very similar effects when a discovery involving two manifolds of different dimensionalities, or when two or more universal principles are involved, such as a scientific principle and a principle of Classical artistic composition combined. The effect may be destabilizing at first, but the mind naturally adjusts to the change and you don't lose your balance. This *Coriolis Effect* can be observed generally, in the study of global weather patterns for a planetary system as a whole. But, for our purpose, however, the point is to think of the *Coriolis Effect* as the stabilizing result of an anti-entropic process in which a new dimensionality has been added to your mind as a result of introducing a new universal physical principle.

Thus, the [Coriolis Effect](#) is the metaphor of the metaphoric process itself, because, like the double meaning of a metaphor, it is ambiguous and defies sense-perception of positivists. By solving the contradiction between what is apparently moving in a straight line and what is actually moving in a doubly-connected curving line, the effect demonstrates that the least action distance between two points is never the straight line. When applied to two or more principles, which is the way to refer to any motion, the *Coriolis Effect* is like the weak force of an irony that connects continuously what appears to be discontinuous, and relates the two different domains of body and mind in a manner such that the congruence of continuity, which exists between the two domains, allows for a higher equilibrium to take place as a psychophysical unity of effect. While the physical effect generally causes dizziness, the mental effect generally causes elation and laughter. In that sense, the *Coriolis Effect* acts as a "**garde-fou**" for your mental tensor, against any and all Aristotelian-Euclidean or sense-perception disturbances, by eliminating the differences between what your sense-perception believes to be straightforward and what your mind knows to be the truth of the curvature of the universe. For instance, Pierre de Fermat proved Galileo wrong when the latter claimed that an object dropped from the top of the Tower of Pisa had to fall in a straight line.

However, a word of caution is advisable, here. First of all, what I am proposing is not for the purpose of constructing a mathematical tensor, but for the purpose of understanding how you can construct a guiding system for your very own mental tensor. In other words, think of the *Coriolis Effect* as a stereographic device located in the corner of your mind's eye, which orients your compass as you travel throughout the discoveries of principle that you make during your lifetime, without losing your mental equilibrium, your sanity, that is. For example, it is an alert device that warns you against Euclidean straight-line thinking and automatically adjusts the curvature when you make a new discovery of principle; it tells you, for instance, even before you are about to start on an interplanetary journey, that you will not be able to come back to your starting point, as modern mathematicians have so often made people believe. Mathematicians tell you stupidities like: "Don't go into interplanetary travel, because, if you do, you are going to come back younger than your twin brother." I will show you in a moment where this kind of thinking can lead you, and how rapidly you can get there.

2. THE LEIBNIZ PARADOX OF

THE PRINCIPLE OF CONTINUITY

It should be clear to anyone who is a moral individual that God's design, and His orderly operation in the psychophysical universe that we live in, is a changing continuum that cannot be left in the hands of mathematicians, because if He had wished to completely erase the differences between different species, such as between the animal and man, or between the polygon and the circle, He would not have created a continuous series of incommensurable discontinuities between the abiotic, biotic, and cognitive, such that mathematicians cannot cope with. Why mathematicians consider that discontinuities do not exist in the universe, and that such singularities do not exist as actual imaginary leaps between any two

moments of a continuous processes, poses an interesting problem that Leibniz studied extensively, and not with any lack of resourcefulness. The universe is continuous, but the image you have of it may not always be smooth!

In fact, it was Leibniz who postulated that "*nature does not make leaps,*" but that she always proceeds from the *Principle of Continuity*. Leibniz discussed such a state of affairs in his correspondence with Burcher de Volder, professor of physics and mathematics at the University of Leyden, but also with several other correspondents such as the Jesuit mathematician, Pierre Varignon. In response to a letter from Volder, dated March 24/April3, 1699, Leibniz, for example, wrote the following remark:

> "This is the axiom that I use – no transition is made through a leap. I hold that this follows from the law of order and rest upon the same reason by which everyone knows that motion does not occur in a leap; that is, that a body can move from one place to another only through intervening positions. I admit that once we have assumed that the Author of things has willed continuity of motion, this itself will exclude the possibility of leaps. But how can we prove that he has willed this, except through experience or by reason of order? For since all things happen by the perpetual production of God, or, as we say, by continuous creation, why could he not have transcreated a body, so to speak, from one place to another, leaving behind a gap either in time or in space; producing a body at A, for example, and then forthwith at B, etc.? Experience teaches us that this does not happen, but the principle of order proves it too, according to which, *the more we analyze things, the more they satisfy our intellect.* This is not true of leaps, for here analysis leads us to mysteries [ἄρρητα]. Thus I believe that the same thing applies not only in transitions from place to place, but also in transitions from one form to another, or from one state to another. For experience, as well, refutes all changes through a leap. And I do not believe that any reason a priori can be given against a leap from place to place which is not also effective against a leap from state to state…" (Gottfried Leibniz, *Philosophical Papers and Letters*, Volume 2, edited by Leroy E. Loemker, University of Chicago Press, 1989, p. 515-16.

