
ATONING FOR EINSTEIN'S 'ORIGINAL SIN' IN SPECIAL RELATIVITY: THE ROBERT BUENKER SOCRATIC REVIEW

by Dr. Ernest Schapiro, 9/18/2023

FOREWORD

This report by Ernie Shapiro on the subject of a fundamental flaw in Einstein's Special Relativity Theory (SRT) is important for two reasons; first it establishes the truth about the fallacy of Einstein's third postulate of Special Relativity made public by the courageous scientist, Dr. Robert J. Buenker, and secondly, it restores to the domain of science the required level of rigor needed for all future investigations into the Riemann-LaRouche complex domain.

INTRODUCTION: ERNEST SHAPIRO TO ELLIOT GREENSPAN, 7/29/2023

Hi Elliot,

My project is beginning to come together. I call it "*Atoning for Einstein's Original Sin.*" It now enables us to see Special Relativity from a new and different light. The most important implication was discovered by author Dr. Robert J. Buenker who for the first time since Einstein's paper appeared in 1905 has identified Einstein's third and till recently unrecognized, yet wrong postulate.

"The three Einstein postulates of Special Relativity are

- 1) The laws of physics have the same form in all reference frames.
- 2) Light propagates through empty space with a definite speed c independent of the speed of the observer (or source).

3) In the limit of low speeds, the gravity formalism should agree with Newtonian gravity.”¹ [[The Einstein Postulates: 1905-2005 – arXiv](#)]

This third postulate can be corrected with new experimental data, as from the GPS system, a highly precise technology based upon a correct expression of relativity and also on the new post 1983 way to measure distances using only the speed of light and the use of atomic clocks to measure the meter.

The GPS system depends on an asymmetrical difference in velocities and their clock rates, the clock on board being slowed only when its physical frame, such as a satellite, has been violently launched into space. Therefore, Einstein while brilliantly foreseeing and proposing experiments to detect clock slowing never conceptualized an objective rest frame, either in this context or another significant one. That other instance involved propelling electrically charged objects into fields of force. He referenced their trajectories, again, relative to an observer, rather than to the source of acceleration.

Buenker, as part of his thorough Socratically conceived and carried out review of special relativity, uncovered a higher conception for understanding the slowing of accelerated clocks, namely it is the expression of the change in units of time. For me, that result is a revolution in physics which at last restores special relativity in the domain of Riemann's manifold of multiply interacting physical principles.

Lyn has adopted a metaphorical view of Riemann's original manifold of multiply interacting dimensions by substituting principles for dimensions. He said that his most important discovery to date was to recognize that classical art and science should be seen as one single domain of interacting principles. In 1982, in his two part series, Dec 7 and 14 in EIR, [What Are Economic Shock Waves?](#) he emphasized the universe is a Riemannian manifold.

Think of the irony for Buenker, a Newtonian, having made possible this unique new insight that opens us to a higher domain by rejecting Newton. He sees

¹ [Microsoft Word - Aether b.doc \(arxiv.org\)](#)

this as a matter of logic, an inductive method, but it is more than that. Buenker has written dozens of articles since 2008 and three books. The first book, [Relativity Contradictions Unveiled](#) was published in 2014. It is extremely important for our members to work through his writings from the beginning where he goes through the source of Einstein's "original sin" in his treatment of the Lorentz space and time transformation.

Briefly, Conrad Lorentz, who first arrived at it, recognized that there are three independent equations and therefore requiring three physical constraints. Therefore, Lorentz identified a constant, yet to be determined, called epsilon in front of each equation.

Einstein had in fact two constraints and used them to cleverly solve the problem for two needed constants. His postulates were mostly correct, but not entirely. The first one is that the laws of physics are the same for all observers. Hence any equation should hold true when the observers' positions are reversed. A further correction calls for the implied difference in the two observers' units to be taken into account. The second is that c is constant for all observers up to and including his derivation of the first two constants; so far so good.

But then came a fatal error. He could have wisely said: Solving for epsilon awaits brand new experimental data. Instead he invented a mathematically based argument to assert and sophistically demonstrate that epsilon can only be a function of the relative velocity of the two observers' frames and further is equal to 1! This was yet to be demonstrated experimentally.

The subsequent efforts down that path lead to the self contradictions and irrationality of what Bertrand Russell triumphantly rubbed people's faces with in his 1920's book the ABC's of relativity. I include the assertion that two observers in relative motion can never agree on simultaneity. The second is that each will measure the other's clock to be slower: i.e. there is no knowable truth; it's all subjective. Getting people to accept such nonsense is what he meant about conditioning people from an early age to accept that "snow is black." The lying Russell claimed there was no way for the layman to understand the derivation

because it involved higher mathematics. The fact is the errors involved include the origin of the lie that Einstein's special relativity involved higher mathematics.

