*From the desk of Pierre Beaudry*

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Class given to the Montreal LYM on November 29, 2007.

# HOW PANURGE DEALT WITH HIS AXIOMATIC CHANGE.

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**INTRODUCTION:**

I want to start with a question, which is not simply rhetorical: How can one measure the universe? What kind of measuring stick can one use? Are we going to use a yardstick or a meterstick? Where are we going to start from? Which direction are we going to take? Am I asking the right questions? We may never know how big the universe is, in terms of size, but we are perfectly capable of knowing how to measure it in terms of boundedness, that is to say, under the constraint that Lyn identified in the footsteps of Einstein, when he said that the universe was proportionately *finite and self-bounded*. You have just heard Lyn answer that question in at the Los Angeles LYM meeting of November 26, 2007. He said: "*The universe is finite. The number, the size of the universe has the number 1. The volume of the universe is 1*!" Now, when you think about this, and in the way he stated it, he's actually giving you the way to measure the universe. This condition, however, does not imply that I can measure the magnitude of that 1; but that I can measure axiomatic change within that 1. So, implicitly, this also means that you can measure the universe by the same means that you use for solving crucial historical crises like the current world financial crisis that is now in its terminal phase.

Therefore, this moment of history in which you find yourselves, especially with respect to your mission of giving Ottawa the orientation toward the economics of building the Bering Straits Tunnel is the greatest moment of opportunity for all of the Canadian people. This is the same opportunity that Lyn gave the Chinese people at the

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historical forum on the *U.S.-China Relationship and the Peaceful Reunification of China*, in Los Angeles on November 24. I recall for you the gist of Lyn's answer to the question of reunification of China, in which he said:

"*Diplomacy is a very complicated business. And it springs from inside the country and inside the wise old men of each country. The president of the United States today is not a wise old man. [Everybody laughed] Therefore, in a case like this, you must use, as I do – **you must use the occurrence of crisis, not as a problem, but as an opportunity**. (The emphasis is mine)[…] This is not a simple process. It's a complicated process. It's a dangerous process. You put your life on the line sometimes, when you do what I do. But you do it: it's the right thing to do*."

Now, that is really the essence of the axiomatic change that Francois Rabelais's famous character, Panurge, had to go through just after he landed on the Island of Lanternland, which was the America of Rabelais. In other words, we are no longer seeking to determine the metric relations within the manifold of a Cartesian universe, but we are looking for the changing relationships between manifolds, or between phase-spaces inside of our universe. And that is what Rabelais does. He is looking at the self-generating metric of going from one manifold to another manifold, that is, from a manifold that no longer works because it is corrupt and bankrupt into a manifold that works for the benefit of all of the people. Such is the character of the Peace of Westphalia and of its principle based on the benefit of the other. That is what the Chinese wise old men have to discover in order to succeed in the process of reunification of China. This is also what we have to learn to master in order to transform the current financial crisis into an economic opportunity. So, that's a big job, as big as the universe!

Now, the Pythagoreans and the Platonists also understood that historical condition explicitly, as Heraclites showed in his famous principle: "*Everything changes, except change itself.*" The Greeks knew this principle of change from the standpoint of the principle of universal proportionality that Thales had originally developed in Egypt and from the method of *dynamis* that Pythagoras had established as expressing the different powers of *Sphaerics* that were part of his *quadrivium.* Those were the four fundamental sciences that the Pythagoreans learned from the priests of Amon in Egypt. They were Arithmetic, representing the number of the universe, Geometry, representing the form of the universe, Music, representing the harmony of the universe, and Astronomy, representing the motion of the universe. All four reflected the same creative process of change, which I have borrowed tonight from Rabelais, who himself borrowed it from Pythagoras. What I am going to develop with you is the crucial axiomatic change that Panurge experimented in his last and most decisive adventure to Lanternland. I am referring to the axiomatic change pertaining to the Pythagorean Tetrad of *universal proportionality between the point, the line, the surface and the solid*. I will not assume that all of you have read Chapter 36 that I sent you, so we will go through that in details in a minute.

You should also know that Leibniz discussed the same Pythagorean powers of reason, in his own science of *dynamics,* and he demonstrated that the way to measure

such axiomatic change in the universe was by bringing harmony to the self-reflexive proportionality between political power and reason. As a result, such a process would establish, everywhere on this planet, republican forms of self-government as opposed to oligarchical predatory financier looting grounds. Leibniz also noted that such a political proportionality could only be viewed as light reflected in a fiery image of God. I will develop this further with you in just a moment.

Today, we know that this universal historical tradition of knowledge is being destroyed by the onrushing financial mismanagement of the British-Dutch liberal system of predatory financial interests. This is the reason why Lyn has been emphasizing the necessity to restore the classical republican heritage of ancient *Sphaerics* through the understanding of the universal physical principle of gravitation of Kepler and Leibniz, who both proved the self-governing universal quality of gravitation with the least action elliptic pathway of planets, on the one hand, and with the enveloping ambient catenary power of the sun, on the other. In other words, as Lyn showed, the truth of the matter is that **the universe is as big as the universal physical principles will allow it to change**. So, I will now venture to demonstrate to you how Panurge made the discovery of the principle that underlies the *finiteness and self-boundedness* of the universe.

