

Gustave Doré. Conceptual portrait of François Rabelais.

*From the desk of Pierre Beaudry*



## THE RABELAISIAN METHOD OF AXIOM BUSTING



by Pierre Beaudry 4/08/2009.

### INTRODUCTION: RABELAIS AND THE PRINCIPLE OF WESTPHALIA.

Although the roots of the Peace of Westphalia reach back to ancient times, it was François Rabelais who became the first world historical figure to apply its principle in an attempt to resolve the strategic crisis of his time. In the first quarter of the sixteenth century, Rabelais proposed the principle of “*gratuitousness*,” in order to foil the imperial Venetian-Habsburg plan to destroy the first sovereign nation-state of France. From the standpoint of history, it is important to realize that Rabelais was not just a great humorist; he was the most eminent strategic expert of his time, and was a special advisor to King François I in matters of foreign policy. Furthermore, it is useful to mention on the outset, here, the different forms that the principle of Westphalia took during its two thousand years of existence before Mazarin successfully implemented it.

The principle of the Peace Treaty that put an end to the Thirty Years War in 1648, has its roots in Plato, who, in *The Republic*, named it the principle of justice, “*agape*.” Plato established “*agape*” as the very principle of the Greek Republic around 400 BC. A few hundred years later, the same principle was Christianized by Saint Paul in his famous epistle to the Corinthians 1, 13, where he emphasized that individual salvation was

impossible without the application of this principle that became known as “*charity*.” Later, around 800, Charlemagne adopted the principle as the instrumental form of the idea of “*power and reason*” that he developed as the basis for an ecumenical policy among Christianity, Judaism, and Islam. Seven hundred years after, in 1532, Francois Rabelais proposed that principle in the form that he identified in the *First Book, Gargantua*, as “*gratuitousness*.” The principle was meant to solve the strategic crisis between nation-state and empire; that is, between Francois I and Charles V. Rabelais, however, was not able to see the fruits of his policy during his lifetime, but he gave a definite direction for its implementation a century later. Finally, at the behest of Cardinal Guido Bentivoglio, who was assassinated in 1644 on the day of his nomination to replace the Peace of Westphalia Pope, Urban VIII, Cardinal Mazarin implemented the principle successfully at the Peace of Westphalia in 1648, and identified it for all future historical reference as “*the benefit, honor, and advantage of the other*.”



**Figure 1.** The swearing of the Oath of Ratification of the Treaty of Munster that ended the 80 years war (1568-1648) between Spain and the Netherlands, on May 15, 1648, by Gerard Terborch (1617-1681). In attendance were all of the negotiators of the Peace of Westphalia, which was signed simultaneously in Munster for the Catholics and in Osnabrück for the Protestants, five months later, on October 24, 1648.

## THE PRINCIPLE OF THE PEACE OF WESTPHALIA

The Treaty of Westphalia of 1648 is a historical landmark in world peace treaties by the fact that it defined the principle of sovereignty and tolerance between nation-states, establishing a relationship between nations based on the ecumenical principle of *agape*. The statement of the principle is found in Article I of the Treaty, and reads as follows:

*“Article I: Let there be a Christian and Universal Peace, and a perpetual, true, and sincere Amity between the Sacred Imperial Majesty and the Sacred Christian Majesty, as well as between all and every ally and follower of the mentioned Imperial Majesty, the House of Austria, and their heirs and successors, and primarily between the Electors, the Princes, and the States of the Empire on the one hand, and each and all of the allies of the said All-Christian Majesty, and its successors, and primarily the Serene Queen and the Kingdom of Sweden, on the other hand. That this Peace and Amity be observed and cultivated with such a Sincerity and Zeal that EACH PARTY SHALL ENDEAVOR TO PROCURE THE BENEFIT, HONOR, AND ADVANTAGE OF THE OTHER (My emphasis); and that on all sides, each may see the rebirth and the flourishing of the bounties of this Peace and of this Amity, by maintaining a faithful neighborliness from all sides between the Kingdom of France and the Roman Empire.”*

Until the strategic intervention of Rabelais, this principle had never been used for resolving war conflicts. However, because of his profound interest in the political, religious, economic, and strategic affairs of his time, Rabelais took it upon himself to criticize and denounce all forms of injustice, and for that reason, the court of Francois I considered him as a counselor of the first order, and its most eminent polemist against the encroachment of the Hapsburg Empire. It should be obvious to anyone who reads Rabelais’s *First Book*, for example, that Picrochole and his war council represented a direct reference to Emperor Charles V.