As Thales understood, "the universe is filled with gods," and he did not mean that the cosmos was crawling with theological objects. He meant that there did not exist any empty space, anywhere in the universe, and that it was not as smooth as a mathematician's slate. Here, mathematicians think that Leibniz had invented a device to accommodate their mathematics, by means of which they could flatten out discontinuities and singularities at their leisure. On the contrary, the Leibniz universal *Principle of Continuity* was based on the Platonic idea that God is the Perfect Geometer and that the human mind had to develop through a field of discontinuities to grasp that continuum. Yet, this principle can only be understood on condition that a unity of effect is achieved in the physical and geometrical construction of a concept, and that no bad infinite creep in to mess up the works. This is the danger of the mathematical tensor, by the way: it is incapable of accounting for the discontinuities of a continuously growing universe. Thus, the following warning by Lyn, in his paper on mental tensors:

> "For the relevant Classical scholar, the essential reality of human life's activity lies in that so-called "infinitesimal" which is known, otherwise, as Classical poetic irony, rather than within the medium of simply literal statements. On this account, Percy Bysshe

Shelley's 1819 *A Defense of Poetry* must be placed adjacent to Bernhard Riemann's 1854 habilitation dissertation, ***Über die Hypothesen, welche der Geometrie zu Grunde liegen***.[2] So, in Johannes Kepler's uniquely original discovery of the universal principle of gravitation, as in his ***The Harmonies of the World***, and in the assessment of Kepler's discovery by Albert Einstein, what is ontologically real, lies, for some among us, in that real universe whose mere shadows are as familiar to us as what are widely mistaken for literal sense-certainties among even what is considered a majority among the well-educated today.

"To the naive person typical of academic life, but, also other persons generally, today, it is that reality which is, typically, apprehended by them as being merely the ironies, the mere overtones of Classical poetry, or, of discovered universal physical principles. Contrary to those persons, these are the ironies which are customarily viewed, mistakenly, as being the mere shadows of the relevant realities of sense-certainty; whereas, for true Classical poetry and scientific discovery, today's customary, so-called popular sense of what is substance, and which shadow, has been the reverse of what is known to the greatest scientists and poets; or to a musical genius such as J.S. Bach, Wolfgang Mozart, Ludwig Beethoven; or, for a truly great scientific discoverer, such as a Filippo Brunelleschi, a Nicholas of Cusa, a Leonardo da Vinci, a Johannes Kepler, or a Riemann, a Max Planck, an Albert Einstein, or an Academician V.I. Vernadsky.

"As some recent developments in scientific studies have demonstrated, the clearest example of that same universal principle of Classical poetic irony as we encounter in the work of physical science, is presented to us in the most deeply-rooted treatments of the work of Bernhard Riemann, as in the attention to his work by the scientists Albert Einstein and Academician Vernadsky. This lies in the work of Einstein and Vernadsky, considered here, as being the subject of the ontological, rather than merely formal implications of the tensor itself.

"What I have just written here, is a reflection of what had first come to me during the mid-1930s, as a hint of a future discovery which I had first made later, in 1953, in my adolescent rejection of the concept of a Euclidean geometry, and in a later time, my recognition of the more deeply underlying form of the issue of Bernhard Riemann's 1854 habilitation paper. That latter paper has defined what became my own relatively unique, and uniquely successful, present approach to long-range economic forecasting." (Lyndon LaRouche, *The Substance of Tensors: The Ontological Matter,* May 21, 2009)

What Lyn is referring to is also applicable to the Leibniz *Principle of Continuity;* although a crucial difference must be emphasized between Leibniz and Riemann; that is, the difference between the continuous manifold of Leibniz and the discontinuous manifold of Riemann. They are both the same, but they are also different, because they are viewed from different angles. The singularity of this difference is to be found in Leibniz's letter to Varignon of 1702, in which Leibniz locates the discontinuity in the hiatus between sense-perception and the human mind with respect to God's Continuum:

"…You ask me for some elucidation of my Principle of Continuity. I certainly think that this Principe is a general one and holds good not only in Geometry but also in Physics. Since Geometry is but the science of the Continuous, it is not surprising that that law is observed everywhere in it, for Geometry by its very nature cannot admit any sudden break in its subject matter. In truth we know that everything in that science is interconnected and that no single instance can be adduced of any property suddenly vanishing or arising without the possibility of our determining the intermediate transition, the points of inflection and singular points, with which to render the change explicable, so that an algebraic equation which represents one state exactly virtually represents all the other states which may properly occur in the same subject. The universality of this principle in geometry soon informed me that it could not fail to apply also to physics, since I see that in order for there to be any regularity and order in nature, the physical must be constantly in harmony with the geometrical, and that the contrary would happen if wherever geometry requires some continuation, physics would allow a sudden interruption. To my mind, everything is interconnected in the universe by virtue of metaphysical reasons so that the present is always pregnant with the future, and no given state is explicable naturally without reference to its immediate preceding state. If this be denied, the world will have hiatuses which would upset the principle of Sufficient Reason and will compel recourse to miracles or to pure chance in the explanation to phenomena." (Leibniz, *Selections*, Philip P. Wiener, ed., Scribner's, New York, 1951, p. 184-85.) .

This is how the Leibniz idea of continuity becomes necessary to understand Riemann discontinuities, that is, from the discontinuities within the process of continuity. As Leibniz put it, "we may consider rest as infinitely small motion (that is as equivalent to a particular instance of its own contradictory), coincidence as infinitely small distance, equality as the limit of inequality, etc." (Gottfried Leibniz, *Philosophical Papers and letters,* Kluwer Academic Publishers, Volume 2, 1989, p. 544) The crucial condition of applicability of the paradoxical principle should be clear: "No given state is explicable naturally without reference to an immediate preceding state." This is an axiomatic boundary condition that applies to all natural beings considered in the process of universal change. That is, what Leibniz also later called his method of *inversion of tangents* that he applied to his construction of the catenary curve. However, this does not mean that the following state is generated from the preceding one, although it is connected to it, continuously. Here, one must account for the process of an axiomatic change to a higher dimensionality by the addition of a new universal physical principle acting on the process as a whole, and from the outside.