As shockingly surprising as this might sound to you at first glance, Francois Rabelais wrote a short story on this crucial question of axiomatic change in Chapter 36 of his *Fifth Book*, which I have reproduce for you, in part, from the very good English translation by J.M. Cohen. But, on second thought, you should not be so surprised about this Rabelaisian knowledge, given the clinical and medical expertise that Rabelais had as a medical doctor. And, besides, don't forget that Rabelais was both a doctor and a poet. This is why I want to remind you that regardless of the fact that Rabelais' story might be a fiction, it would be wrong to consider that the Pythagorean incursion he introduced in the last section of his last book were a mere frivolous exercise. It is by no means frivolous or fallacious. You will be able to judge for yourself.

**1- RABELAIS AND THE SINGULARITY OF THE PYTHAGOREAN TETRAD.**

Just to establish for you the context of this story, let me start with the forecast that Rabelais made to all visitors of Lanternland. He used the statement of the Greek Stoic philosopher, Cleanthe, which was translated into Latin by Seneca, and which said: {***Ducunt volentem fata, nolentem trahunt.***}: **"Destiny leads the willing, but drags the unwilling."** (*Les destinées meuvent celui qui consent, tirent celui qui refuse*.) This statement is found in Book Five, the last book that Rabelais wrote about the last adventures of Pantagruel, Panurge, and Friar John who had traveled to the Island of Lanternland, on their last expedition. When they arrived at their destination, the visitors were greeted by Midnight-Oilers "Lanternois" who immediately started having philosophical discussions with them, especially on the subject of final causality, whereby "*all things move to their ends*." The habit of Midnight-Oilers is to stay up all night and feast on ideas generated exclusively from their lanterns which are modern forms of *Pythagorean Sphaerics*.

I refer you, most emphatically, to Chapters 32 to 48 of that last book, because, of all of Rabelais' writings, it is in that last section of the *Fifth Book* that the axiom-busting method of Rabelais is best mastered and displayed. But, for our purpose, here, I will only use **Chapter 36: Our Descent of the Tetradic Steps; and Panurge's fright,** which you should all have electronic copies of. (Page 685 of the 1955 Penguin Books edition.) Study this well. It is a pure delight of *Pythagorean Sphaerics*. Here, Rabelais brings the reader to making a fundamental discovery of universal physical principle by using what Leibniz later called his *principle of continuity.* Think that this discovery is of such significance and importance that it may one day save your life. It may also put your life in danger. This is what it did to Panurge.

In *Chapter 36*, Rabelais restored playfully to civilization the Pythagorean Tetradic principle of growth by means of an experiment with a conical spiral action. He wrote the story with such a tongue in cheek measure and such gusto that the reader cannot help but be provoked to investigate the seriousness and truthfulness of his mathematics. That's why I e-mailed you this little puzzle in advance. However, this is a joke that is not a joke. It is a funny story which has a deadly serious twist to it. So, as LaRouche once put it: "*Believe nothing that for which you cannot give yourself a constructive proof.*" Go work it out for yourself, and see what the Rabelaisian arithmetic adds up to. Count the number of steps and draw your own conclusion. You don't need a mathematical degree to do it. Here is the relevant part of Panurge's crucial experiment.

**Book Five, Chapter 36:** *Our Descent of the Tetradic Steps; and Panurge's fright.*

*"Then we descended an underground marble staircase, and came to a landing. Turning to the left, we went down two other flights, and came to a similar landing. Then there were three more to the right, ending in a similar landing, and four to the left again.*

*'Is it here? Asked Panurge at this point.*
*'How many flights have you counted?" asked our splendid Lantern.*
*'One, two, three, and four' answered Pantagruel.*
*'How many is that?' she asked.*
*'Ten' answered Pantagruel.* [1+2+3+4=10]
*'Multiply this result by the same Pythagoreal tetrad,' said she.*
*'That's ten, twenty, thirty, forty,' answered Pantagruel.*
*'How many does that all make?' she asked.*
*'A hundred, answered Pantagruel.*

*'Add the first cube,' she said, 'which is eight. At the end of that foreordained number of steps* [108] *we shall find the Temple door. And note most carefully that this is the true psychogony of Plato, which was so highly praised by the Academicians, but so little understood. The half of it is made up of unity, of the first two plane numbers, two squares, and two cubes.'* [1+2+3+4+9+8+27 = 54 x 2 =108]

