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## THE LAROUCHE METHOD OF THE CREATIVE- MENTAL PROCESS, PART II

Revisiting Plato's Cave and the Principle of Negative Curvature

Pierre Beaudry, 11/11/2018

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### FOREWORD

*“If we know how our perceptual apparatus distorts the image of reality, we know that the shadows on the wall of Plato's Cave are distorted images of real persons and objects. Hence, we may reconstruct the image of reality by knowing the factor by which the shadows are distorted.”<sup>1</sup>*

Lyndon LaRouche

In **Part I** of this report, I elaborated on Lyn's method of using anomalies of negative curvature as the singularities to look for in order to make an axiomatic transformation of the creative-mental process by learning how to go on a *nowhere*. In **Part II**, I shall endeavor to show the significant role that Lyn gave to Plato's Cave as the best epistemological means to access the transfinite and I will apply it to Leonardo da Vinci's mind. In his 1988 paper on **THE MEANING OF THE TERM 'TRANSFINITE,'** Lyn stated:

“It is the popular view, that what our brain tells us we have sensed, presents a kind of mirror-image of the physical reality prompting such sense-

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<sup>1</sup> **LYNDON LAROUCHE, THE MEANING OF THE TERM 'TRANSFINITE,' 1988**, p. 6 of 72.

experience. Such faith is contrary to crucial experimental evidence. Also, modern studies of the physiology of eye-brain physiology show us that our mental-perceptual apparatus, rather than providing us mirror images of physical reality, affords us excellent instrument readings on the world about us. Science depends upon our acquiring the knowledge needed to interpret those instrument readings properly.

“This conforms to a famous passage in Plato's dialogues. The images which our perceptual apparatus provides to us may be compared with the distorted shadows which firelight casts on the walls of an otherwise darkened cave. Modern physical science began with the work of such fifteenth-century scientific discoverers as Filippo Brunelleschi and Leonardo da Vinci, in exploring the anomalous features of vision which show simple linear perspective to be a misleading representation of the world about us.

*“If we know how our perceptual apparatus distorts the image of reality, we know that the shadows on the wall of Plato's Cave are distorted images of real persons and objects. Hence, we may reconstruct the image of reality by knowing the factor by which the shadows are distorted.* [Emphasis added]

“If we are ignorant of the history of science's treatment of this fallacy of naive sense-perception, and if our ignorance encourages us to combine naive ideas of sense-certainty, with the false notion that deductive method is “reason,” the result is formal, deductive Euclidean geometry. The adoption of such a view of Euclidean geometry as the axiomatic basis for physics yields the views of that hoaxster Galileo Galilei, of Rene Descartes, and of the mathematical schema adopted by Isaac Newton.”<sup>2</sup>

This science of *going on a nowhere* is not a joke; it is a means of knowing how to cope with the fear of being abandoned in a world of systemic economic crisis like today, and of finding a way how to get out of such a turbulent world without secure boundaries.

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<sup>2</sup> Lyndon LaRouche, *Op. Cit.*, p. 6 of 72.

## INTRODUCTION

When you enter Plato's Cave, what you are witnessing is a transformation of the human mind and the first question which comes up is: "How can I get an appropriate reading of such a reality? How do I know if my way of looking at the world is the right one?" This knowledge can only be acquired by acknowledging and reconstructing the distorted view that I have of the real world, and by considering that the most important aspect of that knowledge is to be able to determine whether I am on the right path or not. However, in order to know that, you have to unlearn what you think you know to be true and establish a reconstructed pathway to the truth. Historically speaking, this transformation process is known as experiencing the perplexing process of Plato's Cave.

What this transformation requires is essentially a good dose of ignorance and a hungry appetite for discovering *what is not there*. Therefore, in order to succeed, you must confront yourself with the fact that what you think you know about the real world is actually what has been popularly identified as "*fake news*."

For example, take the Democratic Party accusation against Trump: "***Trump is a traitor because he took Putin's word over that of the U. S. intelligence community, by accepting Russia's denial that it interfered in our election.***" Is this true or false? This statement is an attempt to shape public opinion and to gain access to the credulous. The same question applies to the concept of "***matter***." Most people think that matter is something more or less heavy and extended, which exists in a discrete package occupying a certain amount of space which separates it from other pieces of matter. Since space is conceived as the empty area in which matter exists, then all matter must exist in more or less small packets in empty space, and time is the space interval that you have to travel through from bundle to bundle. Right? Wrong! This is a fallacy of composition. However, how do you know with certainty that this is the wrong way to look at space and time?

As Lyn pointed out, the way we perceive reality is distorted for most people through a deformation of their minds, and most emphatically through a false idea

of “**reason**.” The point that Lyn made about this matter of “**reason**” is that most people have a Kantian notion of “**reason**” which is understood as a “**deductive logical apparatus**.” That is also a fallacy of composition.