Even though France was engaged in one war after another, during the greatest part of his adult life Rabelais consistently attempted to bring peace between Francois I and Charles V. However, during the battle of Pavia in 1525, Charles V captured Francois I and made him his prisoner in Spain. The terrible condition demanded for his release was that Francois I give up the totality of the Burgundy province to the Habsburg Empire. This was the equivalent of a dismemberment of France that Francois I was forced to accept, when he signed the Treaty of Madrid in 1526. However, Francois I broke the

Treaty immediately after his liberation and started another war with Charles V. In 1533 Rabelais was chosen to accompany Cardinal Jean du Bellay to Rome, as Ambassador extraordinary, in order to obtain the support of the Pope for the annulment of the unjust Treaty.

Prior to his first diplomatic mission to Rome, Rabelais had elaborated his axiom-busting peace principle as a recommendation for a permanent peace between Francois I and Charles V. In the *First Book, Chapter 50: "Gargantua's Address to the Vanquished,"* Rabelais has Gargantua remind the reader about the peace offer that his father, Grandgousier, had made for the benefit of his enemy, Alpharbal.

*"Whereas other kings and emperors, even such as called Catholic, would have miserably ill-treated him, harshly imprisoned him, and asked a prohibitive ransom from him, my father treated him courteously and kindly, lodged him near to himself, in his own palace, and with incredible generosity sent him back under safe conduct, loaded with gifts, loaded with favors, loaded with every evidence of friendship. And what was the result? When he got back to his country, he summoned all of the princes and estates of his kingdom, explained to them the humanity he had met with in us, desiring them to deliberate on this, and consider how to show the world an example of gracious honor to match the example we had shown of honorable graciousness. Whereupon it was unanimously decreed that an offer should be made to us of their entire lands, dominions, and kingdom, to be disposed of according to our discretion. "* (François Rabelais, *Gargantua and Pantagruel*, Penguin Books, 1955, p. 146.)

Here, Rabelais demonstrated his love of mankind by showing that morality can and must be legislated in treaty form by way of introducing a moral principle into the political relations among nations. However, his interventions remained unanswered, and neither Francois I, nor Charles V, adopted the policy because both were living in despotic fantasyland. It was the failure to bring morality into politics that caused the collapse of the French policy then, and has been putting Western Civilization at risk ever since.

On the other hand, and quite ironically, it was Rabelais's fictitious character King Alpharbal who actually lived in reality, because he was effectively wise enough to understand the truthfulness of the peace of Grandgousier, when he attempted to return his favor. The act of peace of Grandgousier expressed a universal ontological principle of reality because *"this was no more than he was by duty bound to do."* Such a gift of peace had been offered out of pure *"gratuitousness,"* which meant that it was for the *"advantage of the other"* only, and not for *"mutual benefits."* Thus, Rabelais concluded with this extraordinary insight about his new ontological principle with respect to real time which is bound by moral duty: *"Such is the nature of gratuitousness [gratuité]. Time, which gnaws and fritters all things away, only augments and increases the value of benefits. For one good turn freely done to an intelligent man grows continuously by his generous thoughts and remembrances."* (François Rabelais, Op. Cit., p. 147)

In the letter Francois I wrote to Charles V from prison in 1525, one can see the influence Rabelais had on the King. The letter indicated that Francois I was honestly offering his friendship to Charles V in the hope that it might change the disposition of the Emperor, and possibly establish a peace that could change the course of history itself. Francois I wrote: ***“If you wish to make him your friend and not someone driven to despair, please have the courteous compassion of weighing the benefit that the imprisonment of a French King would deserve: be sure to win him into becoming beneficent rather than a useless prisoner, and you will have made a king your slave forever.”*** (Quoted by Henri Lemonnier, *La Lutte contre la maison d’Autriche*, Paris, 1911, p.38) This letter, of course, was in direct response to the morally binding duty established by Rabelais’s principle.

However, Charles V did not respond in kind. More wars were fought, and more fantasies were covered up with more blood. Whatever else those wars represented between Francois I and Charles V, they were essentially fantasies. On the other hand the reality principle of King Alpharbal’s generous response was that ***“he yielded himself voluntarily as servant and vassal, himself and his posterity,”*** because he thought that Gargantua deserved to be rewarded for his beneficence. Honorable graciousness for peace is, in fact, more real than delusions of grandeur. Thus, this is how the irony of Rabelais makes fools of us all by treating reality as fiction and fiction as reality. What Rabelais did is the same that Lyn has developed for the {*Alice in Wonderland*} project in which the fiction of the Rabbit Hole becomes more real than the reality of people’s daily fictions.