*In descending these numbered stairs, underground we had good service from, firstly, our legs, for without them we could only have rolled down like barrels into a cellar; secondly, our illustrious Lantern, for we saw no other light as we descended, any more than we should have done in St. Patrick's hole in Ireland, or in the cavern of Trophonius in Boëtie. When we had gone down seventy-eight stairs* [78]*, Panurge cried out to our most luminous Lantern:*
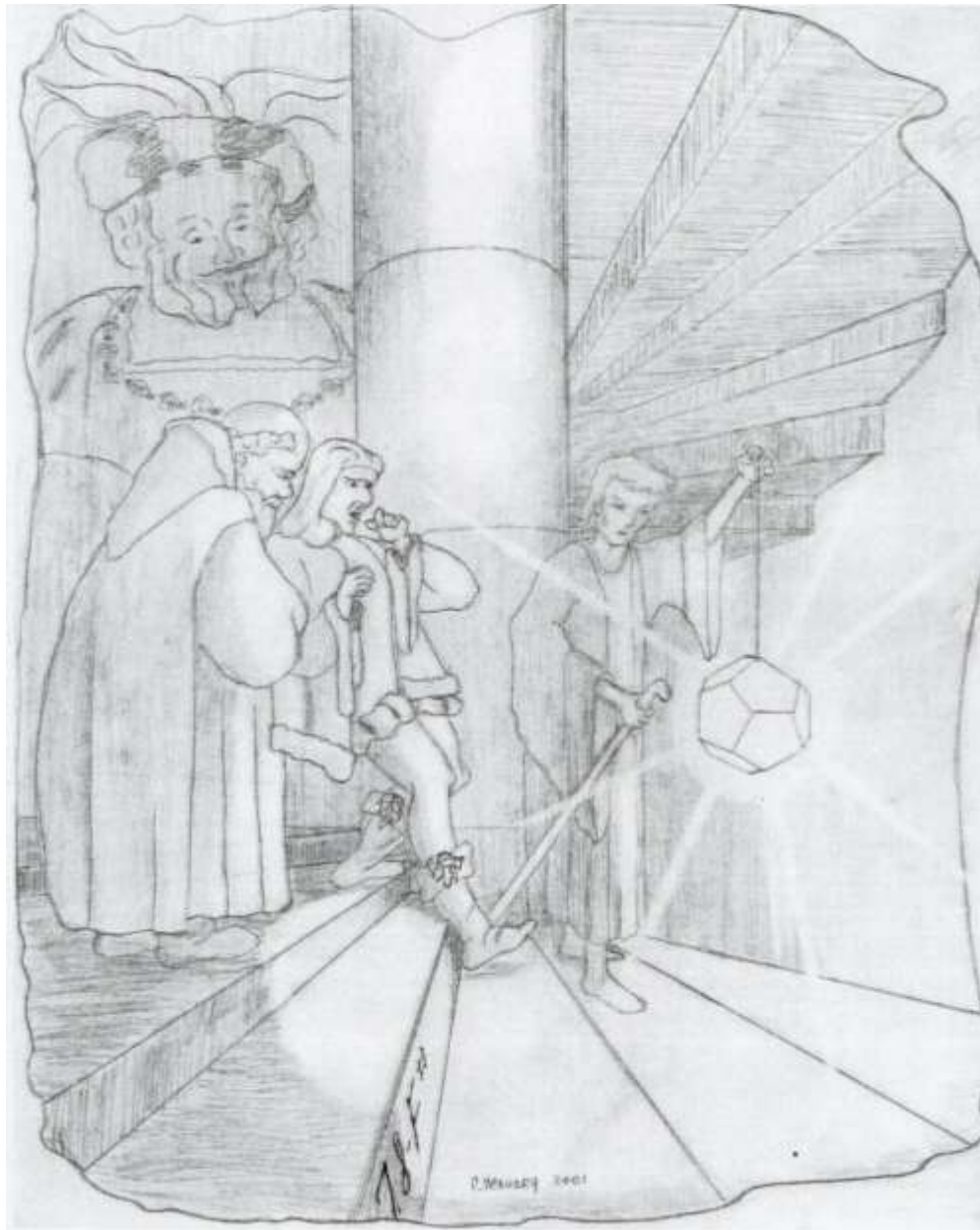


**Figure 1**. Panurge passing over the register shift of the Pythagorean Tetrad.

*'Most wonderous lady, I beg of you with a contrite heart, let us turn back. For by God's truth, I am dying from sheer fright. I agree never to marry. You have taken*

*great pains and trouble for me, and God will reward you for it in his great rewarding-place. I shan't be ungrateful either, when I get out of this Troglodyte's cave. Let's turn back, if you please. I'm very much afraid that this is Taenarus, which is the way down to hell. I think I can hear Cerberus barking. Listen, that's he, or I have a signing in my ear. I've no liking for him at all, for there's no toothache so bad as when a dog has got you by the leg. And if this is only Trophonius cave, the ghosts and goblins will eat us alive, as they once devoured one of Demetrius's bodyguards, for lack of scraps. Are you there Friar John? I beg of you, old paunch; keep close to me, I'm dying of fear.' "*

Now, after having gone through this astonishing psycho-epistemological drama, investigate the processes of the three numbers that Rabelais generated. What are they? The explicit process is the arithmetical generation of the Tetrad. The implicit process is the underlying arithmetic-geometric singularity function. Project the shadows of these numbers on the wall of Plato's cave. The three numbers are 108, 78, and 54. Is that what you have calculated? How did I arrive at these three numbers? And, what is their significance? Have a look at the Gauss arithmetic-geometric mean function and see how it works. What is the significance of those three numbers with respect to the Gauss A-G mean? How do they relate to what Panurge has gone through? What is the significance of the geometric relationship to the psycho-epistemological behavior of Panurge? This experiment is very similar to the one that Benjamin Banneker made when he related his mathematical puzzle of proportionality to the issue of slavery with the master of Monticello. You can find this earlier pedagogical of mine on the LYM website.

If you take the total number of steps in the spiral Tetradic staircase, the conical function as a whole has 108 steps forming a musical octave starting from step 54. Then, there is the complex halfway rotating step between them. It is an arithmetic and geometric step 78, which represents the singularity of a threat that Panurge perceived as deadly when he was about to put his foot on it. What is the threat? What does it have to do with number 78? Is this merely an imagined fear or is it a real fear of death? Note also the caustic inversion of the dog bite and the toothache on his leg!

