

A NON-MYSTICAL VIEW OF THE NECESSITY OF EXISTENCE
OF THE NOTION OF 'ABSOLUTE TIME'

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The origin of the notion of necessity for the use, and existence of the notion 'absolute time,' arises from the recognition of the intelligible representation of the verb 'to create,' as that quality of the human mind which empowers mankind to generate and assimilate efficiently valid fundamental discoveries in physical science.

We have shown, in earlier locations, that the space-time curvature of the creative processes is identical with that of astrophysical, microphysical, and biophysical space-time. This congruence is the sole basis for the possibility of real human knowledge of the universe. Thus, nothing called human knowledge is knowledge in fact, unless it expresses directly the product of creative-mental processes, as opposed, for example, to the axiomatic linearity of all formal deductive reasoning. Thus, only the intelligible representation of those mental acts of our species by which valid fundamental discoveries in physical science are generated and assimilated efficiently, represents something truly appropriate to the connotations of "scientific knowledge."

The proof of this specific congruence permits and compels us to exercise of a form usefully termed "very strong hypothesis," in the same sense, approximately, that Leonardo da Vinci argued for his principle of hypothesis. The highest form of such activity is associated with the manifest possibility of our willful consciousness of the creative mental processes themselves. Once we have defined the requirements of intelligible representation of such creative-mental processes, that intelligibility, made such conscious, becomes an object of conscious thought for us. We are able to perform conscious operations, such as strong hypothesis, upon the processes of creative thought themselves.

In this way, we are obliged to address a set of higher-order questions respecting the lawful composition of our universe. It is within this setting that the term "absolute time" has an important scientific meaning! the term is meaningless if expressed within any lesser frame of reference.

It is suggested, that the practical importance of defining a notion of absolute time will be found in connection with such matters as a properly redefined notion of 'matter/antimatter' functions, notions eliminating the obvious 'problematic' axiomatically embedded in the fiction of a 'Dirac Sea.'

Imagine any among those large astrophysical objects which might be selected for the purpose of illustrating this point. The process subsuming this object and virtually all other contemporary local events within it, form a coherent whole. Yet, some selected pairwise relations within the whole process imply functional relations based minimally on velocities exceeding the speed of light. Assign the labels 'A' and 'B,' respectively, to members of such a pair.

At first glance, the anomalous phenomena considered are analogous to the case of generalized events within a 'Mach cone,' on the condition it is understood, that this cone is generated according to Riemann's 1859 'On The Propagation of Plane Air Waves of Finite Magnitude.' To this 'observation,' we might append the quip, 'In time, the speed of light can be exceeded.' We are on the track, thus, of some approximation of the notion of a quality of 'absolute time,' subsuming, but not measured by, any simply relativistic notion of a value of the speed of light.

Respecting the class of examples we have identified, the astrophysicist noted such anomalies during the time he was a university undergraduate, or even earlier in his education. The matured physicist is since habituated, usually, to deal with such anomalies in the manner he might describe mathematically the apparent anomalies adduced from within such analogs of a Riemannian 'Mach cone' as are implied by effects beyond the limit of a relativistic speed of light.

If such an astrophysical object is assumed to be coherent in some functional sense, we seek to express such coherence in terms of the physical-functional history of the elaboration of the object as an entirety. For example, if the astrophysical object in question conforms as a whole to Kepler's second and third laws, any kindred sort of function, the evidence of coherence is *prima facie*. In other words, demonstrable physical laws are shown to govern phenomena even though the scale of events as a whole is beyond the limits of action in terms of the speed of light. It is such observations which beg immediately the notion of 'absolute time.'

Simply, if it is impossible to express the relationship between A and B directly in terms of a limiting speed of light, we can find a point in past time at which events leading into A and were coupled in terms of the speed of light. We can thus describe for each predecessor of A and B, respectively, a time-series function including A or B. We thus assume, that if we go back sufficiently far in time, we can construct a mathematical expression, from that past time to the present date, which subsumes the co-determination of ostensibly anomalous events A and B in a coherent way.