For example, what happens when the tangent of a curve goes to infinity? You reach a point of discontinuity, a point at which the tangent is transformed, as if through a blind continuous moment, across the curve by inversion; and the motion of the contact point becomes contracted through a contradictory movement of rest, as in the case of an inflection point where the concave curve becomes convex. At that contradictory moment, you appear to lose contact with the ground that was under your feet, and, just before you think you are about to lose your balance over what is no longer there to fix your objective thought process, the tangent that was connected to the point from the outside of the curve, becomes either an inflectional tangent, if you remain in the same manifold, or becomes transformed into an osculating function from the inside of a new curve, if you are entering a new manifold. It is this sort of axiomatic

9

change that Leibniz was examining as being the expression of "an instant of its own contradictory" internal to the *Principle of Continuity*. As you can observe, there is no leap, although there is an axiomatic change from outerdirectedness to innerdirectedness, which means that you have willfully embraced the process of change as something personal and subjective by going from the inside of the curvature to the inside of it. *Thus, it is the moral Principle of Continuity that causes the change to occur in the continuous curvature of the process, and it is merely an effect of sense-perception that makes it look like a leap of faith into the unknown. But one thing is certain; the change was not caused by the preceding state of being in physical space-time.*

Figure 2. Gottfried Leibniz (1646-1716)

In the same letter to Varignon, Leibniz makes it very explicit that empty space cannot exist, and that the problem of discontinuities resides, essentially, within the fundamental difference between sense-perception and the process of cognition. Leibniz added:

"But as, according to my view, there is a perfect continuity reigning in the order of successive things, so there is a similar order in simultaneous things, which fact establishes the plenum as real, and consigns empty spaces to imaginary realms. In things

existing simultaneously there may be continuity even though the imagination perceives only breaks; because many things appear to our eyes to be completely dissimilar and disunited which nevertheless turn out to be perfectly similar and united internally if we get to know them distinctly. If we consider just the external shape of parabolas, ellipses, and hyperbolas, we should be tempted to believe that there was an immense gap between any two of these kinds of curves. However, we know that they are intimately connected so that it is impossible to insert between two of them some other intermediate kind which may enable us to go from one to the other by more imperceptible nuances. Therefore, I think I have good reasons for believing that all the different classes of beings whose assemblage forms the universe are, in the ideas of God who knows distinctly their essential gradation, only like so many ordinates of the same curve whose unity does not allow us to place some other ordinates between two of them because that would be a mark of disorder and imperfection. Men are therefore related to animals, these to plants, and the latter directly to fossils which will be linked in their turn to bodies which the senses and the imagination represent to us as perfectly dead and formless. Now the Law of Continuity demands that *when the essential determinations of one being approximate those of another, as a consequence, all of the properties of the former should also gradually approximate those of the latter.* (Emphasis in original) Hence it is necessary that all the orders of natural beings form but a single chain in which different kinds like so many links clasp one another so firmly that it is impossible for the senses and imagination to fix the exact point where one begins or ends; all the species which border on or dwell, so to speak, in regions of inflection or singularity are bound to be ambiguous and endowed with characters related equally well to neighboring species. Thus, for example, the existence of Zoophytes, or as Buddaeus calls them *Plant-Animals*, is nothing freakish, but it is even befitting the order of nature that there should be such.

"So great is the force of the Principle of Continuity in my philosophy, that I should not be surprised to learn that creatures might be discovered which, in respect to several properties, for example, nutrition or reproduction, could pass for either vegetables or animals, and that would upset the commonly accepted rules based on the assumption of a perfect and absolute separation of the different orders of simultaneous creatures that fill the universe. I say I should not be greatly surprised, but I am even persuaded that there ought to be such beings which Natural History will someday come to know when it will have studied more that infinity of living beings whose small size hides them from ordinary observation and which are buried in the entrails of the earth and in the abyss of its waters. We have only yesterday begun to observe things, and how can we justly deny to reason that we have not yet had an opportunity to see? The Principle of Continuity is therefore beyond doubt to me, and might help establish several important truths in a genuine philosophy which rises above the imagination to seek the origin of phenomena in intellectual regions. I flatter myself for having some ideas on this score, but this century is not ripe to receive them." Gottfried Leibniz, *Selections*, Philip P. Wiener, ed., Scribner's, New York, 1951, p. 186-87)