This is the tragedy of not being able to go beyond an apparent axiomatic limitation of character, such as the flaw of Hamlet, or as the flaws of the current members of the U.S. Congress, or the flaws of the general population. This is the excruciating moment of a high density of singularities that a political leader experiences at a crucial historical moment of decision. This is the Lydian moment of Gethsemane as expressed by Brahms's *Four Serious Songs*! This is also, quite literally, what the arithmetic-geometric mean function represents at the complex halfway mark of a spiral progression of an octave. It is represented as a conical function in the {*So You Wish to Learn all About Economics)* book of LaRouche, the arithmetic-geometric mean function of the whole spiral action progression, p. 51. If you do the calculation yourself, you will find the A-G mean of that octave as being more precisely, 78.666! Rabelais did not include the 666 parts for reasons that should be obvious. The foolish freemasons are still trying to figure out where the satanic number 666 comes from. Do the following construction yourself and you will see:

Find the A-G mean = 78 of the octave that Rabelais gave us, that is, between 54 and 108. How do you do that?

1) First, take the arithmetic mean of those two values, which is:

$$\frac{54 + 108}{2} = 81.$$ Then take the geometric mean of the same two values, which is the

square root of 54 x 108 = 76.3675...

2) Second, take the arithmetic mean of the last two values, which is:

$$\frac{81 + 76.3675}{2} = 78.6837...$$ Then take the geometric mean, which is the square root of

81 x 76.3675 = 78.6496...

3) Third and lastly, take the arithmetic mean again of the last two results: which are:

$$\frac{78.6837 + 78.6496}{2} = 78.666...$$ Then take the geometric mean, which is the square

root of 78.6837 x 78.6496 = 78.666... the A-G mean of that octave. Simple isn't it?

Thus, you have arrived at an apparent limit of 78.666... after three iterations, which generate the delta volume of the Leibniz calculus, the singularity of the quantum of action of the A-G mean, which had been associated with the fearful *devil's interval* during the Renaissance. This infinitesimal interval was used to scare the hell out of people during the Renaissance and made them politically impotent for fear of being burnt as a witch at the stake for telling the truth. Now, what is interesting, here with Rabelais, is that he used this as the creative singularity of an axiomatic change. He used the crisis as an opportunity. The interval describes and explains how a creative moment is always fearful, because, at the point where one has to make a decisive step that changes one's

entire life, the subject becomes totally perplexed, freaks out, and wants to run back to a *comfort zone*, for fear that one would not be able to break through to the meet the next higher degree of responsibility that history put on his shoulders. This crucial experiment, therefore, has universal implications and carries with it a heavy load of consequences.

For example. This crucial experiment is one of the best pedagogical representations for the creative process itself, but it also locates the astrophysical significance of Kepler's discovery of an exploded planet in the register shift region of the solar system, between Mars and Jupiter. So, you see, this is a nice little problem that Rabelais posed as an **axiom buster** to the reader, about 300 years before the young 20-year-old Gauss developed the same mathematical-physics approach, and made one of the most astonishing discoveries of modern science. This is the highroad that Gauss took to discover the asteroid Ceres, with only a couple of observations. So, anyone investigating the scientific methodology of Gauss's discoveries cannot avoid taking into account the fact that Gauss, in every one of his discoveries, also consciously conducted this crucial Rabelaisian experiment during his entire adult life. This is what Rabelais refers to as the "*little understood psychogony of Plato*," the nature of the infinitesimal development of the human mind, yet incommensurable, gap between two different manifolds. This is, also what Riemann had identified as the nature of the "*causal connection of phenomena*" within the domain of the incommensurably small. It should not surprise anyone, therefore, to discover that this is also the hook where the Riemannian-LaRouche economic method hangs its hat.

Now, if you have done some serious Bel Canto voice exercises, you will recognize what I am talking about, because you will have gone through such an experiment and you will have constructed, for yourself, this joyful creative experiment of the passing tone register shift by discovering how to place your own voice in changing from the chest register to the head register. Similarly, the same axiomatic change is generated after you willfully organize politically, in the field, as a world historical figure. This crucial Rabelaisian experiment, therefore, will be at the center of every organizing day of every political leader shaping the future of human history for the thousands of centuries past, present, and still to come. It is the experiment that decides whether you are *leading willfully* or you are being *dragged unwillingly* behind the *Manifest Destiny* of western civilization. Politically speaking, that's where the monkey sleeps! Any questions?

That is the secret of Panurge passing the test of his moral commitment to changing history. It is based on the will to change; that is, the will to risk discovering, after the fact, what *Manifest Destiny* had called on him for, and why *all things move to their ends*. This is the test for the entire population of the United States, today, in response to the LaRouche challenge. This is the test for you in Canada who are willing to tell the parliamentarians in Ottawa what needs to be done. In a few weeks from now, all of those Canadian politicians will be terrified like Panurge. They don't realize it yet, but they will need to know that we have now entered into *crisis politics*, and that LaRouche organizers are the only ones who know how to turn that crisis into an opportunity. So, they will need to know that even though Panurge told the Lantern lady that he was no

longer willing to get married and wanted to go back to his *comfort zone,* he was merely reacting like a Baby Boomer. That was a cover up for the historical crisis that needed to be faced and solved with steel nerves in the Renaissance period. This is what Panurge did when he jumped over his fears of Cerberus.

But, you see, even today you don't need to be terrified by Cerberus because they just went bankrupt in the current ongoing financial collapse. You should now, and you will see this in the briefing of tomorrow morning, that the private-equity firm, Cerberus, is howling because it is going out of business. The mad dog firm just pulled out of a $4 billion deal to buy up a power-tool rental company called United Rentals. They claim to have $10 billion of available liquidity, but that's a lie. GMAC, in which Cerberus has a 51% share just reported a loss of $1.6 billion and they cannot sell their $4 billion Chrysler debt, despite the 3% discount from the 11% they borrowed at. They are finished. That's why they are howling. The satanists are crawling back into their holes.