If you look for **what is not there**, you will find that such a Kantian notion of “**reason**” is fundamentally flawed, because it automatically excludes the ability to understand the creative-mental process as I reported the matter in **Part I** of this report.<sup>3</sup> As Lyn wrote in 1984: “The difference between a top-rate spy and the bungler is that the good spooks act on the basis of knowing that the most important things happening around them are the things that appear never to have happened at all. It is the things that aren’t there that can really do you in, as the fellow said as he was falling down the empty elevator-shaft.”<sup>4</sup>

## 5. HOW OUR MENTAL APPARATUS MUST RESTORE THE DISTORTED IMAGE OF REALITY

During the short period of 1948-1952, Lyn studied in depth the philosophical fallacies of Kant, and most essentially the two Kantian false epistemological assumptions underlying the creative-mental process of human reason. Lyn formulated briefly these two false assumptions as follows:

“The central feature of the Kantian “system,” is his effort to show that human understanding of the creative processes of mind (*synthetic judgment a priori*) cannot be achieved from the basis of deductive logic combined with sense-certainty.

“He recapitulates the results of this effort in the last, and most wooly-headed of his *Critiques*, the 1790 *Critique of Judgment*. Amid the debris, he asserts two conclusions flatly. First, that creative processes exist, but they cannot be supplied an intelligible representation for the human mind.

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<sup>3</sup> Pierre Beaudry, [THE LAROUCHE METHOD OF THE CREATIVE-MENTAL PROCESS](#), October 2018.

<sup>4</sup> Lyndon LaRouche, [A PASSAGE FROM “CLOAK & DAGGER, 101A”](#), EIR, March 7, 1984 and November 2, 2018, p. 24.

Second, on the same grounds, that there is no intelligible standard of truth or beauty possible in art.”<sup>5</sup>

Lyn’s challenge, therefore, is to make the creative-mental process intelligible. How can this be done? Lyn first provided a formal proof that, if one were to use the standard deductive logic form of Kantian reasoning, that is, by using what Kant called *analytic a priori judgment*, it would be impossible to have any understanding of the creative-mental process of a *synthetic a priori judgment*, because such a system buries its undertakers. And, the reason it buries its undertakers, is because it is based on an underlying set of *axioms* and *postulates* modeled on the Aristotelian-Euclidean geometry, which doesn’t know how to deal with the reality of creativity. As Lyn reported: “The requirement of deductive consistency causes the lattice as a whole to be subsumed by what is termed, descriptively, the “hereditary property.”<sup>6</sup>

And, that is the reason why Kant foolishly answered the question, “What can I know?” in a completely impotent manner by representing reason as a faculty which cannot answer the most crucial questions. In his opening statement to the Preface of his *Critique of Pure Reason*, Kant said: “Human reason has this peculiar fate that in one species of its knowledge it is burdened by questions which, as prescribed by the very nature of reason itself, it is not able to ignore, but which, as transcending all its powers, it is also not able to answer.”<sup>7</sup>

Thus, according to Kant, the matter of creative-mental activity must simply be excluded from consideration, because such a profound subject matter is inconsistent with deductive logic. By the same token, the truth of artistic composition is also excluded because the hereditary properties of deductive logic cannot handle it.

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<sup>5</sup> Lyndon LaRouche, *Op. Cit*, p. 12 of 72.

<sup>6</sup> Lyndon LaRouche, *Op. Cit*, p. 14 of 72.

<sup>7</sup> Emmanuel Kant. *Critique of Pure Reason*, translated by N. K. Smith, Macmillan and Co., Ltd., London, 1929, Preface to first edition, p. A vii.

## 6. PLATO'S CAVE, CONFORMAL PROJECTION, ANAMNESIS, AND PHYSICAL-SPACE-TIME REVERSAL

*“The world explored by the intelligence professional is the world as it really is. It is the world of the man-in-the-street which is the false world, the masked reality. The business of the Intelligence specialist is looking behind the mask.”<sup>8</sup>*

Lyndon LaRouche

In his dialogue *The Republic*, Plato proposed a crucial thought-experiment, a mental challenge of discovering the truth which relates to the distorted shadows of everyday life as they are projected by firelight on the dimly lit wall of the darkened cave of our minds. Lyn identified three significant aspects of this crucial experiment which are necessary to examine in some detail because his view is a significant improvement on the matter. Lyn wrote:

“There are three aspects to this fable of "Plato's Cave," three conceptions which have repeatedly, insistently reasserted themselves in physical science, over the millennia since. First, the notions associated with naive sense-certainty depend upon overlooking crucial evidence proving that the images associated with perception are not simple mirror-images of the sensory experience which prompts them. Second, that although sense-perception yields us only distorted images of reality, sense-perceptions, although distorted images of reality are nonetheless shadows of that which is real; in modern language, they are *conformal projections* of that which is

<sup>8</sup> [LYNDON LAROUCHE, HOW TO EVALUATE A BRITISH INTELLIGENCE NETWORK, 1977](#), p. 2. Lyn explained this process as follows: “In general, as we have already emphasized, the popular opinion of reality, the popular interpretation of the rules of behavioral response to perceive reality, represents the mask of determining reality. The way popular opinion perceives and responds to reality is, at best, a simplification of and disguise for the underlying processes and principles which are in fact operative and determining. It is in the mask form so indicated that principles of reality are embedded in the popularized values attached to institutions.” (p. 21)

real upon our senses. Third, that because of the fallacies of sense-perception, on the first count, but also because of the *conformal projective* character of them, on the second count, our sensory apparatus is a magnificent scientific instrument, if we but learn to read its dials competently.”<sup>9</sup>