In other words, if you were to tell someone something that is completely false, but which is totally believable, he would believe it. However, if you were to tell him something that is totally true, but which is completely incredible, he would never believe it. This is the sort of inversion of religious propaganda that forces us to reflect again on creative real-time as oppose to clock-time, that is the axiomatic ***time for change*** that Rabelais had stamped all of his books with. He proposed ***time for change*** as a crucial turning point for human justice, ***agape***, and he applied it universally to war conflicts, to his justice system, to medicine, to business, to economics, and even to marriage.

Let me show you the resulting effect of the same time principle, but from a different angle. Rabelais expanded more on the same idea in the ***Third Book, Chapter 40: “Bridlegoose explains his reasons for examining the Documents of the Cases which he has decided by the Throw of the Dice.”*** But this time, he has Judge Bridlegoose explain his theory of the ***ripening of time*** as the very foundation of his Court of Justice.

***“...I consider that time ripens all things; with time all things come to light; time is the father of truth, [...sources.] That is why, like you other gentlemen, I suspend, delay, and postpone judgment, so that the case, being well ventilated, sifted, and debated, may in course of time come to its maturity, and so that the decision by dice, afterwards ensuing, may be borne more patiently by the losing party, [...sources.]***

*Portatur leviter quod portat quisque libenter.*  
(A load willingly borne is light to bear.)

*“If judgment were given when the case was raw, unripe, and in its early stages, there would be a danger of the same trouble as physicians say follow on the lancing of an abscess before it is ripe, or the purging of some harmful humour from the human body before it has fully matured. For as it is written [...sources.]*

*Quod medicamenta morbis exhibent, hoc jura negotiis.*  
(What medicine is to disease, the law is to business.)

*Furthermore, nature instruct us to pick and eat fruit when they are ripe, [...sources.] Likewise to marry our daughters when they are nubile [...sources.]*

*Jam matura thoris plenis adoleverat annis Virginitas.*  
(Virginité, now ripe with years, was ready for the marriage bed.)

*Indeed not to do anything except in full maturity. [...sources.]”*  
(François Rabelais, Op. Cit., p. 400-1.)

This *maturing time* process was very much like the one that Cardinal Bentivoglio had recommended to Mazarin for the Peace of Westphalia. Because he was seeking to win the peace and not the war in 1648, Mazarin went as far as to say, openly, that he was willing to extend the war another 10 years, if the conditions were not ripe for a lasting peace. Bentivoglio’s diplomacy was patience, tolerance, and the benefit of the other. These were his time measuring instruments. He attenuated everything that was offensive, sought concordance and peace in every conflict, and he let things mature or rot, whichever came first, until he could bring reconciliation with his enemies. He was even willing to endure defeats in order to better disarm his opponents and bring them to a peaceful resolution. As he put it himself: « *My services are the more successful when they are least suspected.* » (Cardinal Guido Bentivoglio’s *Lettres diplomatiques* and *Memoires*.)

Similarly, Rabelais’s *maturing time* was not leisure time, but universal-work-time which cannot be measured by some chronometric instrument like a clock. It is the time of the universe during which all of the choices have been made, and after which there are no longer any more choices to be added. It is the time that the universe must take to make its changes and transformations, in accordance with the universal physical principles that have been bounded together in concert, proportionately and harmonically. So, both Rabelais and Mazarin used this self-bounding idea of *maturing time* as a means of replacing the moral expediency of religious propaganda. Here, a number of historians have wrongly claimed that Rabelais was not the author of the *Fifth Book*, because this last book lacks the religious content that the other four books have. That is a complete misunderstanding of Rabelais. Since he had shown that evangelization had failed

politically as well as religiously in all of his first four books, Rabelais introduced a *maturing time* principle that became free of religious overtones in *Book Five*.

In this last book, Rabelais realized that only reason and the power of time of discovery, which represent the two things that bind all things together with physical principles, could replace evangelization as the moral compass of society. Thus, time for incubation of discoveries and for problem solving became the crucial measuring rod for creativity. From that vantage point, Rabelais ridiculed all forms of authority as being completely fictitious. During the last period of his life, Rabelais was primarily concerned with the instrumentalities of bringing power and reason into some form of harmonic proportionality with the universe. The last section of this report will deal explicitly with that question.

It was with that barometer of time in mind that Rabelais associated himself with the three du Bellay Brothers, Jean, Guillaume, and Martin. Rabelais became a member of the “*Conseil des dieux*” (Council of the gods) of Francois I under Cardinal Jean du Bellay in 1533. Later, Guillaume du Bellay acted as Foreign Affairs Minister, and Rabelais was brought into the sanctum of the inner elite of the King of France as the problem solver extraordinaire. It was from that vantage point, and under the pay and protection of Guillaume du Bellay de Langey from 1533 to 1543, that Rabelais became the most important strategic thinker in Europe. After the death of Guillaume du Bellay in 1543, Rabelais went back to work for Jean du Bellay until 1550, date of his last trip to Rome in the service of the King.