The proof is in the pudding. Listen to Panurge claiming his sublime victory: and stating that he is *willing* to go on to the next battle: "***Let's go on, then,***" said Panurge, "***and charge ahead foremost through all the devils. We can but perish, and that is soon done. I have always been preserving my life for some battle. Let's move, let's get moving, and let's press onward. I have enough courage and more. It's true that my heart is pounding. But that is from the chill and staleness of this cave. It's not fear, oh no, it's fever. Let's move on, let's pass on, push on, and piss on. My name is William the Fearless.***" (Francois Rabelais, *Gargantua and Pantagruel*, Penguin Books, 1955, p. 686.) This reminds us of the famous speech made by Roosevelt during the last depression, and in which he said: "*all you have to fear is fear itself.*" But Panurge is acting like LaRouche said, with "cold blooded enthusiasm."

Now, let me show you what this process of the A-G mean looks like as an elliptical function. In **Figure 2**. I have taken the octave of 4 and 16. The minor axis of the black ellipse is 4 and the major axis is 16. The proportionality of change is such that the major axis minus the minor axis of one ellipse is equal to the distance between the two foci of the next ellipse.
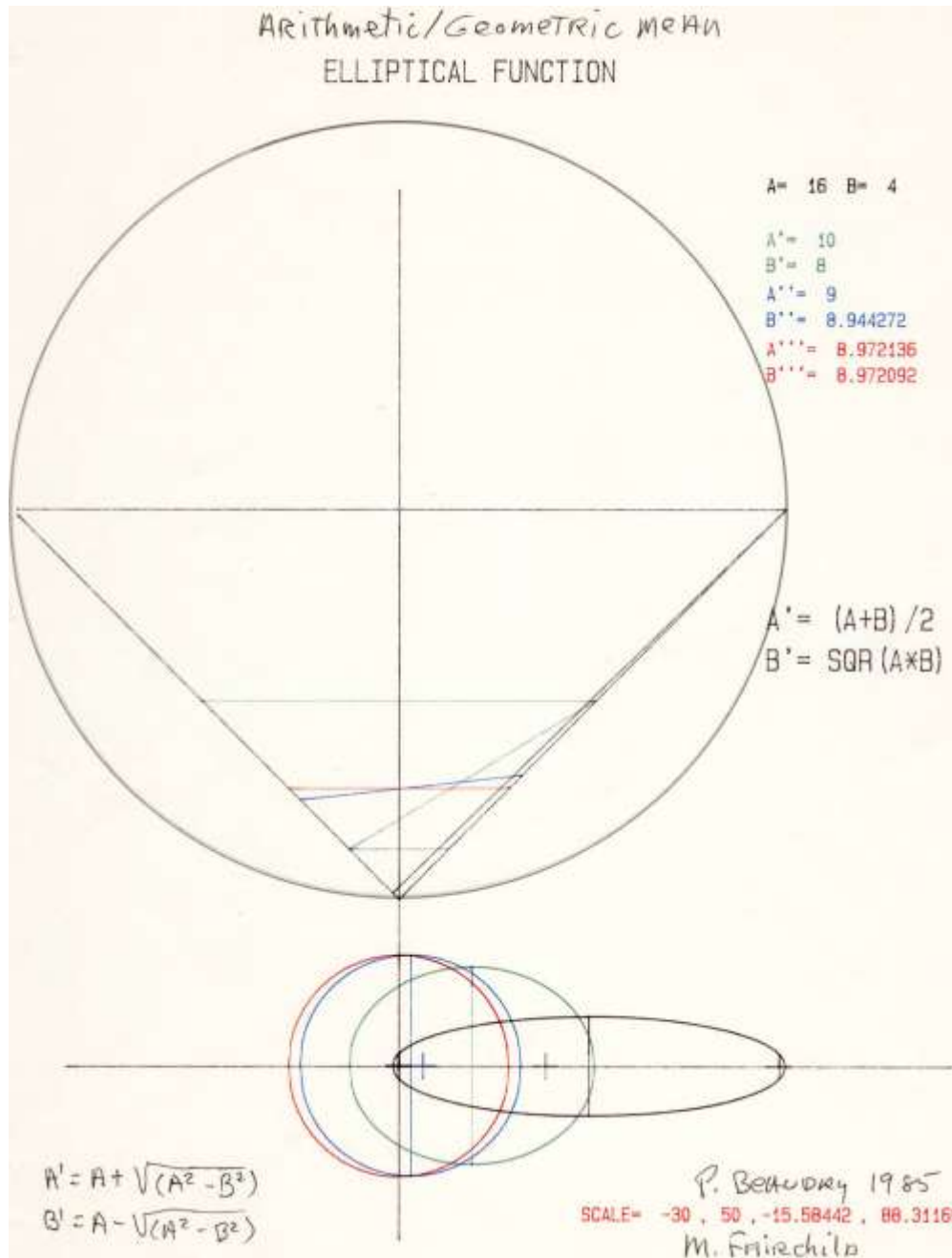
**Figure 2**. Arithmetic-geometric mean of an elliptical function.