Before we proceed further in that approach to the subject matter here, we must simplify the case in a certain sense: we eliminate the popular, false, formal-deductive notions coherent with a notion of universal entropy.

We restrict the interpretation of all further statements on this subject, to the view of the universe consistent with a Kepler-Gauss-Riemann notion of the universe generated by a Gauss-Riemann notion of multiply-connected least action, a universe characterized by such universal 'negentropy.' In this case, physical least action is represented as multiply-connected self-similar-spiral (conic) action! 'negentropy' is measured as a function of a variable rate of increase of the implicitly enumerable density of mathematical discontinuities per arbitrary small interval of action.

Let $P(O)$ signify the latest point in relative time, prior to occurrence of both A and B, at which we might construct, in terms of a constant speed of light, a coherent 'historical' correlation of event A with B. Let the existence of an event 'A' be postulated, different than the A defined by a simple historical construction of the coherence of events A and B. Let 'A' be defined

as an event, substituted for A in A's place in such a coherent representation, such that no coherent representation of the A+B relationship between A and B exists, relative to point P(O), in terms of the historical function associated with the A+B correlation.

Nonetheless, there does exist a different 'historical' process, also relative to point P(O)', by which the coherence of A+B is defined. In other words, if we act upon the locality of scheduled event A, such that we produce A' instead of A, we change the entire history of the process over the interval beginning point P(O) to date.

Let the time of occurrence of event A be designated by P(A). There exists some future point, P(1), later than P(A), such that event C corresponds at this point to event A at point P(A); there also exists at P(1), an event D, which corresponds to event B at P(A). If A+B prevails at P(A), then C+D exist as an extension to P(1) of the historical process P(O)-P(A); if A'+B at P(A), then a different historical process exists for the interval P(O)-P(1) and thus a different historical process for the interval P(O)-P(1) than for the case of occurrence of A+B at P(A). For this changed history, we have at P(1) C'+D', instead of C+D; we may also have C'' in the same sense we might have A' instead of A at P(A).

In general, the occurrence of a change in history, typified by substitution of A' for A, or C'' for C or C', in these cases, occurs as a retrospective change in preceding history, and also as a potential change in future history. The nub of the matter, and a crucial experiments of such import, is the demonstration that that history can be changed in this manner and degree.

What Happened In History?

The conceptual difficulties which might appear to arise in connection with what was just stated flow from the carrying forward of the fallacies of naive sense-certainty into the domain of science. If we remove those fallacies, the obvious among the conceptual difficulties vanish.

The fallacies of sense-certainty are projected in the domain of physical science in the guise of discrete manifolds such as those of Descartes, Newton, and Maxwell. These fictions borrow from schoolbook deductive Euclidean geometry the assumption that matter exists as discrete bodies of linear and scalar magnitude roaming in a linear extension of empty space and empty time. The Kepler-Gauss-Riemann notion of physical space-time is thus axiomatically excluded, together with all notions of a principle of physical least action.

As both Descartes and Newton each conceded, in their respective ways, in any deductive schema, two elementary fallacies are superimposed upon the empirical evidence by the mere employment of such a deductive mathematics. First, the verb "to create" does not exist within the universe so represented, as Descartes' (deus ex machina) illustrates the point, and I have elaborated the matter in published locations. Second, the mathematics itself superimposes upon the universe the idea of universal entropy, as Newton remarked on the fallacy of a universe appearing to run down in the sense of a mechanical timepiece.

If we adopt the revised view of Kepler's universe, as made possible by the Gauss-Riemann principle of multiply-connected least action, these fallacies of the discrete manifold and deductive mathematics vanish axiomatically. Implicitly, as Kepler approximated this by construction, physical space-time has a subsumed by the Golden Section, physical space-time has a characteristic curvature, such that all of the elementary laws of the universe might be adduced directly from proper insight into this curvature.