In Part I of [*What Are Economic Shock Waves?*](#) LaRouche wrote:

“It is the popular persuasion, that grasp of fundamental principles of scientific work depends on working one's way through years of apprenticeship, successfully mastering ever-more-complicated constructions in mathematics. Perhaps after 30 years of graduate studies, and assistant-professorship's research activities, one's head might be sufficiently stuffed with refined knowledge that one might be able to begin to attack fundamental questions. I exaggerate to make the point.

“On the contrary, the really fundamental questions of scientific method are those typified by Plato's appreciation of the implications of the Five Platonic Solids. Most of the important errors in scientific are not the sort of errors one associates with correcting an algebraic formulation (or, some spy's stealing a 'secret formula.')

All of the important errors in scientific work are elementary errors. The important errors are those assimilated, or left uncorrected at the age of 6 to 16. These errors of assumption become embedded, as by a 'hereditary principle', in the elaboration of mathematical constructions, all the way to the status of professor emeritus. Truly accomplished professors emeritus are of the sort who recognize that a major problem of science today might be the ingenuous acceptance of wild error by Michael Faraday, for example.” (p. 26.)

Let's review Lyn's view of the major problem in science since the passing of Riemann. Mathematics since then has become hegemonic over physics, the opposite of Riemann's Habilitation Thesis, especially the warning in the last sentence “of leaving the domain of mathematics in order to go into physics.” People will argue in the manner he portrays here as quoted from the Science of Christian Economy in Response to a Query: “People have difficulty in thinking in my terms of thinking in axiomatic. They don't examine the assumptions, They say in their method:” These are good rules for making definitions:

“ ‘All we are doing’, they say, ‘is making a very elementary kind of definition, simple definition. We are following rules of representation which everybody accepts. Don’t you see? This is a proof. ‘It is no proof at all. I’ll take your proof. If you use that method, tear your proof apart, show that what you have done is build an edifice on quick sand.’”²

This is a monstrous scandal. A hopelessly self contradictory edifice has been built upon the elaboration of a falsehood, a falsehood introduced by a scientist who still stands, in view of his monumental discoveries. However, given that fact, scientists were unable to recognize when their own results directly discredited expressions of the falsehood.

On the other hand, I believe that in recognizing some apparent mysteries in special relativity we can resituate Einstein’s work and Buenker’s clarification, within Lyn’s new science of dynamics.

Consider an unexplained case of least action in the interaction of the two hyperbolic looking curves for energy and time. Einstein showed that as the relative velocity of two frames increases towards c , the two curves must be mirror reflections of the other. If they are reflected in a line from the origin at 45 degrees., the curves each asymptotically approach, in the case of the time, the x axis, as γ becomes infinite, whereas the mass and energy curves approach infinity along the y axis, whereas in the time case where 1 divided by γ approaches zero. The figure of the two curves if rotated around the 45 degree line will be a hyperbolic like surface of negative curvature. Lyn described similar surfaces of negative curvature as typical of the approach to a new singularity, like a shock wave.

I suggest we begin a small discussion group of Buenker’s work, based upon his book and articles but also reevaluate and resituate the matter within the much better understood special relativity in light of Lyn’s discussion of relativistic economics and physical versus economic time in his paper Economics as History.

² Lyndon LaRouche, [*THE SCIENCE OF CHRISTIAN ECONOMY*](#), Schiller Institute, 1991, VI, Reaction to a Query, p. 117.

The Basement Team's work on viewing Vernadsky from a similar standpoint included work in biology and evolution involving a new unit, the idea that special relativity is also a principle of biology but not involving the speed of light as a boundary condition.

Ernie

**PART ONE: HOW ROBERT BUENKER FOUND THE KEY IN
OVERLOOKED IMPLICATION OF EXPERIMENTS AND IN
TECHNOLOGICAL PROGRESS FOR THEORY.**

Over the years scientists like John Dingle and Thomas Phipps have identified that the axiomatic structure of special relativity contradicts itself. However they have been censored out by the science priesthood and the necessary public discussion has been banned. All of these errors as I will show can ultimately be traced to an intellectual fraud by Einstein in the form of a hidden postulate. Starting in 2008 with literally hundreds of articles published in relatively obscure journals, plus his 2014 book, Dr. Robert Buenker, a chemical physicist has for the first time had the courage and commitment to truth required to Socratically explore the axiomatic structure of SRT and traced the unacknowledged hidden third postulate back to its burrow or hidey-hole for the first time!