Now, you see why I said this Rabelais story was a funny story, but also a deadly serious one! The whole issue, here, is to discover the historical significance and the dynamics of the proportion between *understanding* and the *power of acting* on that understanding. From that vantage point, Leibniz had the most beautiful insight into the power of proportionality as the harmony between human reason and political action, when acting in the image of God. In his *Outline of a Memorandum: On the Establishment of a Society In Germany for the Promotion of the Arts and Sciences (1671)*, Leibniz wrote:

"***All beauty consists in a harmony and proportion; the beauty of minds, or of creatures who possess reason, is a proportion between reason and power, which in this life is also the foundation of the justice, the order, and the merits and even the form of the Republic, that each may understand what he is capable, and capable as much as he understands. If power is greater than reason, then the one who has that is either a simple sheep (in the case where he does not know how to use his power), or a wolf and a tyrant (in the case where he does not know how to use it well). If reason is greater than power, then he who has that is to be regarded as oppressed. Both are useless, indeed even harmful. If, then, the beauty of the mind lies in the proportionality between reason and power, then the beauty of the complete and infinite mind consists in an infinity of power as well as wisdom, and consequently the love of God, the highest good, consists in the incredible joy which one (even now present, without the beatific vision) draws out of the contemplation of that beauty or proportion which is the infinity of omnipotence and omniscience.***"** (*The Political Economy of the American Revolution*, EIR, 1995, p. 215-16.)

Therefore, if you follow that Leibniz principle of proportionality, in the organizing, you will inevitably have a powerful impact that will change history. Look at how the LYM leader of Columbia, Pedro Rubio, is having fun with this Leibnizian method of public interventions, especially when he told the pretendant to the throne of Spain what to do. Both Rabelais and Leibniz understood that perfectly. As you repeat that experiment time and time again, you will build in yourself a protective emotional armor, like the psychological armor of Jeanne d'Arc. This is what Lyn used to call: "*hammering your personality*!" This sort of field experimentation teaches you how to become street-wise and how to be ready to fight against any predator, fearlessly, because you will have experienced the joyful nature of the sublime axiomatic change that Panurge lived through in the Pythagorean Tetrad. This is how proportionality of political power and reason is associated with building the Noosphere with determining the direction of history. Therefore, this crucial experiment becomes an essential component of the *finite and self-bounded* character of the universe as a whole.

Now, are there any questions before we go to the next section of my presentation? Here, Valerie asked to elaborate more on the question of measuring change and the idea of forging one's personality. This led to the following discussion on Cusa and Leonardo.

## 2. LEONARDO AND CUSA: THE NON-ENTROPIC ISOPERIMETRIC MAN

One of the best historical examples of measuring an axiomatic change like the crisis of Panurge is represented by the *isoperimetric theorem* of Cusa and the famous problem of squaring of the circle that is derived from it. This was also the center of the political and epistemological development of the anti-entropy movement of the Italian Renaissance. This pertains to a misunderstanding between the circle and the polygon, which always leads to a beautiful paradox whereby people think that the more sides a polygon has, the more it is becoming a circle. The only objection I have is that the circle has absolutely no sides or angles. So, whoever thinks he is getting closer to the circle by

increasing the number of sides of a polygon is a fool, because the triangle is the polygon that is closest to the circle, since it has the least number of sides and the least number of angles. This shows you how your eyes can deceive you. This is also what the British think with their bankrupt monetary system, today. They believe that the circle is nothing else but a polygon with an infinite number of sides. The entire British Royal Academy of Sciences is based on this fallacy of composition. This is the kind of paradoxical trap that is always useful to bring people into and walk them through. The false British underlying assumption is that there are no axiomatic differences between the polygon and the circle. As a result, if the polygon and the circle are equivalent, then, anti-entropy is impossible, and entropy must rule the world. That is why the British hate LaRouche so much. The point is that, in a way, the future of western civilization depends on solving this paradox of anti-entropy.

Now, take the well-known drawing of Leonardo, the so-called VITRUVIUS MAN designed to express human proportions. This drawing should be called the ANTI-ENTROPIC MAN, because, while it illustrates bodily proportions, it most importantly illustrates an axiomatic change by demonstrating the anti-entropic isoperimetric theorem of Nicholas of Cusa. Look closely at Leonardo's construction and the conical projection that I placed on top of it.
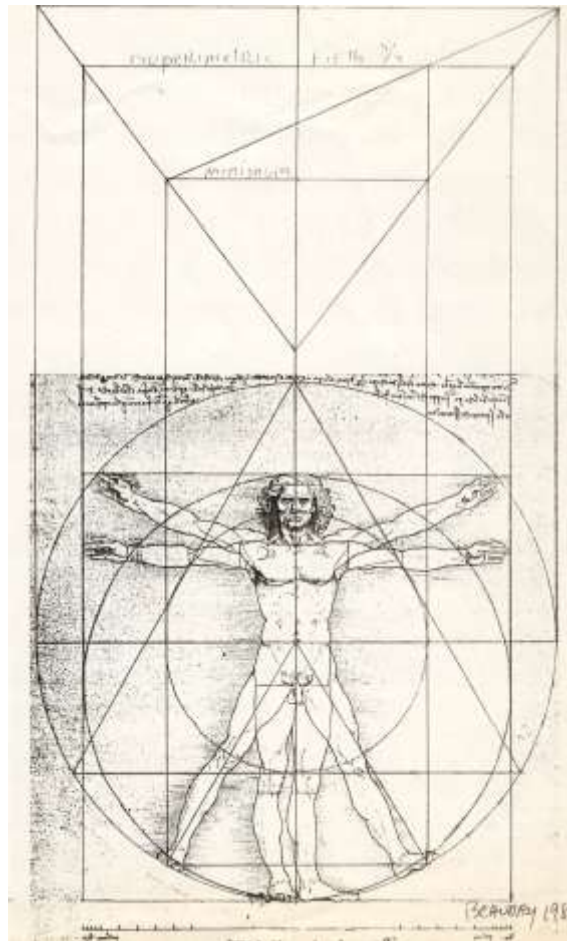
**Figure 3.** NON-ENTROPIC MAN by Leonardo de Vinci illustrating the isoperimetric theorem of Nicholas of Cusa. The circle inscribed in the square is the isoperimetric circle of the equilateral triangle.