From this follows immediately, that efficient coherence on scales not possible in terms of speed of light is supplied by the curvature of physical space-time. Hence, the notion of (absolute time) is in correspondence with such notions of universal physical space-time curvature.

Instead of action being determined by pairwise interactions in discrete-manifold space, action follows a pathway determined by least action in a definite physical space-time. This is to be seen in the same vein Kepler derived his laws and his notion of universal (electromagnetic) gravitation from his determination of the space-time curvature of the solar system.

Hence, the speed of light is situated ontologically not in terms of pairwise action at a distance through linear space-time, but as a reflection of the curvature of a Kepler-Gauss-Riemann physical space-time.

These relations require the abandonment of axiomatic forms of deductive mathematics, and reliance solely upon methods of synthetic geometry. Specifically, we require the generation of physical space-time in the geometrically generated complex domain of multiply-connected in self-similar-spiral (conic) action as physical least action. In respect to this, useful algebraic expressions occur as locus-descriptions of geometric constructions

In these terms of reference, we show that the universe is characterized already (negentropic), not (entropic). It had been recognized already, that Descartes' and Newton's replacement of Kepler's synthetic physical space-time by a deductive form of discrete manifold, had superimposed (entropic) on the universe, whether the universe were entropic or not. This would tend to prove only that the universe is not necessarily entropic. By understanding the implications of the Golden Section harmonics of Pacioli, Leonardo, and Kepler, from the vantage-point provided by the work of Gauss and Riemann, the empirical evidence shows conclusively that the universe is not (entropic), but is assuredly (negentropic).

Since only the appropriate synthetic geometry corresponds to the real universe's negentropy, whereas deductive mathematics wrongly superimposes the inference of universal entropy, we are obliged to discard deductive mathematics in dealing with all important phenomena, and must never imagine that a deductive construct produces anything but fallacious inferences respecting matters of ontology and physical causation.

We measure (negentropy) in these Riemann-Cantor terms, as a rate of increase of the density of mathematical discontinuities per arbitrarily small interval of action described by an appropriate function.

This view liberates us from the false, sense-certainty assumption carried over naively into the construction itself of colors discrete manifold. The assumption of discreteness itself colors every observed or imagined event with the quality of a completed

action. There are no completed actions in the universe, but only causes of further action. Reflection on this point dispels the conceptual difficulties suggested by the idea of retrospectively altering past history.

We described point P(0) as representing a state from which the emergence of events A+B proceeded. This function, at point P(0), is thus a cause. If we alter the locality of event A, to yield event A', we have changed retrospectively the function associated with P(0).

The papers of the sixteenth-century Nicolaus of Cusa are reassembled, and examined afresh in light of the history of science since 1440. Up to the point of that reexamination, Cusa's form of discovery of the isoperimetric theorem and correlated notion of physical least action, has had a momentous effect on the development of science, and thus of history over the recent five hundred fifty years. Now, we discover something new from review of these papers, such that the historical consequence of that original work is changed by means of direct reference to the original writings.

If this appears to be merely an analogy, such opinion is sorely mistaken. It is sufficient even to begin to attempt to describe the physical function representing what has just been stated by means of this illustration.

Can, for example, advances in scientific knowledge be represented as an enumerable, ordered series of discoveries of fundamentals and near-fundamentals? One is tempted to say, "Of course!" Less exuberantly, we may say that there exists the means for intelligible representation of those creative mental processes responsible for the generation and efficient assimilation of valid fundamental discoveries in physical science. Moreover, discoveries of that sort can be ordered as an enumerable series through that representation, as a function of negentropy. Also, the technology subsuemed by such increased negentropy in scientific progress correlates with potential increases of the per-capita value of potential population-density, in the same sense and order as the negentropic ordering of discoveries.

Hence, we can order the account of history as a relationship between (negentropic) levels of available scientific knowledge and the structure of practice of society, the latter in terms of per-capita values of potential population-density.

Furthermore, more than one series for potential history can be so ordered. The obvious variability is that of rate of increase of the density of discontinuities per arbitrarily small interval of action: higher or lower rates of negentropy.