For example, he has used data from such sources as the GPS's success, itself a triumph of Einstein's original conceptual discovery, to solve for the missing third postulate. The contradictions are resolved and the results of the principal experiments explained, including crucial implications of results overlooked by the experimenters because they conflicted with Einstein's LT equations! Briefly, GPS demonstrates that simultaneity is now readily achievable. It not only possible because our technology now allows us to measure distances by means of light as utilized in the since 1983 definition of the meter by the time light takes to traverse

it. The precise relation between the delay in time to the increase in velocity of the satellite observer proves that it is not symmetrical, as Einstein's equations call for. but rather it asymmetrically characterizes the observer who gets launched by force into motion in space from an objective rest system on the ground. The observer launched into space therefore measures the clock on the ground as faster than his own. The cited time slowing formula can be substituted in the LT equations for the relation between times, as $t' = t/Q$ and we now solve for the correct value for epsilon, giving us our third postulate. MEASUREMENT IS OBJECTIVE, AFTER ALL.

THE HEAVY HAND OF THE OLIGARCHY

As we proceed, I will try to show some of these contradictions and indicate not only the path to a full resolution but also to introduce a higher conception of an implied purpose or intention underlying special relativity that for the first time clarifies its situation in Riemannian physics as a whole, something not previously proposed.

Up to now, the science priesthood has had 100 years utilizing the irrational articles of faith, such as the claim that for observers in relative motion cannot measure events as simultaneous. Each must measure the other's clock as slower; that also means there is no longer a principle of rational measurement because measurement has become subjective. Each will measure lengths in the other's frame, to be reduced in the direction of motion, (the Lorentz-Fitzgerald contraction) but unchanged in direction at right angles to the motion.

In the 1920's, Bertrand Russell who wrote, *ABC of Relativity*, has been called by LaRouche the most evil man of the 20th century, because of his effectiveness in attacking the existence of knowable truth and the existence of immaterial principles. He played up the mysterious derivation above cited articles of faith as being beyond the layman due to lack of training in higher mathematics. In fact, the errors stemming from the false third postulate involved elementary algebra.

Anyone in principle can follow through Buenker's book and articles on this topic. The material in other sections of his book such as his discovery with Max Planck of $E=mc^2$ involves elementary calculus. We are dealing with the effects of a cultivated aura around Einstein to prevent people from arriving at judgments about his science.

WHAT WE CAN LEARN FROM OUTREACH: THE CLOCK RIDDLE

A project that Buenker and I share is to contact professors about his work. Of a dozen thus far, only one has responded. This man, a prior contact of mine, Dr. P. In his reply, Dr. P. emphasized that he had zero interest in Buenker's work, because there is such an overwhelming body of experimental evidence; therefore, Einstein's equations must be correct. *Post hoc, ergo, propter hoc*. Dr. P. was overlooking the fact that a single experiment that contradicts the Lorentz transformation requires that the ENTIRE axiomatic theorem lattice it is based upon must be replaced.

So, Buenker confronted him with an instance of the famous "clock riddle", whereby the Lorentz transformation (LT), leads inevitably to conflict with Einstein's postulates, in this case the constancy of the speed of light. In this instance, the LT equations assert that both the plane observer and the ground observer agree on distances at right angles to the plane's motion i. e. $\Delta y = \Delta y'$. Also the second postulate requires they agree on the speed of light. When Dr. P says that the ground observer sees the time as enlarged on the plane, that implies a devastating contradiction, because once two people agree on the quotient of speed over distance, they can't rationally disagree about the time taken! Any such contradiction is fatal for the LT.

Here is the key part of the exchange. Buenker proceeds:

"The speed of light is measured on an airplane travelling in the x direction with speed v relative to ground observer. The light on the airplane moves in a perpendicular direction Y. It is found that the light travels a distance of Y in an

elapsed T' , so the measured speed of the light is found to be $Y/T' = c$ by the airplane observer.

“According to Einstein and his 1905 paper, the ground observer must agree that the distance travelled is Y and that the speed of light is also equal to c . This is an impossible outcome according to Einstein because the corresponding value for the elapsed time is $T = \gamma(v) T'$ (time dilation in the moving rest frame of the airplane.). Therefore the ground observer computes the value of the light speed to be $Y/T = Y/\gamma(v)T' = c/\gamma(v)$ where ($T' = c \gamma(v)$).”