The point I wish to emphasize, here, is on the epistemological nature of such a “*conformal projection*.” The reality of Plato’s Cave as a cognitive process is that it is not only a true transfinite experience that we can have of knowing the real world, but that this “*conformal projection*” that Lyn has identified is the only way to understand its validity as a representation of the real world. In other words, what is to be investigated is not only how to “read” this triply-connected relationship of Plato’s Cave competently, but most importantly how to change the world by using it.

First and foremost, it is the discrete manifold of self-evident things that Lyn is targeting here, the naïve manifold of sense certainty projected onto the dimly lit wall of the cave where people are made to believe that snow is black. Unless people’s belief is confronted by such *fake news*, unless they question the fact that snow is black, and they shed what they believe in, by taking off their own shackles, there is no chance that they can make the change they are required to make. You can’t make sense of what Plato or Lyn are really talking about unless you start unlearning what you think you know and get rid of your *fake news* knowledge.

Secondly, the “*conformal projection*” that Lyn is referencing is the paddle for your lifeboat. Once you realize that your lifeboat is on an ocean without a shoreline, you are safe as long as you have that paddle. Remember that you are traveling on a *nowhere*, and that you have to figure out how to find your way back from anywhere once you have left the comfort zone of the shore. So, the question is: How does that paddle of “*conformal projection*” work?

Thirdly, what is the discovery that Lyn added to Plato’s Cave and which you must now begin to understand and apply to your own mind? The truth of the matter is that you can only get out of the Cave by passing through the different steps that

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<sup>9</sup> Lyndon LaRouche, *Op. Cit.*, p. 68 of 72

Lyn has indicated. Plato did not prescribe any specific pathway to take, but Lyn did: the pathway is the crucial experiment of the transfinite.

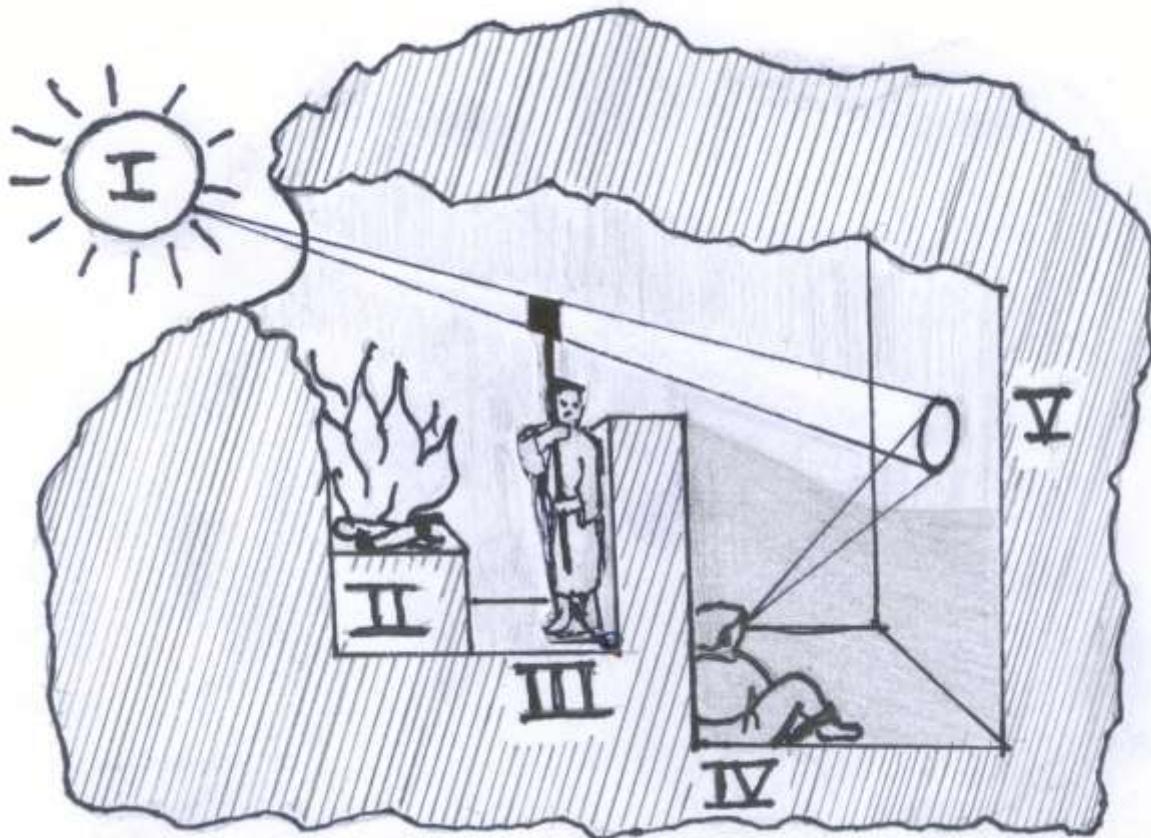


Figure 1 A modern reconstruction of Plato's Cave

What is the difference between the shadows projected from the sunlight on the outside and the shadows projected from the fire on the inside? What is the significance of the paradox of the squaring the circle, as it is projected on the wall of the cave? (See Figure 1) What is the pathway that the prisoner must find after breaking his shackles?