Hence, the Cusa case cited implies a shift from a relatively lower, to a relatively higher-order series.

More generally, by changing the present, contrary to the apparent functionality-ordered drift of events, we are changing not only the consequences of past history; we are changing the function which is required to account for past history's unfolding.

Back to the Cusa illustration. In this hypothetical, but plausibly actual case, we are directly accessing conceptions generated over a half-millennium ago. Moreover, what we might well be accessing is a conception which Cusa put to paper, but which was not grasped by intervening generations. Thus, Cusa is enabled to act directly upon the present, more than five hundred years after his death, to change future history, and the outcome of past history, both, by a willful action of a type which had no

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LaRouche's original ground

efficient consequences during a span of more than five hundred years. This begs the notion of (absolute time) in a way that has physical meaning.

Look again at the implied problem of defining a physical function to represent efficiently the intervening five hundred-odd years of history.

The fundamental distinction between mankind and the beasts is that mankind is able to change willfully its mode of behavior negentropically through creative-mental activities of the form of generation and assimilation of valid fundamental discoveries in physical science. Of course, all living processes are axiomatically negentropic as biophysical processes; those physical processes are the physical substrate of creative-mental activity, of course. Nonetheless, creative-mental activity, unique to humanity among species, is not only the characteristic of human existence, but is a physical cause in the universe generally.

The reordering of human physical activity according to the influence of technological progress, has changed the physical ordering of the planet's biosphere, and is about to alter much of the solar system in a similar way.

This proposition has no kinship to the usage of the term (negentropy) in "information theory." Although this dogma uses the term (negentropy), the term refers only to a statistical form of distribution of activity, and presumes that human negentropic action is imposed upon an entropic universe to the effect of increasing the implied entropy of the universe in proportion to the quantity of negentropy applied. Such "information theory" is intrinsically absurd in every possible way. It is premised upon the deductive notion of a discrete manifold.

In reality, the human application of negentropy to the universe increases the negentropy of the universe, not only as max is a part of the universe. It increases the negentropy of the general function describing the history of the universe as a whole non-linear in that sense, to such included effect that all attempts to render statements about mankind generally in any other terms of reference are inherently fallacious. Thus, the problem of human history, viewed in these indicated terms of reference, is more or less identical with the notion of history of the physical universe as we have introduced that here.

God & Causality

The idea of (absolute time) is inseparable from the notion of a God who is a living being engaged in a continuous process of creation. However, it is impossible for deductive reasoning to portray such a God.

Simply, in the axiomatics of deductive reasoning, the verb "to create" does not exist. If deductive reasoning professes that God's laws are permanent ones, then it is obliged to contend that God made man omniscient, but was made impotent by the original act of creating such permanent laws. In such logic, the notion of (absolute time) could not arise.

In deductive logic, the related conceptions, 'to create' and 'to live,' exist as referents only for the empty space between two successive formal-logical lattices, as is the case with Immanuel

with Immanuel's body

Kant's arguments in his (Critique of Judgment). (To create) and (to live) are, with reference to mathematics, conceptions unique to those non-linear functions of a complex domain defined by a Gauss-Riemann synthetic geometry, as this was anticipated by Nicolaus of Cusa, Luca Pacioli, Kepler, and Gottfried Leibniz. In no system of representation based on the model of sense-certainty, such as deductive discrete manifolds, do the terms (to create) and (to live) have actual, intelligible referents in the appropriate forms of actions as actions per se.

If a man sees a camel, and reports the observation of that camel in deductive modes of argument, the camel to which he refers does not cease to exist merely because deductive reasoning can not represent the verb 'to live.' So, in matters of theology, a theologian who argues in the language of deductive reasoning may refer to the actuality of God, although his mode of argument, which excludes the verbs 'to create' and 'to live,' can not represent anything essential respecting a living Creator.

So, in what we have to state here, do not hold us to account for any deductive form of statements by theologians.