Now, here comes the fun with Dr. Buenker's remarks:

“Dear Ernest,

“The statement of the problem below is a bit muddled. Einstein would never have agreed that the distance travelled is the same. If you do the Lorentz transformations carefully, the fixed observer would say that the distance traveled by the light pulse is dilated by the same factor as the time interval. So, the speed of light, distance between emission and detection, of the light pulse, divided by the elapsed time, t is dilated by the same factor as the time interval. So the speed of light, the distance between the emission and detection of the light pulse, divided by the elapsed time, is measured to be the same by both the observer in the resting system and the observer on the airplane.

“I will make a few comments and come back to the exchange later. This is one of a class of conflicts of the two original postulates in this case the light postulate, with the demands of the LT., known as clock riddles. The LT states that lengths perpendicular to the direction of motion are agreed upon by both moving and rest frame observers to be the same. (The equation in his landmark 1905 article has $y = \epsilon y'$, but then replaces ϵ with 1. So they become equal.) To repeat, two observers in stationary and moving frames must still agree on the speed of light (second postulate). In saying that both the elapsed time of the light pulse and the distance measured by it on the plane, as measured by the stationary observer, both increase, he is referring to time dilation in the

plane, which is indeed observed by ground observers. So he hopes to escape the trap by finding a way to show that the two observers can agree based upon the known phenomenon of time dilation. But the problem is that, again, the distance Y was already s both measured with light on the plane to equal Y according to the $y=y'$ equation of the LT. Moreover, he measures the time of flight of the light using his time dilation formula to be Y/T (i.e. not Y/T'). So his ground observer and the plane observer disagree on the speed of light."

SELECTIVE INATTENTION BLOCKS OUT OBVIOUS IMPLICATIONS OF THE EXPERIMENT

How could such a blatant contradiction be accepted by the scientific community? What the oligarchy will not tolerate is a view that the universe is rational as well as the human mind which is a part and a product of it. This is why Russell exploited and promoted the flaws in special relativity but wrote an entire book attacking Leibniz' philosophy. Leibniz was a thoroughly rigorous and truthful person like LaRouche and made major discoveries throughout his life time. He played a decisive role in the thinking of our Founding Fathers in defining the mission of the new republic. Leibniz was LaRouche's mentor from early in life and became deeply instilled in his world view and method.

Now for the first time, a thoroughly Socratic critique of special relativity's axioms is an ongoing work since his first article on the subject in 2008. Moreover he has not only identified the one singular assumption that has given rise to ALL of the other confusion, but has arrived at an elegant solution. In my view, what he has done differs from previous attempts to resolve the muddle problem by drawing conclusions from experiments which had been overlooked for over sixty years. For example, experiments showing longer wavelengths from high speed sources as well as lower frequencies than measured at the source showed that with high speed but also lengths increase with velocity, the opposite of the Lorentz Fitzgerald contraction. The observer on the plane, by the first postulate, has no way of measuring this increase, due to the first postulate!

This was called a red shift, i. e. longer frequencies. The longer wave lengths times the lower frequency show the constancy of c . In another experiment with an emitter and a detector rapidly spinning on concentric shafts, with the detector on the outer shaft and therefore spinning faster, a blue shift was observed, not a red shift. This created a crisis, because the result conflicted with Einstein's symmetry principle whereby each observer sees the other's clock as slower. So, by selective inattention this exciting result was not recognized.

It implied yet another clock puzzle. If lengths shorten in the direction of motion, and time simply dilates as usual with speed, light will be covering a shorter distance over a longer time and exceeds c ! This contrasts with the situation whereby the lengthened distance is divided by an increased time for the speed of light to remain constant. Effectively, the interacting principles of the manifold of time, distance, mass, and energy are organized around least action and the constancy of the singularity at c .

WHY WE, AS LAROCHE'S FOLLOWERS, NEED TO THOROUGHLY UNDERSTAND BUENKER'S METHOD OF ARRIVING AT TRUTH

First of all, by identifying the reverberating effects of the erroneous epsilon, Buenker has been able to force a reassessment of the widespread use of the term space time or physical space time. The implication since Minkowski's 1907's intervention is that "space by itself and time by itself no longer exist separately." The so called space time interval, another offshoot of epsilon equals 1, subtracts the square of the distance traveled by an object from the term c^2t^2 for the distance light is propagated by a light beam during the same time interval. The presumption is that the result of this subtraction .is a constant for any such pair of frames in relative motion, supporting the notion of space time and space time mixing, one of Russell's favorite themes. However the presumed equality of these intervals hinges on the sacred cow of epsilon =1 as you will see if you work through the derivation with the aid of Buenker who goes through this calculation thoroughly step by step. Once you replace epsilon with its correct value based upon Buenker, the equation now acquires the appropriate dissymmetry due to the change in units between frames.