The point, here, is not to launch a hunting expedition for exotic *Plant-Animals* and scrutinize them with a microscope to discover the minute details of limit cases of passing from one species to another. Leibniz shows that the leaps do not come from nature, but from the discordance and disturbances between the mind and sense-perception. The real test of this exercise, therefore, lies in the discovery of means to detect and identify such disturbances by developing what Leibniz called the "creative power of invention," that is, in the development of something like a mental scanning capability for the discovery of singularities in the domain of mass communication of universal principles. The point that Leibniz is making, ultimately, is rather to discover a way by means of which you can change someone and get him or her to improve their minds, axiomatically, through the experiment of a discovery of a universal principle. As Lyn keeps repeating, primacy must be given to the *principle of irony*, which must involve a compass with a three-headed magnetic needle: *perplexity, awe,* and *laughter*. Those are the discontinuous steps required for making a moral discovery of principle. Without those three moments of discontinuities, you cannot discover anything of significance in terms of principle. Moreover, that mental compass has to be based on the morality attached to the tangency of final causality, that is, on the intention to develop mankind without limitations or conditionalities. It is that moral intention which is the North Pole of the continuous process that Leibniz is referring to. That is the anamorphic method you wish to follow, but that is also a method that no mathematical tensor can give you, as I shall demonstrate at length in the next section of this report.
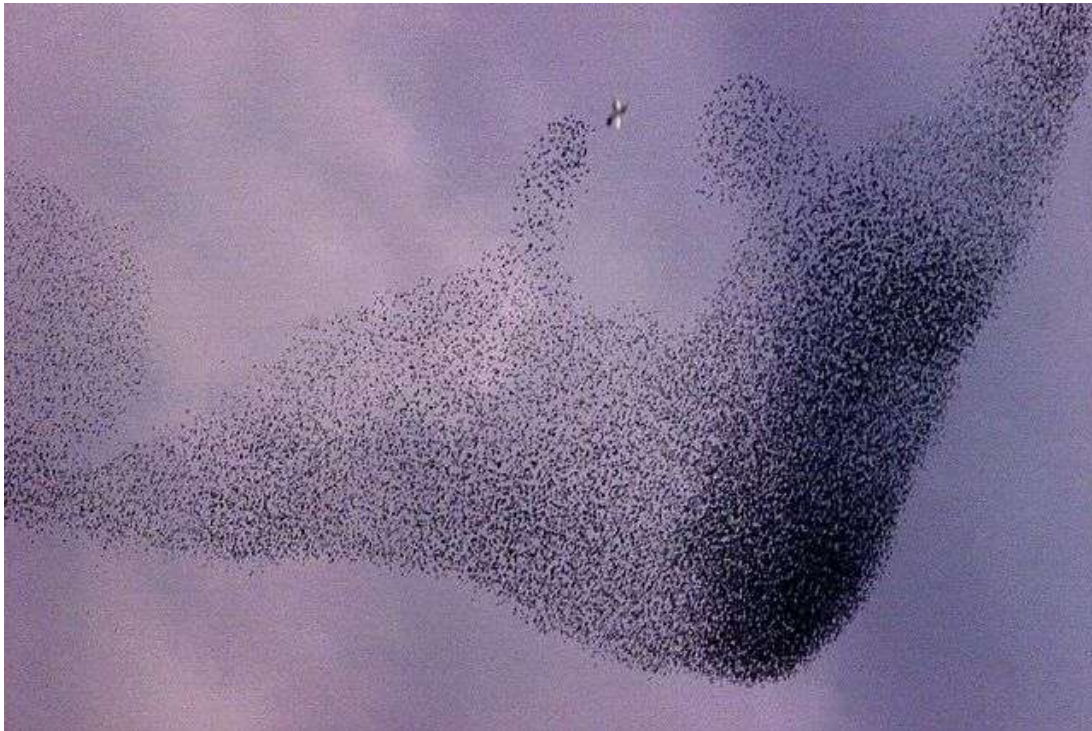

Figure 3. Flocks of birds in a playful moment of mass communication while protecting themselves against an Obama predator.

Lastly, let me give you an example of continuous scanning that birds are particularly well equipped to do, and in quite an extraordinary fashion. I submit to you two hypotheses for the behavior of what you see birds do in **Figure 3**. However, a preemptive word of caution is necessary: this extraordinary behavior is not the result of some gregarious instinct to flock together and "maneuver for social position," as the British commentator of the accompanying [video](#) said. This is nonsense! Although the film was shot in Otmoor, England, these birds are not playing some sort of Anglocentric form of imperialism, in fact, it is quite the opposite. Theirs is a playful game that starlings play at the end of each day, before they turn in for their night's rest, a sort of group frolicking after a hard day's work, and in anticipation for the coming day.

My first hypothesis is that those birds are making visible with their bodies what is not visible for us to see; that is, they are intersecting an already preexisting field of electromagnetic waves that they perceive harmonically, both as individuals and as a group. Since their perceptual apparatus is tuned to the same frequency lengths as those waves, there are no pair-wise disturbances between them, which is the reason why they never collide with each other. It is the unity of that specific electromagnetic effect of the field which dominates the flock as a whole from the outside, and which determines their motions, externally, by means of the surface tangency of the electromagnetic field. The purpose of the exercise is to improve and sharpen the flight capabilities of the entire species of starlings.

My second hypothesis is that this behavior is a form of mass communication which is expressed by the generation of a single and closed minimal surface that is inwardly radiating the harmonic tuning capabilities of this particular species of birds. The process is not dependent on some already existing external phenomenon, but is unique to that species. This specific means of communication is the reason why no other species of bird participates in the same group formation. The starlings, for example, express their creativity as a species through a sort of complex self-generating catenary/tractrix function produced by the birds' resonating action off of their internal osculation of the curvature, which assures that all individuals are embracing the process subjectively, from the inside.

This playful exercise appears to be future-oriented, that is, produced for the purpose of educating the younger birds to master the power of flight in a sort of self-developing, and self-enveloping, aerobatic composition for mastering what no single bird is capable of mastering, individually, but that they are all capable of accomplishing as a species. Each bird cannot see the minimal wave surface that it participates in producing by its flight, but each bird is affecting the whole by hearing and following the wind-murmuration that they all generate as a group, and which gives them the direction for the next singing wave to come. The process grows while the surface becomes larger and more complex, as new groups are introduced into this unique least action pathway which may contain up to several hundred thousand birds, and which might last up to an hour. Now, imagine a universal continuum that works the same way, but which lasts for all of eternity!