The oldest known conception of a God the Creator is attributable to the Vedic solar-astronomical calendars of the people of Central Asia, earlier than 4,000 B.C. By simple line of sight, comparative observations of the daytime positions of the Sun with the nighttime constellations, a highly accurate solar-astronomical calendar is generated, including such long cycles as the equinoctial one. It is the simplest possible calendar to construct.

The solar astronomical calendar so devised affirms universal lawfulness above and ruling the extent of known creation. Today, since the work of Kepler to this effect, we know that creation is not fixed, but is (negentropically) ordered, to such effect that the laws of the universe are not fixed laws, in the sense of Newton's mechanics, but changing fixed laws, changing in a way which is ordered by a more durable, higher principle governing the ordered succession of changes in the apparently fixed form of physical laws bearing upon matters of short-term sense-certainty's observations.

These higher laws define the universe as a unity. The curvature of physical space-time is everywhere, simultaneously efficient to the effect of making the universe, as a whole coherent throughout. This higher coherence is the locus of the existence of (absolute time). The (clock) of (absolute time) is the changing of the ostensibly fixed laws of action within the universe. This much is already certain, by employing the relevant (non-deductive) mathematics to the known crucial evidence.

This higher, (negentropic) lawfulness is signified by the (Logos). The Being which corresponds to the efficient action of this (Logos), is the living God engaged in continuing the process of creation. This God's clock keeps (absolute time).

By (absolute time), we must signify that which is simultaneous, relative to any relativistic notion of a speed of light determined by the curvature of physical space-time. The effects which are attributable specifically to that curvature as such, are the simultaneous effects in the universe, as typified by those elementary laws of physics directly adducible simply from the curvature of physical space-time.

Can this curvature itself be altered in some lawful way? Let us be more precise as to what this question might imply.

Kepler already defined, and essentially proved, that the universe is governed not by pairwise action among bodies of a discrete manifold, but simply by the curvature of physical space-time. For Kepler, this curvature was the harmonics elaborated by construction from the germ of the Golden Section, a Pacioli had defined the significance of the Golden Section at the beginning of the sixteenth century. Later, from the standpoint of the work of Gauss and Riemann, we discovered that Kepler's curvature was but a projected shadow of the actual curvature of physical space-time.

Ontological reality exists not in the images of perception constructed by the brain, but rather those images are but projections of an ontological reality situated elementarily in the complex domain of Gauss-Riemann. This physics demands that the curvature of physical space-time must be altered relativistically. It implies also, that the general curvature of the universe is alterable absolutely, as well as relativistically, through negentropic development. We amplify this important set of points.

During a seminar, now several years ago, this writer had occasion to identify his long-standing strong hypothesis, that the Keplerian physical space-time curvature of the astrophysical scale is also the curvature, not only for biophysical space-time, but for sub-atomic microphysical space-time. Plasma physicist Dan Wells, a participant in that seminar, later reported that he had been strongly provoked by what was for him a first hearing of this writer's oft-stated point. Wells asked to present his provisional proof of the LaRouche thesis at a later seminar. Wells' work to this effort is complemented by the work of Winston Bostick, showing the inherent negentropy of organization of all so-called elementary particles. Robert Moon has elaborated correlated features of the ordering of the periodic table.

The writer's thesis is derived from his own demonstration that the curvature of the space-time of creative-mental processes, as distinct from non-creative thinking, is Keplerian in the same sense. This thesis was first developed in germ, in 1952, and has been elaborated further since.

This thesis was developed in the course of the writer's commitment to show that while statistical methods borrowed from Ludwig Boltzmann for the Wiener-Shannon "information theory" might describe some of the effects of (negentropy), the ontological features of the Wiener-Shannon dogma were wildly fallacious in the degree that this must lead to viciously false results respecting biophysical processes, and also to wrong results in physical processes generally. The writer's own counter-thesis, which appeared in the role of a crucial discovery in physical economy, was based on viewing Georg Cantor's theorem on the transfinite ordering of (mathematical) discontinuities in the context of preceding work by Bernhard Riemann, with special emphasis on Riemann's posthumously published notes on the Herbart Goettingen lectures and Riemann's coordinate, famous inaugural dissertation (On the Hypotheses Which Underlie Geometry?).