Both the circle and the square in which the drawing of a man is simultaneously inscribed are axiomatically related to the *isoperimetric theorem* of Cusa. The purpose of that Cusa theorem, also known as the *maximum-minimum theorem*, was to establish that, of all possible closed surfaces, it is the surface of the circle that represents the maximum possible area for a minimum possible perimeter. This theorem became the first scientific demonstration of the least action principle developed more extensively later by Fermat and Leibniz. For Leonardo, the *Isoperimetric Theorem* of Cusa represented the principle from which could be generated a maximum amount of work from a minimum amount of action. All of the technological devices that Leonardo invented were direct expressions of that isoperimetric principle.

So, the specific question posed by Cusa was: *how do you find the isoperimetric circle of the equilateral triangle?* I know two methods for discovering this. You can find that circle by using Cusa's construction or by constructing a conical function. Cusa says that if you inscribe a circle inside of an equilateral triangle, it will bisect all three sides. Bisect again one of those bisections to get a fourth part. Generate a radius from the quarter point of that fourth part to the center of the circle. That radius will be about 4/5 of the length of the radius of a circle whose circumference equals the perimeter of the circumscribing equilateral triangle. The *anti-entropic* Leonardo man demonstrates that.

What is implied in Cusa's theorem, however, is a construction by conical function that I have constructed a number of years ago and can be used as a demonstration of Cusa's idea and of Leonardo's man. The idea is to project into a cone the inscribed and circumscribed circles of a series of regular polygons of the same perimeter. You can do this on a corkboard by using pushpins and two strings of the same length. Compare the two perimeters of an equilateral triangle and of a concentric square. Next, compare the inscribed and circumscribed circles of each polygon. What do you see? Look at **Figure 4** step 2. As I increased the number of sides of polygons of the same perimeter, the inscribing circles grew larger while the circumscribing circles grew smaller. Since the two series of circles projected into a cone are within an elliptical range that is in the ratio of 1/2 (A/B), they will converge toward an internal limit circle (CD). That is what Cusa identified as the isoperimetric circle, which, ironically, is also an ellipse. It is an elliptical-circle whose circumference is equal to the perimeter of the initial equilateral triangle.

This is how Leonardo da Vinci, with an irony particular to his own singular genius, represented the human being as a measure of change and not merely as a measure of lengths. This also demonstrates that the specific proportionality of the human being does not pertain to the animal domain. The proportionality of a human being is unique in that it measures incommensurable changes between different manifolds. It is in that sense that human proportionality is non-entropic and establishes a fundamental difference between man and animal! So, you see, this does not mean that the polygon becomes a

circle; this means that when you have reached a limit, a boundary condition, it is time to grow out of the previously linear manifold. *If the shoe fits, grow out of it!* Like in the case of the current monetary crisis, it is time to grow up and change the system. That is the way to forge your personality.
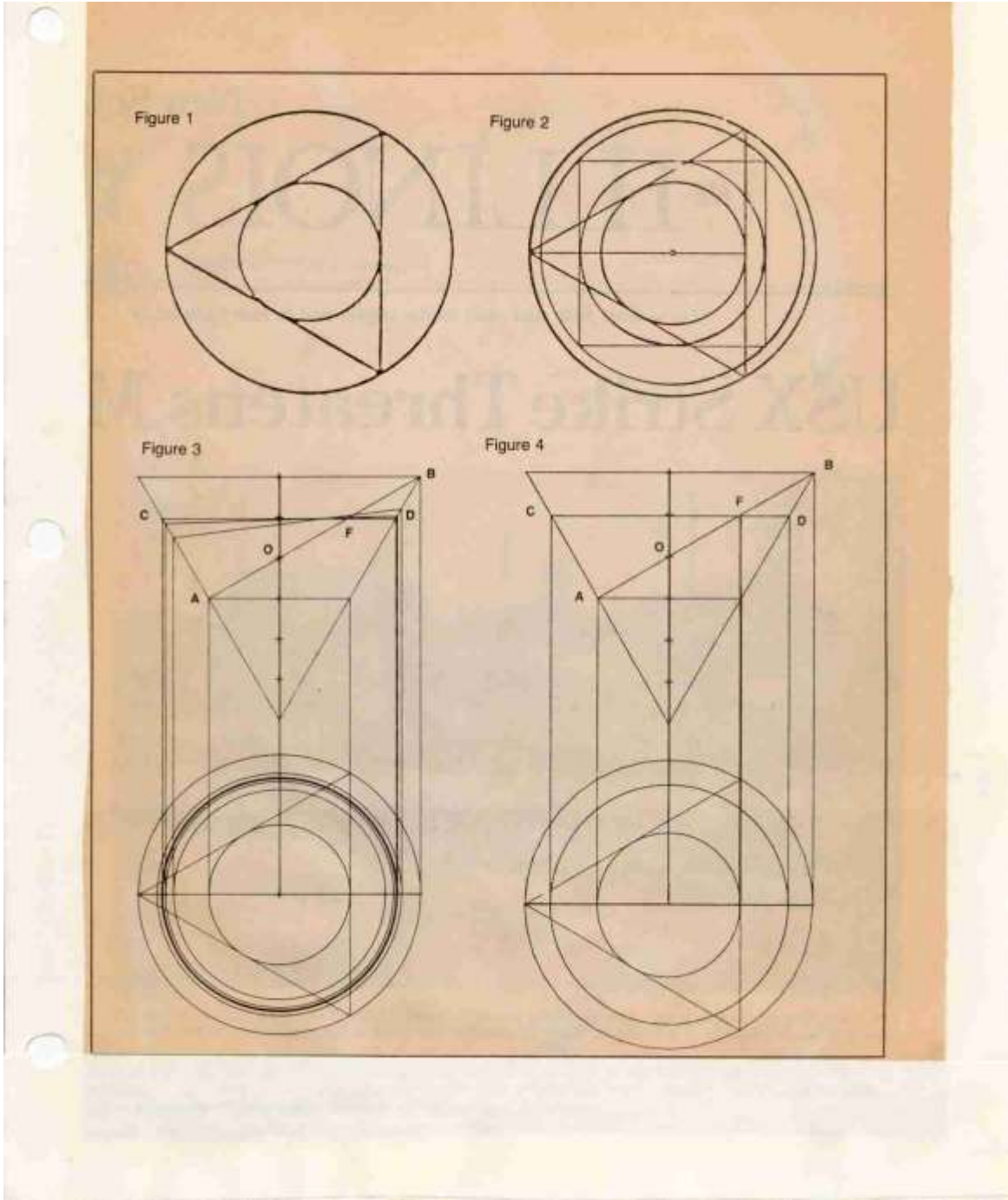