The task is epistemological in character; the prisoner must not only break his chains, but he must also find his way out of the cave through a transformation of

his knowledge, and that, primarily, by solving the paradox of the *coincidence of opposites*.

The first step is that the prisoner has to go on a *nowhere by time reversal*. How can he do that? He has to compare the knowledge of today with the knowledge of two thousand years ago by projecting one on top of the other against the same dimly lit wall of his mind and study the differences that the fire projection gives. He has to think of it as if he were looking at two similar pictures in which he has to find the fifteen errors. In a second step, the prisoner must discover the difference between man-made firelight and God-made sunlight. That's the first transfinite step.<sup>10</sup> And, thirdly, he has to discover two fundamental things that Lyn has added for solving the problem of Plato's Cave:

“First, the student, by reliving the history of important ideas, acquired an historical perspective respecting capricious fads of mere popularized opinion during his lifetime. *Looking at the present, by reliving the vantage-point of the past as a view of the present, and viewing the past from the present by aid of this, affords the student a sense of being an efficient individual within the span of past, present, and future history.* The student thinks of the outcome of ideas, and situates the notion of such outcome in an historical perspective respecting the present's causal connection to past and future over spans of centuries and millennia. This is to be seen as a moral sensing of ideas, the which is almost totally lacking in the present generation.

“Second, by reliving the experience of relatively successful discovery of valid fundamental ideas, in science and otherwise, the student referencing primary sources together with reconstructed experiments and observations, is causing his or her creative-mental processes to resonate with the greatest minds of centuries and millennia of preceding history. *The student completes such a secondary program with something far more valuable, to the student and to society, than mere learning of approved sentiments and procedures. The intellectual and moral potentialities of the student's*

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<sup>10</sup> See [LANTERNLAND](#).

*character are developed to the highest relative potentiality which education can inspire. [Emphasis added]”<sup>11</sup>*

After having fulfilled those two requirements, based on the *principle of time reversal*, you are then able to come up, face to face, with your own underlying assumptions about what the history of ideas has been, and you are able to discover which past errors have to be changed and which are to be improved on for the benefit of future mankind. Then, and only then, are you ready to go back into the cave.

What opens the pathway back into the cave is what Lyn identified as the transfinite process; the inverse time process, or time reversal that Plato had considered in the form of recollection or reminiscence (*anamnesis*). Most people have a tendency to reduce this Platonic doctrine to a linear notion of recalling knowledge from a previous life; that is a typical Aristotelian misunderstanding of the matter. The Platonic doctrine of *anamnesis* is an epistemological recollection of one’s ability to discover *what is not there* as in the Meno Paradox. For instance, in the dialogue Meno asked Socrates: “*How on Earth are you going to set up something you don’t know as the object of your search? To put it another way, even if you come right up against it, how will you know that what you have found is the thing you didn’t know?*”<sup>12</sup>

*Anamnesis* represents the act of calling to mind the historical transformation of physical-space-time with respect to the creative-mental process whose knowledge is already in the soul throughout eternity, and which becomes rediscovered through the simultaneity of eternity. Socrates makes the point somewhat differently in the *Phaedo* where he states that “*learning is really just recollection. If that is true, then surely what we recollect now we must have learned at some time before, which is impossible unless our souls existed somewhere before they entered this human shape. So in that way too it seems likely that the soul is immortal.*” The proof of this immortality of the soul, added Socrates, is that when you ask the right question you can get a perfectly correct

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<sup>11</sup> Lyndon LaRouche, *Op. Cit*, p. 71 of 72.

<sup>12</sup> Plato, *Meno*, 80d. Translation by W. K. C. Guthrie.

answer, or “*if you confront people with a diagram or anything like that, the way in which they react is an unmistakable proof that the theory is correct.*”<sup>13</sup>

With respect to the mind, for example, space and time can no longer be simply ascribed to matter as two separate and independent deductive characteristics of the Universe; they have to be connected together, at the hip so to speak, as a new concept of *anamnesis* which can be called: *knowledge of physical space-time-reversal*; that is, as a process of change through negative curvature recollection. This requires further explanations and a recollection of the geometrical epistemology of **Part I** of this report.<sup>14</sup>

*Physical space-time-reversal* is the difference that Socrates made between simple perception and *time-reversal-anamnesis* in the *Meno* dialogue and the difference that Lyn ascribed to what he termed the “premises of true knowledge.” As he said: “*What man knows from experience, references only that experience which is historically efficient in the correlation between implicit willful intent and consequences.*”<sup>15</sup>

Thus, time is no longer considered simply as the spatial distance that one travels through by going from one place to another; *time is change and space of negative curvature is its pathway*. This means that, on the other hand, space is no longer the empty container of discrete matter; *space is the pathway of time-changing forward and backward*. In other words, *physical space-time-reversal* is the new concept of the creative-mental process; that is, *the anomaly of time changing in the two opposite directions of negative curvature*. That is the process that Plato had identified as *anamnesis*, and that is the *coincidence of opposites*. It is from the performative method of such a creative-mental process that Lyn concluded:

“It is on the level of that stratum, that we are able to compare the development of fundamental notions in terms of the sundry examples taken from a number of hundred, or even thousands of years before our time.