In that sense, this starling's composition is a beautiful expression of the lawful ordering of the universe as a whole, because it develops itself like the bootstrap economic process of man intervening into the biosphere from its own future orientation in the noosphere. In both hypotheses, these birds

express essentially a form of telepathic mass communication of what is to come, from the expectation of the next wave still to be formed ahead, by the anticipation and introduction of new groups of birds.

This is the form of communication that best represents the outreach in recruiting individuals for a mass movement. As humans sometimes do with their universal like-minds, they respond as a whole to the "poetical moment" of a political mass-strike phenomenon, for example, in order to guarantee the next wave of their survival as a species. The unity of effect appears to be essentially contrapuntal in character, like the creation of singularities in the intervals of the self-generating next step of a symphonic movement, but also like a great economic project, such as NAWAPA, which is the next step after F. D. R.'s TVA project, and which generates its own means of replenishing what nature, abandoned to its own device, could not accomplish without the intervention of man as a creative individual, and which gives the processes of water generation and climate control a new and necessary direction to the planetary development as a whole. Thus, the biogenic transformation of the earth is self-developing by osculation of its own natural and self-conscious noogenic process. This is also how the LPAC website is already developing itself to initiate a new cultural revolution. As Lyn reported on this sort of mass communication:

> "In this case, now, we realize that our sense-perceptions can be looked at, as electromagnetic disturbances in a system of cosmic radiation. That's our sense perceptions. Therefore we have to now say, where are *we*? Are we merely creatures of sense-perception? Or, is there something in us, which is *independent of sense-perception, as such?* Including our own human sense perceptions? And we look at cosmic radiation, we see exactly that. We see that even among human beings, as Shelley points out, in the conclusion of his Defense of Poetry: In Classical poetry, there are modes of communication, which are mass communication, which cannot be explained on the basis of individual pair-wise behavior." (Lyndon LaRouche, *National Leadership Meeting Saturday, August 14, 2010, Part 1.*)

And then, this further emphasis on how to make visible what is not visible to our sense perception in the process of cognitive mass communication:

> "The immediate advantage secured by that marginal shift in approach, is that it prompts us to take into account the fact that when we examined what are considered, conventionally, today, as the evidence of the role of the human senses in scientific work, even including the augmentation of scientific process which reaches, more and more, into the very small and very large, as Bernhard Riemann emphasized this point in his 1854 habilitation dissertation; our attention shifted to take into account the effects of those electro-magnetic experiences of universal, cosmic radiation, which are, in fact, part of the spectrum of communication among animals and human beings, but which are not powers defined within the confined range of what we treat as human communication defined in sense-perceptual terms presently. This includes that part of the role of mass social behavior which functions as an important form of communication under relevant conditions, but which lies outside the modes of literal communication as we presently tend to define the presumed limitations of communications bearing on interpersonal social behavior." (Lyndon LaRouche, *Mind or Body?,* EIR, August 20, 2010, p. 16.)

3. THE CRIMINALITY OF THE MATHEMATICAL IMAGINATION: *THE BISHOP MURDER CASE.*

The essential point to be made, here, is to identify the criminal intention of modern mathematics in murdering the minds of several generations of talented youth who initially trusted this so-called "Queen of Sciences" for providing them with an appropriate instrument that they had hoped would develop their creative powers. I remind the reader of the forms of criminality that mathematics leads to when left without adult supervision. To just use this as an example, this is the price that French students had to pay at the Ecole Polytechnique, after <u>Monge and Carnot</u> had been pushed out of the way by Cauchy and Laplace.

"The assault against the Ecole Polytechnique:

The crimes
Political purges, plagiarism, suppression of ideas, mathematical terrorism, mental paralysis by limitation, menticide.

The criminals
Count Charles André Pozzo di Borgo, Marquis Pierre Simon de Laplace, Baron Augustin Louis Cauchy, Auguste Comte.

The weapons
Political correctness, Newtonian and Cartesian dogmatism, continuous extension of space-time, linearity in the small, formalism and algebraic analysis, limits of functions, secular humanism or positivism." (Pierre Beaudry, *The Bourbon conspiracy that wrecked France's Ecole Polytechnique*, EIR June 20, 1997, p.25. See also in the same issue, Lyndon H. LaRouche Jr., *How Cauchy ruined France*.)

The underlying assumption of modern mathematics is not that it represents a scientific instrument to be put at the service of physical science, like the classical mathematics of Cusa, Leibniz, Gauss, Riemann, and Einstein. Its underlying assumption is to take the place of physical reality itself, and give its possessor the hubristic and arrogant power to dominate the universe as a whole, based on the magical power of formulas. As American author, S. S. Van Dine reported, mathematics turns its victim into what Einstein had called "*pathological individualism,*" that is the most degenerate form of a predatory imagination. That is how a normal human being can be transformed into a *killer-mathemagician* who feeds on the egotistic illusions of a Wizard of Oz sort of personality; that is to say, who becomes a mentally unstable and morally crippled little individual with a failed personality.

The reason why modern mathematics is a form of deviance leading to criminality is twofold. The first is because mathematics is based on unchangeable axioms, postulates, and definitions, and the second

is because, typically, mathematicians have total contempt for ordinary human beings. They are generally amoral, that is, they have no concern with morality whatsoever, and they tend to reduce the human mind to some linear-continuous formula based on sense-perception. As a result, mathematicians have a wrong sense of the continuum and they become hounded by real paradoxes that they toy with, but without being able to solve them, as in the case of the Russell paradox, for example. Their ego-centered personalities make them believe they are little gods beyond ordinary human justice, beyond good and evil. Whenever a paradox confronts mathematicians, it drives them mad as S. S. Van Dine described, by treating the pathological case of a mathematician who committed murders, in his unique but, almost completely forgotten fictional detective story, *The Bishop Murder Case, A Philo Vance Story*, Scribner's, New York, 1928.