If special relativity is taken out of the quasi-Riemannian frame of reference, and situated in a truly Riemannian, synthetic-geometrical physical space-time, the change so effected resembles the results of an isoperimetric recasting of Archimedean quadrature of the circle. What might be termed classical special relativity as summed up by Hermann Minkowski, leaves the matter ontologically within the frame of reference of the discrete

manifold, not actually a non-Euclidean manifold, but rather a non-Euclidean manifold deductively analyzed. In contrast, Riemann's physical space-time is a truly non-Euclidean geometry.

By "non-Euclidean geometry," we ought to signify a geometry of the axiomatic-deductive method. What is sometimes termed a non-Euclidean geometry, "is an axiomatic-deductive mapping of the concrete manifold differing from Descartes' and Newton's Euclidean name of reference only in terms of alterations in the set of deductive axioms and postulates. Modern non-Euclidean geometry begins with Nicolaus of Cusa's 1440 (De Docta Ignorantia), inclusive of Cusa's reporting of the results of his reworking of Archimedes' analysis of the quadrature of the circle in that location. The outgrowth of Cusa's discovery, most usefully named as "Maximum Minimum" principle, includes what is known as the supermetric theorem for topology, and the principle of physical least action. The latter is but the physics correlative of the supermetric principle.

Cusa's reworking of scientific method was continued, most significantly, by the circle of Milan collaborators including Luca Pacioli and Leonardo da Vinci. Kepler's construction of physical space-time was based directly on these discoveries by Cusa, Pacioli, and Leonardo—contrary to the wild falsehoods of science historian Cohen. The result, for mathematics as such, is the use of the synthetic methods of differential geometry, as by Pascal and Leibniz in the development of the differential calculus from a purely synthetic-geometrical basis. Throughout, physical least action is the correlative of these geometrical constructions, without any ontological assumptions consistent with those of the deductive discrete manifold.

The frame of reference inclusive of the work of Cusa, Kepler, and Galileo is a universal geometry completely subsumed by a hereditary principle of construction, or a synthetic geometry. It is that is self-evident in this geometry, is circular action. Construction is based upon the starting-point of multiply-connected circular action: circular action upon circular action, reciprocally, during every interval of such action.

With the work of Gauss, multiply-connected least action is taken to a higher level, substituting the conic form of self-similar-spiral action for simply circular action. Implicitly, the entire complex domain is elaborated by synthetic-geometrical methods of construction. Every theorem in Kepler's physics is assumed, and somewhat corrected by restating the theorems in terms of the Gaussian synthetic-geometrical form of the complex manifold, but also considerations not made intelligible in the simpler domain become intelligible. Implicitly, as Riemann argued, any real process in the universe, even those seeming to be most arbitrary, can be supplied an intelligible representation in the Gaussian synthetic complex domain.

The role of the Golden Section in Kepler's geometrical ordering of physical space-time, is made clear by Gauss's work. The Golden Section is the characteristic of projections upon the usual space of the discrete manifold's reference, of self-similar-spiral action in the synthetic complex domain. The act, that multiply-connected action in the Gaussian complex domain generates increasing density of (mathematical) discontinuities (physical singularities), shows how and why usual-space orderings harmonically congruent with the Golden action must represent negentropic processes.

Riemann's notes on the Herbart lectures expose the root of his later work. This issue of a negentropic universe, is identified as the kernel of that later work. The famous inaugural dissertation is but a step toward the later elaboration of Riemann Surface functions, and such products of that as his famous (On the Propagation of Plane Air Waves of Finite Magnitude). If classical special relativity is taken completely out of the frame of reference of Maxwell's work, and Riemannian electrodynamics are elaborated in the frame of reference of Riemann Surface functions explicitly, instead, such restatement of classical special relativity defines a Kepler-Gauss-Riemann harmonic ordering of physical space-time, calling into doubt the validity of perceived need for a dogma of general relativity.