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<sup>13</sup> Plato, *Phaedo*, 72e. Translation by Hugh Tredennick.

<sup>14</sup> See, [\*\*THE LAROUCHE METHOD OF THE CREATIVE-MENTAL PROCESS, PART I.\*\*](#)

<sup>15</sup> Lyndon LaRouche, [\*Op. Cit.\*](#), p. 54 of 72

Conversely, by examining the elementary conceptions of scientific thought in terms of the address to them thousands, or hundreds of years earlier, our attention is focused upon the simplest mode of comparison, and our thoughts thus directed to the deeper stratum of underlying assumptions where present and past conceptions of that sort may be compared properly.”<sup>16</sup>

So, by what factor are the shadows on the wall of our minds deformed and distorted and what sort of changes in our mental apparatus are we required to make in order to compose the appropriate readjustment? Leonardo da Vinci provided the answers to those questions in his *Notebooks*; most notably in the section he identified as “Perspective” and what Lyn calls “*conformal projection*.”<sup>17</sup>

## 7. THE CAUSTIC MIND OF LEONARDO DA VINCI<sup>18</sup>

*“A painting or any representation of a human figure must be treated in a manner such that those who see it can easily recognize the concept of its soul through its physical demeanor.”*<sup>19</sup>

Leonardo da Vinci

In a few months from now, on May 9, 2019, the world will be celebrating the 500<sup>th</sup> anniversary of Leonardo da Vinci’s death. In his paper [THE MEANING OF THE TERM ‘TRANSFINITE’](#), Lyn commemorated how Leonardo had contributed to some of the most fundamental discoveries that mankind has ever seen during the span of the 2,000 years before him. As Lyn said, one of the most

<sup>16</sup> Lyndon LaRouche, [Op. Cit.](#), p. 71 of 72

<sup>17</sup> This notion of perspective is also what Lazare Carnot had identified as aerial perspective: “*Linear perspective...is calculated mathematically, [but] aerial perspective...can only be grasped by the sentiment. By comparing these two sciences, where one is sensual, the other ideal, the methodical course of one will help penetrate the mysteries of the other... [Aerial Perspective] is the art of generating ideas by means of the senses, of acting on the soul by the organ of vision. It is in this way that it acquires its importance that it competes with poetry; that it can, like poetry, enlighten the mind, warm the heart, excite and nourish higher emotions. We shall emphasize the contribution that it can bring to morality and to government; and how, in the hands of the skillful legislator, it will be a powerful means of instilling horror of slavery, and love of the fatherland, and will lead man to virtue.*” Lazare Carnot, from the “Drawing” section of the Public Works curriculum, Ecole Polytechnique, 1794.

<sup>18</sup> [The Life of Leonardo da Vinci - TV mini-series \(1971\) Part 1 of 5](#)

<sup>19</sup> *Les Carnets de Leonard de Vinci*, Gallimard, Vol. I, 1942, p. 229.

significant topics examined by Leonardo was how to make a discovery of principle into Plato's Cave. Lyn made the point of identifying Leonardo as the key connection relating Plato, Cusa, and Leibniz both from the standpoint of science and of artistic composition. Lyn wrote:

“As we have stressed here, it is a humbling experience to trace the most profound ideas of today's science, back to three, four, and approximately five hundred years, to Leibniz, to Kepler, to Leonardo, and to Cusa and Brunelleschi. Then, from the fifteenth-century Italian renaissance, we leap back in the mind approximately two thousand years, to the work of Plato's Academy at Athens, and to the Golden Age of Athens before that.”<sup>20</sup>

Thus, the *space-time-reversal process* represents the actual historical extension span of Plato's Cave that Lyn has invited us to go into by using a handful of crucial discoverers as guides. Such a historical expedition that Lyn proposes we undertake is precisely the appropriate way to descend into Plato's Cave in order to liberate the prisoners from their self-imposed shackles. The most important discovery that Lyn used to relate Leonardo to these other historical figures regards the behavior of caustic lighting: *It is the constructive geometry of the caustic of negative curvature which best traces the pathway to and from Plato's Cave.* However, the caustic not only shows how to discover the way out of Plato's Cave, it also shows the pathway of how to get back into it.

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<sup>20</sup> Lyndon LaRouche, *Op. Cit.*, p. 68 of 72.