Although this is a fictional novel, the method of argumentation employed by Van Dine to discover the motive behind the murders is perfectly truthful and not fictional at all. In fact, this book is an insightful intervention into the dark soul of modern mathematics. However, the fiction writer merely identified the psychological symptoms of the disease, not the deeper epistemological intention behind the killings. The fundamental insight that Van Dine masterfully expressed through his sleuth character, private investigator Philo Vance, was based on the discovery that modern mathematicians were axiomatically riddled with criminal tendencies.

Figure 4. Willard Huntington Wright (aka S. S. Van Dine 1888-1939)

The Bishop Murder Case is a well-ordered composition resembling the ironic mirror of a classical artistic composition, but without being one. It is as if the reader were thrust on the stage of a classical Shakespearian tragedy, witnessing all of the evils of his corrupt education and society, and being provoked to discover the solution of the drama by making an axiomatic choice between failing to acquire knowledge with sense-perception and discovering the power of one's mind through the insightful inferential knowledge of Philo Vance. In that regard, *The Bishop Murder Case* is an excellent lesson in discovering a pathway leading to a discovery of principle, but not to the discovery itself. The reason is

simply because the intension of such a discovery is always missing in a composition whose purpose is made for entertainment. [Click here](#) for an electronic copy of the book.

Just to situate the story in its proper historical specificity, the plot involves a series of murders that took place in a well-to-do neighborhood of New York City during the interval between the Solvay International Conference of 1927 and the Great Depression of 1929. Therefore, the story may just as well be applied to the mathematicians of Modern Physics as to the speculators of Wall Street, who, each in their own perverse ways, were hell bent on parasitizing and destroying physical reality.

The first victim is a professor of physics, Mr. Joseph Cochrane Robin, who is found with an arrow piercing his heart. His body is accompanied by a cryptic note signed "The Bishop" which also includes a quote from the nursery rhyme, "*Who Killed Cock Robin?*" New York District attorney John Markham finds the circumstances of the crime very suspicious and calls on his close friend, the very sophisticated sleuth, Philo Vance, to advise him on the psychological aspects of the crime. Vance immediately accepts, and almost immediately predicts that a series of new murders will take place soon, conceivably by an intellect who loves to play games with his pursuers and who brilliantly attempts to take them off the scent.

More murders connected to the family and neighbors of the physicist do take place and are also signed "The Bishop." They are all accompanied with different perplexing nursery rhymes aimed at confusing the investigators. However, one crucial piece of evidence gives Vance a decisive insight into the "intention" of the murderer. In Chapter IX of the book, under the body of the second victim, a mathematics student by the name of Johnny Sprigg, Vance discovers a piece of paper with part of the Riemann-Christoffel formula for the tensor written on it. The mental tensor of Vance becomes the crucial means of discovering the motive for the serial killings. Although a woman confesses to the crimes, Vance dismissed her for psychological reasons. While the reader is constantly misled into believing who the killer is, Vance finally discovers the significance of a last misleading clue which leads him to discover the real killer. Vance, then, organizes a spectacular finale and when the killer is revealed, it is an unbelievable surprise in defiance of everything the reader expected from his deceiving sense-perception.

Although the book has become a source of inspiration for several other fiction writers, notably Agatha Christie in her famous Poirot series, especially *The A.B.C. Murders*, *The Bishop Murder Case* has not received its deserved recognition, because of its damning truthful content. This is why it is essential to identify, at this point, that coming just in the wake of the disaster of the 1927 Solvay Conference on modern physics, which was an actual sabotage of physical science by Niels Bohr and Werner Heisenberg against the creative developments of Max Plank, Louis de Broglie, and Albert Einstein, it is not surprising that an American writer, like Willard Huntington Wright (aka Van Dine), would muster the moral courage to make public, even at the risk of his own life, the momentous historical fact that modern mathematics, then controlled by Bertrand Russell and his positivist sycophants, had already become a deadly psychological and social plague.

The problem that Van Dine was confronted with and that he was attempting to solve, was that a murder case must be investigated like the physical universe; that it must be based on similar lines of investigation, but that mathematics had failed to do that. Although he considered mathematics useful for his investigation, Van Dine knew that the solution to the mystery of these murders, as well as the mysteries of physics, could not be based on mathematics. The method that he developed systematically is

about singularities expressing the differences between *inferential knowledge* and *deductive knowledge,* between cognition and sense-perception. That is the epistemological basis for the entire drama, as the following bit of dialogue between Sergeant Heath and Vance demonstrates, for example:

- o "I'm here to tell you, Mr. Markham, that we're wasting our time. What's the good of all these parleys? Sperling's the boy we want, and when my men bring him in and put him through a little sweating, we'll have enough material for an indictment. He was in love with the Dillard girl and was jealous of Robin--not only on account of the girl, but because Robin could shoot those red sticks straighter than he could. He had a scrap with Robin in this here room--the professor heard 'em at it; and he was down-stairs with Robin, according to the evidence, a few minutes before the murder. . "
- o "And," added Vance ironically, "his name means 'sparrow.' *Quod erat demonstrandum.*-- No, Sergeant; it's much too easy. It works out like a game of Canfield with the cards stacked; whereas this thing was planned much too carefully for suspicion to fall directly on the guilty person."
- o "I can't see any careful planning about it," persisted Heath. "This Sperling gets sore, picks up a bow, grabs an arrow off of the wall, follows Robin outside, shoots him through the heart, and beats it."
- o Vance sighed."