In other published locations, this writer has detailed the proofs, that all deductive systems are linear ones, and that deductive formalism as a whole can not represent the real universe. That is, every set of axioms and postulates generates a theorem-lattice according to an hereditary principle of formal logic. In this arrangement, non-linear processes can be represented only by a succession of such forms of theorem-lattices, each defined, relative to its predecessor, by some change in the set of axioms and postulates upon which the hereditary principle of lattices is premised. These changes define gaps—mathematical discontinuities (singularities)—separating the lattices. In Riemann space, and implicitly also Kepler's, it is the gaps themselves which become explicitly the subject of the definition of a function, as a Riemann Surface function illustrates this, and as Cantor's cited theorem on enumerability of discontinuities within an arbitrarily small interval also reflects this.

The result is, that physical least action ~~represents~~ pairwise action of the discrete manifold, and that this physical least action is defined in terms of a synthetic complex domain derived from multiply-connected self-similar-spiral action. The further result is, that as in Kepler's domain, in the Gauss-Riemann domain, least action is represented by harmonic orderings of both absolute and relative least-action pathways.

Hence, relative to the deductive physics of the discrete domain, we specify the apparent laws of this domain to be those constructed directly from nothing but the harmonic curvature of the Gauss-Riemann complex domain. In other words, only those forms of apparent action-at-distance which do not violate the principle of Riemannian curvature, are allowed states in deductive simulations.

To restate the working point: the writer's original discovery was that those creative-mental processes responsible for the generation and efficient assimilation of valid fundamental discoveries in physical science are intrinsically negentropic in the sense of the Gauss-Riemann synthetic construction of the complex domain, and thus have the same physical space-time curvature as the universe as a whole. The negentropy of living processes, as referenced to the work of Pacioli and Kepler on this point, has this same characteristic curvature. Furthermore, ontological actuality is situated in that complex domain so defined, not the shadow-world of sense-certainty, as the latter is awkwardly misrepresented by deductive portraits of a discrete manifold.

Hence, it followed, that for reasons rightly identified by

Riemann, what is true at the upper extreme, the astrophysical scale, must also be true for the opposite extreme, the microphysical sub-atomic scale. The work of Weills, Bostick, Moon, et al. confirms this empirically in a crucial, if yet not adequately elaborated way.

So, respecting the scale of relativistic actions as implicitly defined in Riemann's famous inaugural dissertation, the self-bounding of the universe in the astro- and micro-physical scales, and in biophysical and creative-mental space-time—is everywhere (relatively) instantaneously efficient. The apparent laws of local action are everywhere subordinated to this (relative) instantaneity. In that sense, already, (relatively) instantaneous action, vastly in excess of the limits of the speed of light, are always occurring throughout the universe, on the astrophysical and microphysical scale. Indeed, the speed of light is but a necessary local condition imposed upon the universe by such (relative) instantaneity.

The question becomes: is God's clock set to instantaneous time? Does time, as we know the sequential passage of events, exist in some sense for God? The indicated answer is both "Yes" and "No."

"No," in the sense of the instantaneity of the universal self-bounding of the process of creation, and all actions within it. If the universe maintains a fixed absolute curvature, by which all differences in special local curvatures are subsumed, God's clock is set always to instantaneous time.

However, we must also say "Yes." God and the Logos have not ceased to be efficiently creative with some act of creation. Indeed, there was no "Big Bang"—the latter hypothesis is always a product of the demonstrable axiomatic fallacies of deductive (e.g., linear, nominalistic, symbolic-philosophical) reasoning. A notion of time must exist therefore for God.

To the extent we act upon local events within the universe, negentropic changes are relativistic within the defining frame of relatively absolute curvature of the universe as a whole. Yet, returning to Cusa's notion, negentropic action by the Minium upon his (De Docta Ignorantia), negentropic action by the Minium upon the Maximum must ultimately contribute to a negentropic transformation of the absolute frame of physical reference.