**Figure 4.** Conical function generating Nicholas of Cusa's isoperimetric theorem.

**Figure 4** shows the different steps of determining the isoperimetric circle of the equilateral triangle. Step 1 identifies that the maximum and minimum range between the circumscribing and inscribing circles of the equilateral triangle is in a ratio of 2/1. Step 2 shows the circumscribing and inscribing circles of the triangle and the square of the same perimeter. Note that as you increase the sides of a regular isoperimetric polygon by one, the circumscribing circle gets smaller and the inscribing circle gets larger. Step 3 shows the convergence of those two series of circles pertaining to a triangle, a pentagon and a hexagon. Step 4, the projection into the cone shows that the two series have reached a limit elliptical-circle C D representing the isoperimetric circle of the equilateral triangle.

**CONCLUSION.**

So, in conclusion, from the vantage point of Cusa, Leonardo, and Rabelais, think about how the current financial crisis will be affecting the population and the politicians. The politicians in Ottawa have been following Lyn for years and they know that the financial crisis, which is now in its last phase of collapse, means that this is our time, that the time for the LaRouche policies to be implemented is now, everywhere around the planet. Don't doubt that for a single minute. Just look at Pittsburgh that just joined the HBPA. Philadelphia will probably be next, then the state of Pennsylvania, and then, California, and so forth. Your typical parliamentarian has no idea of what is going on and what to do in this period, and he needs to know how to deal with axiomatic changes. So, the answer is: Rabelaisian courage! And, this is what they will see a lot of on the historical singularity of December 11, 2007.

You know that the psychological reactions to this crisis are going to go to the two extremes: extreme denial and extreme enthusiasm. This is the time when you have to generate what Lyn called *cold-blooded enthusiasm.* As Lyn put it:

"***The system is dead. We are in the final phase, the closing phase of the world monetary system, which died, effectively, between August 16th-16th, 1971 and 1972: The system is now dead. It's just flopping around, the way dead things sometimes do.***

***So now, this means that we are entering a complete new phase of history. It also means a great psychological change in the climate, of the world and of the United States. No longer are people going to be able to react the way you found them reacting in the recent period. And you don't have to be panic-stricken, you don't have to be anxious, you don't have to be terrified. You don't have to be hysterical. You don't have to jerk around; you don't have to be afraid. They might come to kill you, but you don't have to be afraid of other things! [Laughter] Just minor things – they might kill you that's all! They would like to torture you, but they hate you too much to torture you: they want to get it over with. They wanna kill ya now! [Laughter]***

*So now, everything is on your terms. And that's the way you have to handle it. Your problem is to be right. Don't make mistakes. Don't get jerky. Don't go wild, don't scream. Be cold-blooded, enthusiastic – and it's yours, take it. Hmm?*

*They have no solution for this thing! There's no master plan they've got that's going to get them out of this mess! They have no solution on their terms. It doesn't exist! It's either our terms, or they go to Hell. (They may go there anyway, but that's…) [Laughter] Right?*

*So that's where we stand."*

Think also that the political reactions from Ottawa will have to be very much like the reaction of the Chinese government, which basically said to the world: *the British system is dead, we are going with LaRouche.* Are the Ottawa politicians going to have the courage to say that? The point is that the LaRouche announcement of the July 25, 2007 that the world financial system had collapsed became a fact recognized by the entire world since then. However, it is not the crisis as such that will determine where people are going to go. It is their reaction to Lyn, PERSONALY, that will decide where people will orient themselves to or from an actual solution. It is the reaction to how you will represent Lyn that will change history. Nothing else.  Rabelais's forecast is dauntless: "*Destiny leads the willing, and drags the unwilling*." That is all that I have for you tonight. Have a lot of fun!

END OF NOV.29, 07 CLASS