Eliminating this spurious interval from the curriculum will relieve abused students forced to construct and interpret space time diagrams. Instead, as Buenker insists, they should be working through the revolutionary concept of the change in units between manifolds. This is doubly revolutionary. It at one stroke restores consistency to special relativity. It also however, points to something not considered by Buenker who is proceeding from an inductive manner based on the discrete manifold. That higher continuous manifold first offered by Riemann is the domain of multiply connected action with a changing characteristic curvature.

PART TWO: THE FALLACIOUS EPSILON AND VISUALIZING THE COMPLEX DOMAIN

UNJUSTIFIED SYMMETRY ARTIFICIALLY RESULTING FROM A FALLACIOUS EPSILON HAS INTRODUCED ENORMOUS CONFUSION FOR OVER A CENTURY

The starting point of applying fallaciously an epsilon of 1 to end up with an erroneous symmetry is an integral step in the original LT derivation where one applies first the light speed postulate and then, a confirmation that the calculation can be inverted by exchanging the places of the observers. In Einstein's original derivation, see page 11, one starts by taking a light pulse along their common axis while the observers are in relative motion. One subtracts the sums of the squares of the distances moved by each from the square of the distance covered by the light pulse and finds the differences are necessarily equal, i.e. symmetrical, because $\epsilon = 1$! This equality is called Lorentz invariance to this day. It is directly essential to the interdependent wrong ideas of space time, space time mixing, and non-simultaneity.

BUENKER FOR THE FIRST TIME BRINGS EXPERIMENT TO BEAR ON EINSTEIN'S PREMATURE ASSUMPTION OF SYMMETRY

Buenker's correction starts with the application of what he calls his UTDL, i.e. universal time dilation law based on two principal experimental sources to be cited shortly but also upon a broad array of time dilation (slowing) experiments demonstrating the asymmetric red shift to longer wave lengths and lower frequencies, starting in 1938 with what once again with what Einstein brilliantly predicted in 1905 for the transverse Doppler effect Hay's experiments from the early 1960's with a transverse Doppler effect using high speed rotors introduce a fun twist. His experiment had the detector rotating **FASTER THAN THE EMITTER**. Therefore the experiment implied a blue shift this time. However, the experimenters were so convinced by the LT of the necessary symmetry that they ignored their own findings. In order to be consistent with the epsilon equals 1 derived view that when two observers are in relative motion, each one measures the other's clock to be slower.

A further fundamental axiomatic implication was missed at the time in all of these red shift based experiments. The wave lengths measured coming from the moving emitter were, as Einstein predicted, longer than the wave lengths where the source were stationary. Conversely the frequency was lower. An observer moving with the source would not notice any such changes. Why? Because of the first postulate, an observer in an inertial frame will not notice any changes within his own frame due to inertial motion. He could only determine his own motion by going outside his frame. He might for instance notice that the length of time for the earth's rotation had undergone a slight change.

Believe it or not, Buenker is the first to point out that the increase in wave length corresponds to an across the board lengthening in the relevant moving frame. Where the radiation is produced! This seemingly obvious conclusion was missed because the scientists were convinced that the so called Lorentz Fitzgerald contraction implied shrinkage of lengths in the direction of motion.

Now for some more fun! Since lengths increase with speed, what happens to time? That is to say, what corresponding changes must occur in length and time to remain consistent with the second postulate, the constant speed of light? Was for many decades due to the For the quotient of an increased length of a ruler divided

by time to stay constant, time must dilate. The failure to recognize this seemingly obvious implication has given rise to once again a clock puzzle, such you saw with our professor's response.

The two most immediate sources of Buenker's over all solution are successful concept underlying the GPS system using light to indirectly measure distance while achieving simultaneity, and the experiments of Hafele and Keating in the late 1960's with circumnavigating planes. GPS first showed us the validity operationally of calculations based upon the predictable slowing of clocks when ACCELERATED into motion, their velocities taken relative to the earth's axis or center of mass.

To the correction cited in GPS for the satellite speed, one has another for its altitude based on General Relativity.