Moreover, this possibility has always existed as an ongoing feature of the universe as a whole. This argument is premised upon the deepest of the necessary implications of the notion of physical least action.

Negentropic development is the fundamental characteristic of negentropic principles of least action. This must include the relatively absolute curvature of physical space-time as a whole. The question posed to physicists thus, is "where" is the manifestation of such ongoing impulse toward general development situated such that we might adduce its efficiency empirically?

It is already clear, that the boundary to present empirical knowledge which we must surpass to find empirical answers bearing upon God's (absolute time) is represented to us today in the perplexities associated with (matter-antimatter) reactions.

For example, let A represent a matter-represented action, and B an antimatter-represented action. Is the scale of time of matter-represented actions the same as for antimatter represented actions? If not, the provisional empirical solutions to the issue of (absolute time) lie here. If so, we must look elsewhere,

perhaps in the anomalous phenomena associated with very powerful, large-scale-effects gravitational lenses.

In the meantime, we know that God is not sleeping an instantaneously infinite sleep. Creation is ongoing. The apparent absolute curvature of the universe is not the end of creation's work. The laws we adduce from that curvature are not the true laws of the universe; there is necessarily a higher transfinite ordering of lawfulness which corresponds to the efficiency of the Logos as such.

So much can we say of (absolute time). It exists as a necessary feature of universal physical lawfulness. Much more, we can not yet say, except to note that God's clock, which counts absolute time, is running. Nothing then will end the restlessness of the most sensitive scientific minds on this account, until empirical evidence is adduced which has obvious bearing upon this question.

The hunger for atonement with the Creator, is the highest condition of mankind. That Agape which the scientist knows in his moments of most intense, valid creative work of fundamental discovery, is but a guise for the emotion which is at once love of God, and love of mankind for the sake of the Logos incarnate, Christ. To lessen the imperfection of our wills, relative to the willful knowledge of the Creator, and to uplift mankind in engagement with this pursuit of thought and practice, is the noblest condition of the mortal individual, whether as a physical scientist, or a great creative mind such as that of Bach, Mozart, and Beethoven, all greatly impassioned lovers of God and the Logos incarnate, and lovers of mankind for God's sake.

It is not the practical power mankind achieves, which is the fundamental issue here. It is our frustration at the thought of the imperfection of our knowledge and willful practice, relative to God's will, and the notion that this imperfection separates us from Him. We are assured that lessening such imperfection will greatly improve mankind's per-capita power to exist in dominion over the physical universe; we shall enjoy delivering new such gifts to mankind, for love of the Creator. It is not such practical considerations which drive us most deeply. It is love of God, and the corresponding yearning of the Minium, in the creative image of the living God, for atonement with the Maximum, the universal work of that living God with whom we yearn to be reconciled.

How is it possible, that an individual mortal man or woman, might kick against all the pricks, and endure all other abuse that fidelity to love of mankind usually incurs, even all the way to the grave, except that the mind of that individual holds itself accountable to a higher agency than any worldly potency? This view, which is wholly antagonistic to all devilish conceptions of "social contracts," and to "other-directedness" in opinion generally, is essential to the best scientific minds. The best scientific mind must situate its personal identity, its fundamental self-interest, its devotion to practice, soj in that course of commitment, the situating of one's actions in the immortality of God's (absolute time), is necessary.

So, that we might gauge our actions against God's clock, if for no other motive, we are consumed by a passion to discover how God keeps (absolute time). So, we shall press ahead with what are termed "matter-antimatter" processes, the most powerful gravitational lenses, and anything else which suggests its

Absolute Time, by Lyndon LaRouche

possible relevance. Let us not complain too much that our notion of (absolute time) is so poorly focussed; let us merely accept the necessary of the notion as a good to our appropriate form of practice. We may be assured, that in (absolute time) mankind shall come to know the meaning of (absolute time) empirically; therefore, why not sooner?