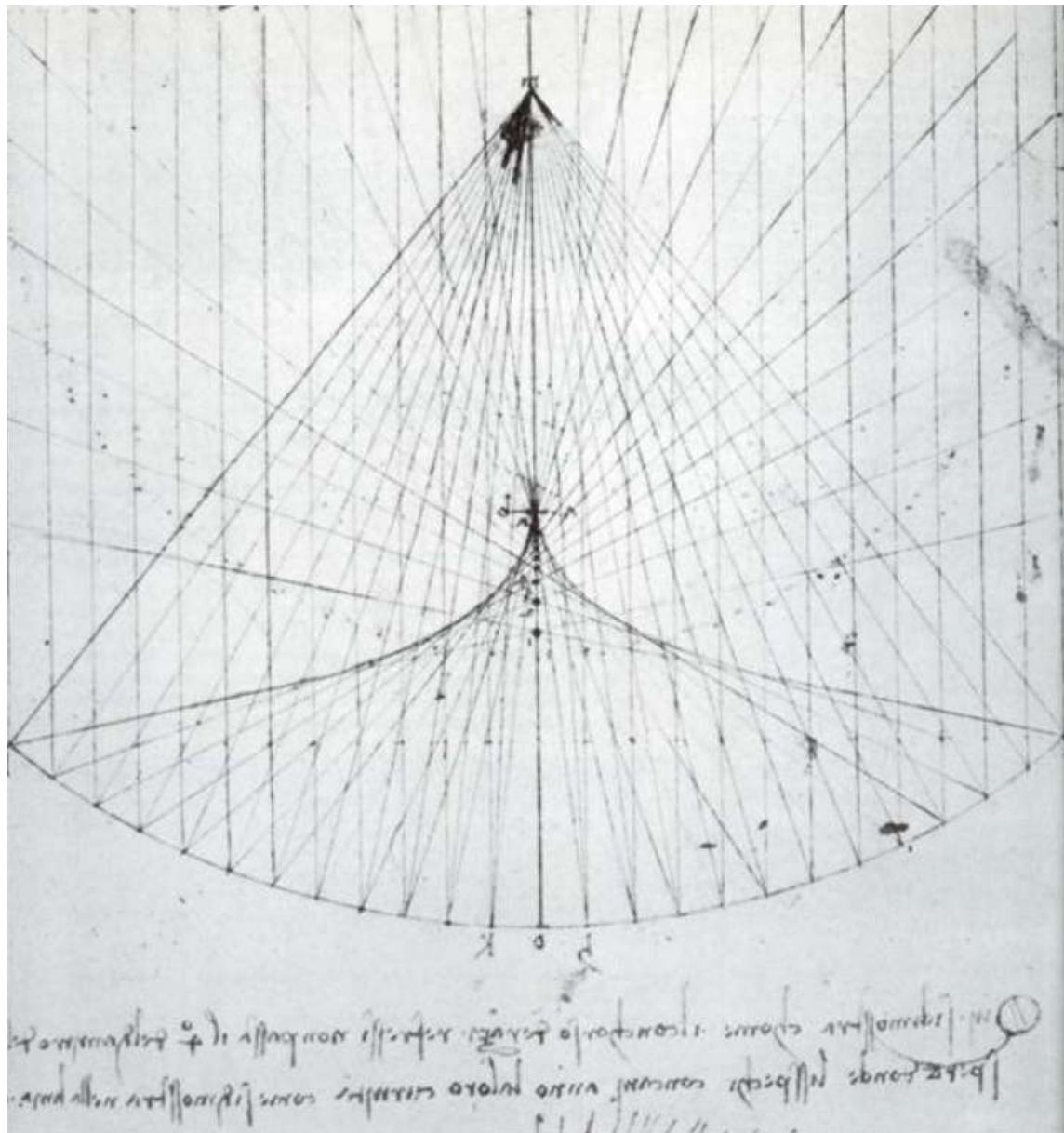


Figure 2 Leonardo da Vinci. Caustic of light producing reflections in a concave mirror generating a reflex stream as does the catenary/tractrix function by the inversion of tangents enveloping their own development. *Codex Arundel, 87v.*

The lesson to be learned with Leonardo da Vinci is that his artistic compositions take you behind the mask of what things appear to be through an

enveloping process of development. Aside from emphasizing the characteristics of harmonics of the golden section associated with living processes that Leonardo had investigated based on his constructive method of non-Euclidean geometry, Lyn focused on Leonardo's method of multiply-connected circular action as the basis of his epistemological investigation. Lyn reported:

“The curvature of physical space-time was already explored, especially relative to the physics of vision, by Leonardo. Leonardo proved, for example, that relative to reflection of light, or transmission through a flat glass surface, or through a curved lens, the physical space-time of vision is not rectilinear or spherical, but elliptical or parabolic. This involves his treatment of the problem of the *caustic*, a matter already investigated by Brunelleschi in respect to developing the construction of the dome for the Cathedral of Florence.”<sup>21</sup>

Thus, the *caustic* approach to epistemology is the process of transformation to focus on here. Look at Leonardo's conception of matter as if you were looking into his caustic mind with the corrective instrument of your own insights. Leonardo wrote:

*“Every body is surrounded by a limiting surface. Every surface is full of infinite points. Every point makes a ray. The ray is made up of infinite separating lines.*

*“In each point of any line, there intersect lines proceeding from the points on the surface of bodies, and they form pyramids. At the apex of each pyramid there intersect lines proceeding from the whole, and from the parts of the bodies, so that from this apex one can see the whole and the parts. The air that is between bodies is full of the intersections formed by the radiating images of these bodies.*

*“The images of the figures and their colors are transferred from one to the other by a pyramid. Each body fills the surrounding air with its infinite images by means of these rays. The image of each point is in the*

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<sup>21</sup> Lyndon LaRouche, *Op. Cit.*, p. 35 of 72.