GREAT TECHNOLOGICAL PROGRESS ALLOWS TO MEASURE DISTANCES INDIRECTLY WITH LIGHT

The application of the UTDL is elementary, because it enables us to relate times of clocks by a simple ratio, t' equals t/Q . Q is the ratio of the rates of clocks which can be determined from their relative accelerations and velocities achieved. More exactly, the velocity is incorporated into our familiar gamma based on Einstein's original expression for time dilation. For example clocks mounted on concentric high speed rotors. A caution is that if both observers' frames have been accelerated into motion, then Q is based on the ratio of their separate speeds relative to a common objective rest system, the point where force is applied to set them into motion.

HOW TO SOLVE THE LORENTZ TRANSFORMATION RELATIONSHIP OF t AND t' FOR EPSILON ASSUMING SIMULTANEITY AS EXPRESSED IN $T'=T/Q$

Built into the formula for Q is a constant ratio of the two clocks, which ensures simultaneity. SO BY STARTING WITH SIMULTANEITY, BUENKER HAS STOOD THE PROBLEM ELEGANTLY ON ITS HEAD BY USING THE

UTDL TO SOLVE EXACTLY FOR EPSILON AND THEREBY CURING A HITHERTO INTRACTABLE PROBLEM.

This latter point introduced by Buenker should be evident upon a little reflection. However, in today's version of SRT, this obvious point based upon common sense has been flagrantly overlooked. If a clock is inertial, i.e. moving at constant speed in a straight line, its rate can't change (based on necessary and sufficient reason Buenker calls it the Law of Causality.) So let's have a second such clock. Can the RATIO OF THEIR RATES CHANGE SPONTANEOUSLY? OK, doesn't that tell you inertial frames necessarily imply simultaneity, something Einstein lost sight of along with other expressions of common sense!

All one needs to do now is to go back to Einstein's Lorentz transformation equation 15 on page 12 comparing the two observers' measurement of time interval, first of the 4 equation 12 on page 15, which has $\Delta t' = \epsilon \gamma \{ \Delta t - v/c^2 \Delta x \}$ and, as Buenker indicates on page 56, substitute $t' = t/Q$ equation 60 to end up with epsilon as the product of three terms. Eta and gamma come from solving for two of the three constants on page 11 to derive A and B. Gamma is Einstein's great discovery as the source of time dilation he brilliantly predicts in his landmark 1905 paper.

However, consider what that equation seemed to be saying. You have t , or $\Delta t'$ if there is measurement of a time interval, not only in direct ratio to Δt in the parenthesis, but also a dependence of $\Delta t'$ on Δx . That latter is extraneous; there is NO OBVIOUS REASON why the position of the object whose trajectory is being measured as x should affect the measurement of time!

However, conversely, by substituting the just derived expression for epsilon into that equation, one ends up easily with $t' = t/Q$. So the symmetry imposed by setting epsilon equal to 1 is dissolved!!

V is the relative velocity of the two frames. Q , once again, is the ratio of times for a clock at the objective rest system and one on the accelerated object, such as the clock on a satellite launched from the ORS.

Clearly this is an interaction far more complex than he wished to acknowledge.

However, now we have actually solved for epsilon! We can now begin to approach hitherto inaccessible questions confidently. First of all, regarding Einstein's invariant Lorentz interval first derived on page 11 from the light postulate on the assumption $\epsilon = 1$, and taken up again on e 56, now, what does that look like? Is the Lorentz interval still invariant as he assumed? One needs to substitute the actual value of epsilon and show that one can exchange the positions of the two observers. This turns out to be valid, as he shows you, but the result, unlike with $\epsilon = 1$, is consistent with the asymmetry always observed in two way time dilation tests, and not in keeping with Einstein's "symmetry Principle!

The purpose of this short essay is to focus on the more delimited question of the effects of a great scientist's lapse into what should now be apparent as immorality, whose reverberations have been devastating for the morality of the scientific community while the truth was fully suppressed for 100 years. However a review of Buenker's work can overlook a profound implication that only the LaRouche movement could recognize. That is his stunning, in my view, designation of conversion factors that change the units of measurement, what a student of Riemann or LaRouche should at once think of as the changing curvature of a multiply extended manifold.

The fact remains that Buenker, who would tend to see this as a matter of rationality and logic, is the one who discovered it. This raises interesting questions of how scientists approach things in such diverse ways should reconsider each others' methods more open mindedly. Might the discrete manifold at times yield crucial evidence which is overlooked when one is looking primarily for higher manifolds?