Here, you have, roughly speaking, the embarrassing difference between American thinking and British thinking; between the *inferential knowledge* of John Quincy Adams and *deductive knowledge* of Jeremy Bentham, between mind and sense-perception.

The reader must also bear in mind a crucial point about modern mathematics and realize that one of the conscious intentions of modern mathematicians is to stay away from the Leibniz calculus and to concoct, in its stead, equations based on perceptions that eliminate the very idea of the real physical world. Its purpose is to replace science by perceptions and substitute equations for the physical phenomena. The other factor of note to be reminded of is that it was Augustin Cauchy who had arranged to steal the place of Gaspard Monge at the Ecole Polytechnique for that very purpose, and his primary task was to initiate the process of gradually eliminating the Leibnizian infinitesimal from mathematical physics by bowdlerizing his calculus and pushing [Monge and Carnot](#) out. Cauchy introduced pure mathematical equations whose primary function were to fill the empty space left by the real world, *ex-post-facto*. As Sergeant Heath demonstrates clearly, deductive logic is meant to replace the dynamics of reality. Once that basic understanding is established, then, Van Dine introduced a crucial insight into the case: that mathematics could not function properly without the use of tangents.

What Van Dine had discovered was the crucial epistemological significance of the tangent function for mathematics. This is quite an amazing piece of the puzzle, because this could not have been discovered simply by superficial guess work. It is one thing to understand that a tangent gives the direction of a curve at the point of tangency; it is another to infer that it plays a crucial role in the creative process of the human mind. This amazing insight is reflected in a beautiful Leibniz irony, which lies in the fact that mathematicians lose the sense of reality when they abandon the one thing that connects their curves to the real world, that is, their *tangents*.

Thus, Van Dine had discovered that modern mathematicians pretended to be surfers without surfboards, and he saw the dangerous illusion that this represented for the sanity of mathematicians and the resulting catastrophe for the science of physics, in general. He recognized that the central paradox the modern mathematician could not handle was that, in the real world, the continuous manifold was filled with discontinuity of shockwaves, including emotional discontinuities between their egos who wanted one thing and their true selves who wanted another. In other words, without a tangent function, mathematicians would lose sight of the difference between outerdirectedness and innerdirectedness.

That clashing situation was the axiomatic discontinuity that the mathematician was actually willfully creating between his equations and the reality they purported to represent. So, the question that Van Dine was raising was: how could an axiomatic change in curvature pertaining to a continuous universal and self-developing process in physical space-time, or in the human mind, be identified without some sort of tangential function? That is the key question. The beauty of Van Dine's insight was to have uncovered that mathematics becomes completely useless, and extremely dangerous, without an appropriate tangent function acting as a sort of dynamic, moral, and psychological *Coriolis Effect*, in the mind of the mathematician. In other words, this was the ironic experiment of the *Principle of Continuity* that Leibniz had used as a test by means of which he was always able "*to reveal the error of an ill-conceived opinion.*" Leibniz used the same moral principle to formulate the construction of the anti-Euclidean Catenary and Tractrix curves by the method of *inversion of tangents* that Vance referenced obliquely by saying:

> "In this realm of the modern mathematician, curves exist without tangents. Neither Newton nor Leibnitz nor Bernoulli even dreamed of a continuous curve without a tangent -- that is, a continuous function without a differential co-efficient. Indeed, no one is able to picture such a contradiction, -- it lies beyond the power of imagination. And yet it is a commonplace of modern mathematics to work with curves that have no tangents." (S. S. Van Dine, *The Bishop Murder Case, Chapter XXI*, New York, Charles Scribner's Sons, 1929, p. 271.)

The point of the matter is that when a continuous function is pushed to the limit, and is extended to infinity, a singularity emerges whereby a new higher curvature can only be discovered by the process of *inversion of tangents*, as the direction finder that one's mental tensor has to locate by means of time reversal; and the principle of morality becomes the glue attaching the tangent to the process in the change of curvature. But, this crucial life-saver would never take place by itself, if one has eliminated the function of tangents. Van Dine had discovered the Achilles' heel of the mathematician, but unfortunately, he did not pursue that lead any further. And, the reason can be found by considering the following tangent orientation.

From the standpoint of criminal psychology, which he exposed brilliantly in Chapter XXI, *Mathematics and Murder,* Van Dine identified the most fundamental and crippling aspects of how modern mathematics reflects the infantile characteristic of the modern mathematician by the failure of dealing with the paradoxes and discontinuities of the real continuous universe; notably, the fact that it is "*finite and unbounded,*" as he indicated himself, but without solving the paradox. As a result, from the more profound standpoint of epistemology and of social justice, the most significant discontinuity of the case has not been revealed; and that is: *The Bishop Murder Case* is almost the perfect crime, because it is perpetuating a continuing criminal action against the human mind that no one, yet, has been able to arrest from being indefinitely perpetrated. For almost a century, our Universities have been the crime scene of

more and more young minds being murdered, year after year, non-stop; and more and more mental cadavers of failed personalities keep piling up into the countless common graves of human creativity. It is the Aristotelian-Euclidean deductive method which represents the real epistemological criminality of modern mathematics, and by means of which British imperial monetarists have imposed genocidal economics. That is the situation that I now invite the reader to supersede in the concluding section of this report.

4. WHAT COMES AFTER THE FAILURE

OF THE MATHEMATICAL PERSONALITY?