*whole and in each part of the line caused by this point. Each point of the one object is, by analogy, capable of uniting the whole base of the other. Each body becomes the base of innumerable and infinite pyramids. One and the same base serves as the cause of innumerable and infinite pyramids turned in various directions, and of various degrees of length. The point of each pyramid has in itself the whole image of its base. The centerline of each pyramid is full of an infinite number of points of other pyramids. One pyramid passes through the other without confusion..."<sup>22</sup>*

The irony, here, is that Leonardo has applied the Leibniz differential calculus to the art of painting two hundred years before Leibniz invented it. And, he applied it to his conception of shadow and light as their *conformal projections* are reconstructed from the dimly lit wall of his mind. In that sense, one has to understand the Leonardesque artistic composition very much like a scientific form of infinitesimal differentiation of light and shadow reflections of primary lights and shadows as a means of expressing the state of mind of its painted subject. The most vivid composition-representation of Plato's Cave can be found in **LEONARDO DA VINCI, THE VIRGIN OF THE ROCKS**. As I indicated in that 2008 report, the spectator has to find the errors of composition that Leonardo had incorporated.

What should be known to the reader about this painting is that the original commission for it was made on April 25, 1483, by the Brotherhood of the Immaculate Conception in Milan, and the painting was to be completed in time for the day of celebration of the Immaculate Conception on the following December 8th. However, the "caustic" quality of Leonardo's work caused a great controversy which resulted in a 25-year long legal fight against him.<sup>23</sup>

The caustic irritation was centered on the pointing gesture of the Angel's right hand and his external glance at the spectator. This gesture was considered unacceptable by the Brotherhood and was identified as "*irreligious and distracting for the spectator who would not understand.*" Consequently Leonardo's painting

<sup>22</sup> Leonardo Da Vinci Notebooks, selected by Irma A. Richter, Oxford World Classics, Oxford University Press, 1952, p. 121.

<sup>23</sup> Elements of such an outcome can be found in the partial iconographical documentation from: *TOUT L'OEUVRE PEINT DE LEONARD DE VINCI*, Les Classiques de l'Art, Paris, Flammarion, 1968.

was rejected and he was required to compose a second painting without the pointing finger and without the glance. Leonardo complied by producing a second version which included a different caustic argument left to be discovered by the astute observer and which I discussed in my previous report.



Paris Louvre Museum



London Museum

Figure 3 Leonardo da Vinci, "The Virgin of the Rocks." (1483-86)

The central irony of the *Virgin of the Rocks* has to be discovered in the nature of the ambiguity between those two paintings. (See Figure 3) Lyn had made the relevant point, when he identified that the primary ambiguity between the two

paintings resides in the difference in treatment between two sources of light, firelight (Paris) and sunlight (London). Thus, what the spectator is required to do is to study most closely the two compositions and discover the Platonic nature of the controversy that Leonardo reproduced in his conception of light and shadow.

What you should discover here is that the two paintings are about you: “*De te fabula narratur.*” As I wrote in my previous report: “Such a performative method of artistic composition is best exemplified by Leonardo’s *The Last Supper*, or Raphael’s *The School of Athens*. Both frescos represent a form of *thought experiment* whose truthfulness reaches an absolute limit in the spectator’s mind by revealing to him that what he is observing is nothing short of the living transformation of his own mind, as if the sole purpose of the work of art had been the transformation of the spectator into a creator.”<sup>24</sup>

Read carefully how Leonardo describes the process of transformation as a non-linear caustic-field of negative curvature, at a time when he was planning to write seven books on the subject-matter:

“The scientific and true principles of painting first determine what is a shaded object, what is direct shadow, and what is light, that is to say, darkness, light, colour, body, figure, position, distance, nearness, motion, and rest. These are understood by the mind alone, and do not entail manual operations; and they constitute the science of painting which remains in the mind of its contemplators; and from it, is born the actual creation, which is far superior in dignity to the contemplation or science which precedes it.

“In the practice of perspective, the same rules apply to light and to the eye. Shadow is the obstruction of light. Shadows appear to me to be of supreme importance in perspective, because without them, opaque and solid bodies will be ill defined; that which is contained within its outlines and the outlines themselves will be ill understood unless it is shown against a background of a different tone. Therefore, I state as my first proposition concerning shadows that every opaque body is surrounded and its whole surface enveloped in shadow and light. And to this I shall devote the first book.