PART THREE: SPECIAL RELATIVITY AND THE MULTIPLY EXTENDED MANIFOLD OF INTERACTING PRINCIPLES OF RIEMANN AND HIS SUCCESSORS

LAROCHE TAKES US BACK TO LONG FORGOTTEN OR SUPPRESSED FIRST PRINCIPLES

The experiments on special relativity leave some provoking questions. The changes in curvature associated with changes in the variables of relative motion caused by application of force are not explained as yet by an interaction among them. Thus the precisely inverse curvatures of time and mass suggest that there is a higher domain of causation still to be discerned. Are we overlooking fundamentals?

REAL PHYSICAL SCIENCE VERSUS STATISTICS: LAROCHE WAS NOT THE ONLY ONE TO CRITICIZE EINSTEIN ON THIS SCORE

LaRouche's Riemannian universe needs to be considered. In his book length *Economics as History, The Science of Physical Economy*, in his section *The Subjective Side of Science*, LaRouche addresses the intrusions of reductionist ideology from what seem to be other domains such as the focus on monetary value in physical economy, to the exclusion of the physical realities. That strongly includes classroom mathematics. He has criticized separately both Einstein and Planck for accepting the statistical theory of heat, with its randomness implies a closed system which runs down entropically. For a process to be antientropic, it must be compatible with the hypothesis of the higher hypothesis, which in turn must be consistent with the successive hypotheses that underlie what actually constitute that history of human progress. Along with a rejection of such frauds as the statistical theory of heat, introduced by Maxwell, its inverse methodologically must be pursued. In the famous case of Einstein's theory of the seemingly random Brownian motion, Gerald Pollack introduced an antientropic cause, the unique ability of water to transduce the infrared cosmic radiation, in the form of conical ELECTROMAGNETIC action of charged particles and the potential of charged

particles TO BE split from water and then used to organize new singularities is known as exclusion zones that in turn can become organized around the Brownian particles. Pollack in his book *The Fourth State of Water* sharply criticized Einstein's acausal treatment, which certainly treats mathematics as primary instead of starting with physics.

BACK TO PLATO AND CUSA FOR THE FORMS ACTION IS REQUIRED TO ASSUME

In contrast LaRouche stressed the history of modern science necessarily starts with circular action, and its derivatives, the unique division of visual space, represented by the Platonic solids. Circular action and its derived forms of self similar action, cylindrical and conical in both space and time, are also derived, in turn.

Thus we have an alternative mathematics that derives, necessarily from physics. As Gauss showed, even the seemingly self-evident "natural counting numbers are all derivable from CIRCULAR ACTION. This is a shockingly abhorrent idea today, yet it has been relatively hegemonic at certain periods of history.

LaRouche from his adolescence had concluded that physical geometry, not Euclid, defined the nature of mathematics as a useful tool. He argued this with his eighth grade teacher. The LaRouche movement only began to explore that higher hypothesis of circular action as fundamental in depth after Helga Zepp-LaRouche, a Cusa scholar in her youth, taught the membership and LaRouche his view of circular action as the only self evident action, and the source of all other action, including linear. Once you become aware of it, elaborations come to mind.

Coinciding not accidentally with the relation to the modern nation state and the science of physical economy to maximizing the output of machines, the derivatives of circular action become crucial for the design of machines. An astrophysics based on circular conical motion and the relations derived from them replaced the *a priori* Aristotelian view which just arbitrarily assumed circular action as the natural most perfect order but not based on Cusa's principle of

circular action to bring the circle into existence. It was not recognized why the orbits of Kepler had to be elliptical until Gauss discovered or invented the complex domain based upon conical action as metaphor.

LAROCHE REINTRODUCES LEAST ACTION AS EXPRESSING INTENTION, A CRITERION OVERLOOKED SINCE LEIBNIZ, HIS OWN MENTOR AS YOUNG ADULT AND ADOLESCENT

LaRouche in his 1980'S articles on economic shock waves pose the questions of why least action IS REQUIRED and what are some of its broader implications including its intelligible representation. Leibniz first conceived it as a principle of progressively lessening imperfection. He referenced it as using the smallest means to yield the most opulence of results. He cited the catenary as an example citing its allowing us to derive logarithms. It also applied as an architectonic principle extending from the totality down the very smallest part. Thus, provided it still included the singularity as its lowest point, a catenary continued to be a catenary.