Note also that this idea of *maturing time* had another implication for society which is very important for understanding Lyn’s idea of simultaneity of eternity. As eternal as they may be, all real ideas have a historically specific period whose time of ripeness must come. As the case of Rabelais demonstrates, a certain number of his ideas have been in a dormant state for centuries, and still continue to be in a maturing state for the great majority of his readers, simply because time, and only time, can bring them to their full ripeness. This is why Rabelais said emphatically that it is time that makes the discovery of everything, not man!

## **1- GYMNASTE AND THE SCIENCE OF FLANKING THE ENEMY.**

For Rabelais, *maturing time* and increasing the value of *benefits to others* were the two self-bounding ingredients for victory or for the peaceful conclusion of any conflict. However, neither of those conditions were obviously acceptable conditions in wartime circumstances. Other resourcefulness had to be brought into play in the pursuit of peace. A case in point was the method of axiom busting that Gymnaste used in order to flank his enemy without having to kill anyone. This can be found in the *First Book*,

**Chapter 34: “How Gymnaste met the enemy,” and in Chapter 35: “How Gymnast neatly killed Captain Tripet and others of Picrochole’s men.”**

Consider that Gymnaste confronted the enemy in the same way that Jeanne d’Arc confronted and routed the English Army at the siege of Orleans. Gymnaste confronted the enemy by going through a whole series of acrobatics on his horse, while Jeanne d’Arc stood absolutely still on her horse. This is the essence of psychological warfare. The trick of an effective flanking intervention is to build the momentum to a climax, at which point the enemy is hit with full force, either with the truth of reality, or with the result of his own self-inflicted false underlying assumptions, in consequence of which, in both cases, he is no longer able to recover from his perplexity. After planting a seed in the mind of his enemy by saying **“I am only a poor devil,”** Gymnaste went through his masterful acrobatics of extraordinary somersaults on the back of his horse, showing the enemy the powers he possessed.

***“When they heard him say this [I am a poor devil], some of them began to be afraid, and crossed themselves with all the hands on their bodies, thinking that this was a devil in disguise. One of them, indeed, Good John, Captain of the Free-Molesmen, pulled his prayer-book out of his codpiece and cried aloud:***

***‘Agios ho Theos. (Holy is God) If you are on God’s sides speak. If your one of the other faction, get you gone!’ But he did not go away. Several of the band heard this, however, and departed from the company; all of which Gymnaste noticed and reflected on.***

***It was for that reason that he pretended to dismount. But having poised himself on the mounting side, he nimbly performed the stirrup-trick, with his short sword at his thigh and, passing beneath his horse, sprang into the air, aligning with both feet on the saddle and his back to the horse’s head. ‘My case goes backwards,’ said he.***

***Then, in that posture, he twirled around one foot in the leftward direction and succeeding in recovering his proper position exactly.***

***Then said Tripet: ‘I won’t do that at this moment, and for a good reason.’***

***‘Bah,’ said Gymnaste. ‘I missed. Now I’ll do the leap in reverse.’ Then with great strength and agility, he twirled round in the same manner as before, but to the right. When he had done this, he put his right thumb on the pommel of the saddle and raised his whole body in the air, resting his entire weight on the nerve and muscle of that thumb, and so, turned himself round three times. On the fourth, reversing his whole body without touching anything, he sprang between his horse’s ears, keeping the whole of his body rigid in the air on his left thumb; and in this posture he turned a complete circle. Then, clapping the palm of his right hand on the middle of the saddle, he***



*swung himself so far as to alight on the crupper, where the ladies ride. This done, he quite easily passed his right leg over the saddle, and got into the position to ride on the crupper.*