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<sup>24</sup> [THE LAROUCHE METHOD OF THE CREATIVE-MENTAL PROCESS, PART I](#), p. 13.

“Moreover, these shadows are of varying degrees of darkness because they have been abandoned by a varying quantity of luminous rays; and these I call primary shadows because they are the first shadows to form a covering to the bodies concerned. And to this I shall devote the second book.

“From these primary shadows there issue certain dark rays, which are diffused through the air and vary in intensity according to the density of the primary shadows from which they are derived; and consequently I shall call these shadows derived shadows, because they have their origin in other shadows. And of this I shall make the third book.

“Moreover these derived shadows in striking upon anything create as many different effects as there are different places where they strike; and of this I will make the fourth book.

“And since where the derived shadow strikes, it is always surrounded by the striking of the luminous rays, it leaps back with these in a reflex stream towards its source and mingles with and becomes changed into it, altering thereby somewhat of its nature; and to this I shall devote the fifth book.

“In addition to this, I will make a sixth book to contain an investigation of the many different varieties of the rebound of the reflected rays, which modify the primary shadow by as many different colors as there are different points from whence these luminous reflected rays proceed.

“Furthermore, I will make the seventh book treat of the various distances that may exist between the point where each reflected ray strikes and the point whence it proceeds, and of the various different shades of color which it acquires in striking against opaque bodies.”<sup>25</sup>

Leonardo's conception of light and shadows is very similar to a modern conception of the atmosphere filled with interacting *wavicles*, as Lyn calls them, and which Leonardo defined as “*reflex streams*” which rotate and penetrate each other, shading each other without interfering with each other as Leibniz, Fermat,

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<sup>25</sup> Leonardo da Vinci, *Op. Cit.*, p. 123-124.

and Monge later described the negative curvature of light propagation in a changing medium. Leonardo's artistic compositions are formed by delicate streams of layers of light, shadow, and color reflecting the principle of least action as the negative curvature principle of development of the human mind proceeds to discover that the universe as a whole as well as the human mind abide by the same principle.

There is a direct link, here, between Leonardo's method of generating a transfinite function and Leibniz's least action principle. Both have adopted a similar principle for the propagation of light radiation and of ideas. As Leibniz wrote to Huygens about two hundred years later: "*The whole question lies in the manner with which you have yourself considered that each point is itself radiating, and how you have composed a general wave for all of these auxiliary waves.*"<sup>26</sup>

## CONCLUSION

In general, this is how a "*conformal projection*" works in the history of ideas as well. To change the past, you must turn your mind into a negative curvature envelope like Leonardo developed 500 years ago. Of all of the historical lessons that Lyn has given us, this one is perhaps the most fruitful of all, because he makes you discover that it is the history of ideas which is the key to validating any transfinite thought process through reliving previous discoveries of principle. The result is simply the accomplishment of what Schiller had called the making of the beautiful soul. Lyn concluded his paper with this amazing epistemological conception of what such a transfinite radiation of knowledge is about:

"The matured mind, so enriched, has the inclination to think simply, axiomatically, on the most profound topics, and has developed, and continues to perfect the habits of doing so effectively.

"This sense of the simplicity, of every fundamental conception, must be the standpoint from which every fundamental matter is approached. Once the proper sense of the axiomatic simplicity of the matter is grasped, the best

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<sup>26</sup> Gottfried Leibniz, *Philosophical Papers and Letters*, Kluwer Academic Publishers, Vol. 2, 1989, p. 418.

result is to be expected from the crucial-experimental pursuit of the array of topics so addressed.

“In this report, we have presented everything from a specific standpoint, economic science. In concluding this report now, we do not wish to leave the reader with the implied suggestion, that the same method we have employed here differs from the method we might have employed in addressing other topics, theology not excluded.

“The division of labor in society prompts each to present knowledge from the vantage-point of but one facet of the endeavor of the society's division of labor as a whole, and but one facet of the life's activity of even that reporter. If the reporter so engaged is one of the philosophical temper presented here, variously explicitly and implicitly, there is no important topic respecting the life of society, or the wholeness of his own life, which is not implicitly addressed even when only one facet of knowledge is the immediate reference of communication.

“Knowledge is a unity, as the universe is a coherent sort of unity such that every true law in any facet of the universe's activity is also a law of equal efficiency in every other facet. True knowledge is thus a most precious gem of many facets, such that, looking into the heart of that gem through any one of these facets, we are afforded a view of the deeper interior, which is the same interior seen from the vantagepoint of each and every other facet. For this reason, it is not permissible to represent any facet as truth, except as we show implicitly that it is a true projection of the interior common to, and thus subsuming the many facets. When that has been the approach to representation of the fruit of work of polishing any one of the facets, the reader is thus enabled to look deeply into the soul of the author, and to infer what the same author's approach would be to the peculiar subject-matter of any other facet.

“That becomes, thus, the reader's implied responsibility: not to impute to such an author anything contrary to that implication.”<sup>27</sup>

FIN

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<sup>27</sup> Lyndon LaRouche, *Op. Cit.*, p. 72 of 72.