To this day the necessity for the immaterial causation of such a phenomenon is bitterly disputed. Why? To acknowledge immaterial causes that can only be understood by the mind situates our knowledge as ultimately not attainable through our mere senses but within a higher faculty of the imagination and the ability to penetrate the contradictory observations of our senses with metaphor. The textbook criticism for example of Leibniz's calculus as a metaphor, dy/dx , is that in the very smallest you are dividing by zero, which can be seen as imaginary.

The core idea for Leibniz was the monad, expressing the sovereignty of the smallest ultimate unit of action. The physicist Martin Ruderfer suggest that photons as precisely determined entities represent, like organisms that reproduce themselves precisely, an intention in nature. The monad as the intention of the trajectory or orbit is the singularity. By the idea of a self reproducing singularity as the monad fulfilling its orbit, I am reminded of the central idea Leibniz expressed in his dialogue late 1680's that motion is actually a continual recreation of the material object, an idea later picked up by Riemann. I am also reminded of his later idea of retarded potential for propagation.

KANT CHALLENGES LEIBNIZ ON THE NECESSITY OF CIRCULAR ACTION AS A PRIMARY CAUSE

As a youth, LaRouche took on Kant's attack on Leibniz. Famously, in a university thesis, Kant challenged Leibniz's concept or definition of similarity which asserted that similars are objects which cannot be distinguished apart from size. That included handedness. He ignored their mode of generation, which included handedness, i.e. the direction of the rotation that generates them. The importance of this question led Gauss in his *The Metaphysics of Complex Numbers* to remind us that cannot fully order an aggregate of two sets of rows and columns without regard for their initial configuration as determined by an initial physical rotation as clockwise or counterclockwise. This distinction was typical of Leibniz's extreme rigor in making definitions.

IN LAROCHE'S VIEW, WHAT MADE THE SHOCK WAVE NECESSARY; WHAT PRINCIPLE DOES IT ADDRESS AND WHY DID HE SEE IT AT THE CORE OF PHYSICAL ECONOMY AND OF MULTIPLY EXTENDED MANIFOLDS?

LaRouche became intensely interested in the shock waves role in physical economy as the basis of self reflexive change during the 1970's .He learned in our discussion with Russian scientists that Riemann's 1859 shock wave paper was the basis of their research program in fusion in plasmas where the required geometries could be brought about with Riemann's help. But he saw it as at the core of successful physical economic processes as well. One point of convergence was in retarded potential or induced transparency in a medium transmitting electromagnetic waves or plasma beams. In an economy, the state of the distribution of the population into the forms of productive employment plus the level of technology , infrastructure were part of what self reflexively determined the potential for further progress . He referred to this spectrum of capabilities as the "spectroscopy" of the economy, and culture determining the **POTENTIAL FOR FURTHER PROGRESS**, measured as potential relative population density. The growth of an economy proceeded nonlinearly via singularities of new modes of production and new modes of social organization. He thought of this as a flow,

thermohydrodynamic, driven antientropically by an intention towards progress, utilizing free energy generated antientropically from a previous cycle. A good example was FDR's Rural Electrification which introduced an abrupt transformation in rural life greatly for the better. In his discussion of the principles involved, he starts with the shock wave as the discovery by Leonardo of the role of conic or cylindrical spiral action to do work to form the shock wave by moving matter, not just a surface wave.

WHAT MIGHT THIS HAVE TO DO WITH SPECIAL RELATIVITY IN HIS NEW NOTION OF DYNAMICS?

He uses the term relativistic change regarding adoption by mankind of a mission in space as the make or break question of our identity. It means a new identity and he discusses it as a new mode of relativistic change. In the last 20 pages, he defines the effect of such a change as profoundly affecting physical as opposed to clock time. He contrasts the time line of the accountant with physical time and cites his first unique forecast of recession of 1957. As he originally developed in *Dialectical Economics*, he saw the auto industry's single-minded imposition of an artificial scheme. It was a time line for car installment payments that ignored reality in favor of a swindle of local dealerships and the installment purchaser. He recognized this as a pattern cruelly imposed in all sectors of the economy, as an over extension of credit. In auto, there was a disregard for the further technological innovation needed that would make cars less costly in favor of over diversification for the purpose to market as many lines as possible.

This kind of crisis has for over a century been known as the falling rate of profit and was overlooked and not explained by such economists as Rosa Luxemburg despite their acumen. LaRouche devoted lengthy sections of his first book *Dialectical Economics* to this topic as exemplifying the principle of Riemannian curvature. In the healthy economy, production progressively cheapens and estimates of accelerated depreciation take it into account. Failure to do so results in more fictitious capital being retained on the books to be rolled over and demand payment.