Don't play with the bad infinity of space, take control of physical space-time; it is your best friend. Look at how the French engineer, Henry Giffard realized the dream of Leonardo da Vinci when he flew the first controlled dirigible balloon powered by a steam engine in 1852, traveling an amazing 17 miles at the top speed of 5 miles per hour. How did he do it? He took control of what he could not perceive with sense-perception, and he mastered the *Coriolis Effect*. He did not know where he was going to end up, but he knew how he was going to get there, by mastering the *Continuity Principle*. Then, in 1898, the Brazilian Alberto Santos-Dumont continued the work of Giffard and he became the first to construct a similar dirigible with a gasoline powered motor. Similarly, in our Riemannian and Einstein universe, you will be able to go to Mars and back with a fusion-powered rocket, and you will have to master the same *Coriolis Effect* and internalize the same *Continuity Principle* in order to scan the discontinuities of God's Continuum.

You will not be traveling in a straight line and neither will you come back to your original point of departure, as if you were coming back home. There is no coming back, except from, and to the future. There are no straight line vectors in our universe. This is precisely the sort of failure in the holonomy of connection that the Riemann-Christoffel tensor was designed to measure in changing from the flat Euclidean manifold to the spherical manifold. But, mathematicians have not understood that. Therefore, you have to abandon the domain of perception-sensor, and replace it with a dirigible mental inferential tensor.

From this Riemannian standpoint, therefore, consider that the steps which are required to set up the relations between an old system of values and a new system of values, or from a plane surface to a spherical surface, cannot be found within the boundary limits of the old system, nor in mathematics. This is where the Leibniz *Continuity Principle* finds closure. Leibniz was right in stating that, "*nature does not proceed by leaps.*" However, the development of the human mind, with respect to the visual and hearing imagination, does proceed by discontinuities, dissonances, and singularities as Riemann demonstrated in his 1854 Doctoral Dissertation. But, such a discovery of geometric principle can only be adduced as if *ex post facto* from a new system of values whose properties do not yet exist, and which can only be discovered from the future by some inferential measure of time reversal, and only after the failure of the axioms, postulates, and definitions of the preceding system has been recognized with absolute firmness and certainty. In other words, the future is never based on the limitations of the past, and neither on its conditionalities.

Lyn has developed a very ironic conception of the universe by way of Kepler, Leibniz, Einstein, and Vernadsky. He turned on its head the usual way of thinking about solving practical problems on Earth, and, the way he did it was the same way the first astronavigators did it, as also did Thales after the Egyptians, by learning to navigate the heavens. The cynical sophists of his time laughed at Thales because they were upset with the way he was thinking; so, they invented the story whereby he looked at the heavens so much that he kept falling into wells. This was not true, of course, because the sophists were merely reacting to the fact that Thales had changed the way man had to think about the universe. However, since the sophists of the old British Empire have taken over the world through their corrupt mathematicians, lawyers, and bankers, we have to restore science to its proper and original function. Therefore, it should be emphasized in ending this report that it is the closure of the ancient astronavigators conception of the universe that must be retrieved for the current inflection of the mind to properly understand the mental principle of an inferential tensor. This is why we have to return to the proper origin of science as Lyn proposed we do:

> "The universe is changing! But, in all its changes, it's always finite. The star system is a map! There's the birth of science, this is the conception, the maritime conception, of negotiation by using the star-map as a model, to get to your destination. So, it's the mind, the imagination of man, facing these kinds of problems, which is the characteristic of what we call science. And the first real science that was discovered, it was not discovered in a small area: It was discovered because man understood that the universe was the map by which to locate positions on earth." (Lyndon LaRouche, *National Leadership Meeting, August 3, 2010.*)

What Lyn is communicating, here, should remind us that the domain of anti-entropic change, the domain of increasing mankind's power over the universe, lies not on earth and its static interferences of sense-perception, but in the heavens, and that the heavens is the home of creative imagination. The mapping destination Lyn is referring to with respect to our sense-perceptions is not for the purpose of locating some pigeon hole on Earth, but for locating the domain of creativity from a strategic position on the earth, and thus, for establishing a relatively fixed reference-point for human beings to scan the universe from. That reference-point is what early astronavigators had discovered: That mapping of the heavens was not made for the purpose of using the stars as a practical way of finding their way on earth. Discoveries of universal principles were not made for and by pedestrians who constantly need the full battery of sense perception to tell them where they are and where they are going. The heavens were created for man to become fully independent from sense-perception.

This also means that what ancient astronavigators discovered was not how to navigate the earth's oceans for the purpose of prospecting the land. The heavens is not a stock-market for speculators in real-estate. What astronavigators discovered was that the heavens were the only way the human mind could work creatively and inferentially without being bombarded by the constant interruptions of sense-perception. In discovering their true relationship to the Cosmos, astronavigators discovered that man was best suited to understand human creativity in relationship to the universe as a whole, that is, as a complete but open-ended system that includes the creative human mind as its manager. It was the orbits of the Heavens in relationship with the orbits of their Minds that they were navigating: the Cosmos as a constantly changing but finite and open-ended system of creative discoveries. It was only as a result of navigating such a Primordial Ocean that man learned to navigate the oceans of the Earth, prospected the land, and became, for the first time, a geological force in the universe. Astronavigators were the first to

begin mastering our cosmic universe by measuring it with their minds, not with a mathematical ruler; while most other sense-perception pedestrians were just learning to walk. That's the point to be made about the creative power of man's imagination and the usefulness of mathematical singularities of God's continuum; because man may be born of the earth, but he has a unique creative mind made by and for the Heavens!

VOILA!