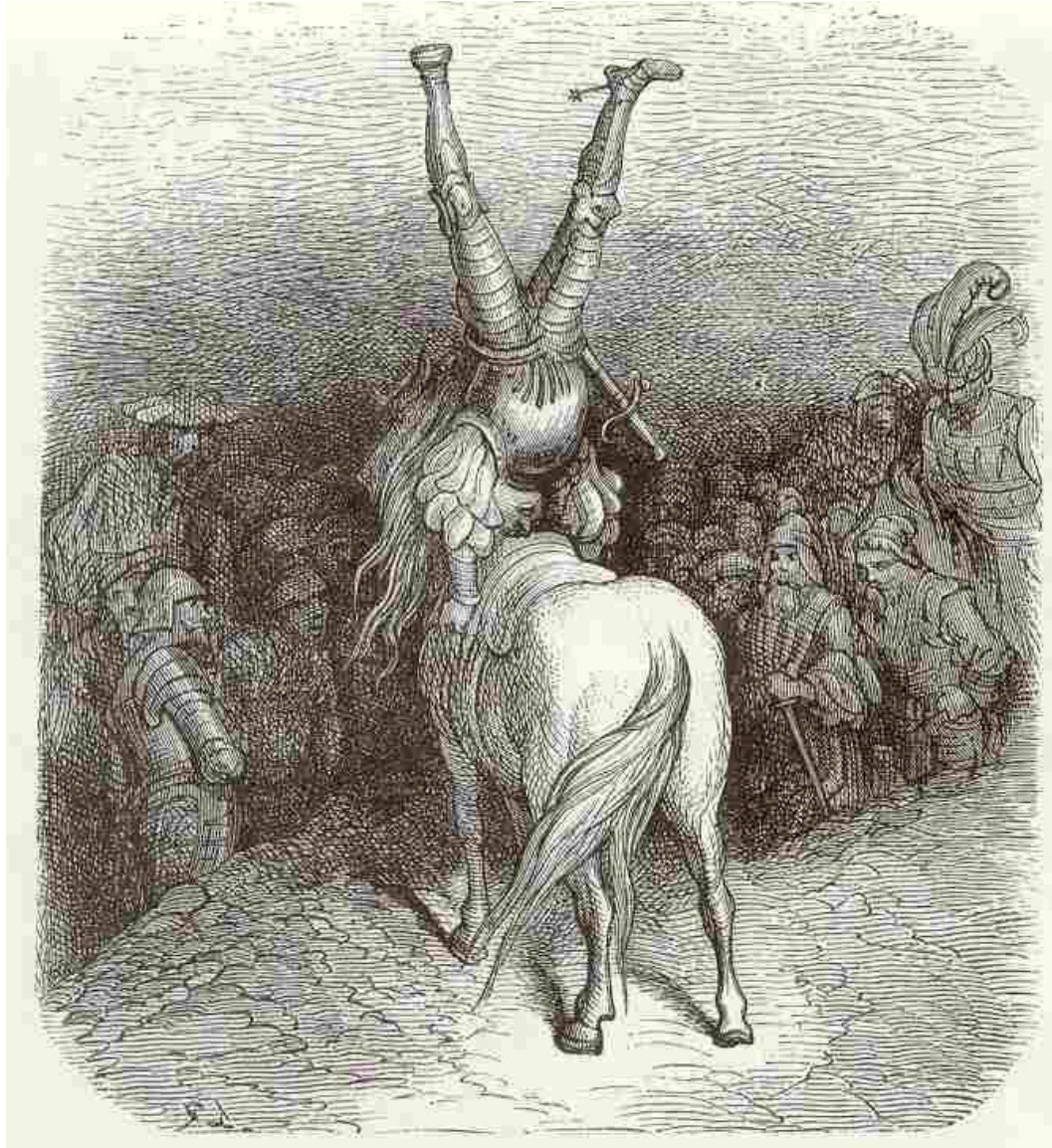


Figure 1. Gymnaste flanking the enemy by Gustave Doré.

*‘But,’ he said, ‘it would be better for me to get between the pommels.’*

*So, supporting himself by pressing his two thumbs on the crupper before him, he turned a back-somersault in the air and landed firmly seated between the pommels. Then he somersaulted the whole of his body into the air, and so*

*came down with his feet together between the pommels, and there twirled round more than a hundred times, with his arms extended crosswise; and as he did so, he cried in a loud voice: 'I rage, devils, I rage, I rage! Hold me, devils, hold me, hold me!'* ” (François Rabelais, Op. Cit., p. 115-116.)

As a result, the enemy army ran off in fear, thinking that Gymnaste was really possessed by the devil, just like the English thought that Jeanne d'Arc, by sitting still on her horse and not following the traditional rule of engagement, was bewitching them, outside of the walls of the town of Orleans. This is an important lesson, because it gives you a direct insight into what Lyn calls the discovery of an underlying assumption. In both of the cases of Jeanne d'Arc and of Gymnaste, the idea is that they had both discovered a way to outflank the enemy by discovering the enemy's weakness. For example, if public opinion has it that someone who does extraordinary things, even impossible things, is a hobgoblin or a sorceress, then this weak flank can be exploited because their belief structure can be controlled and manipulated.

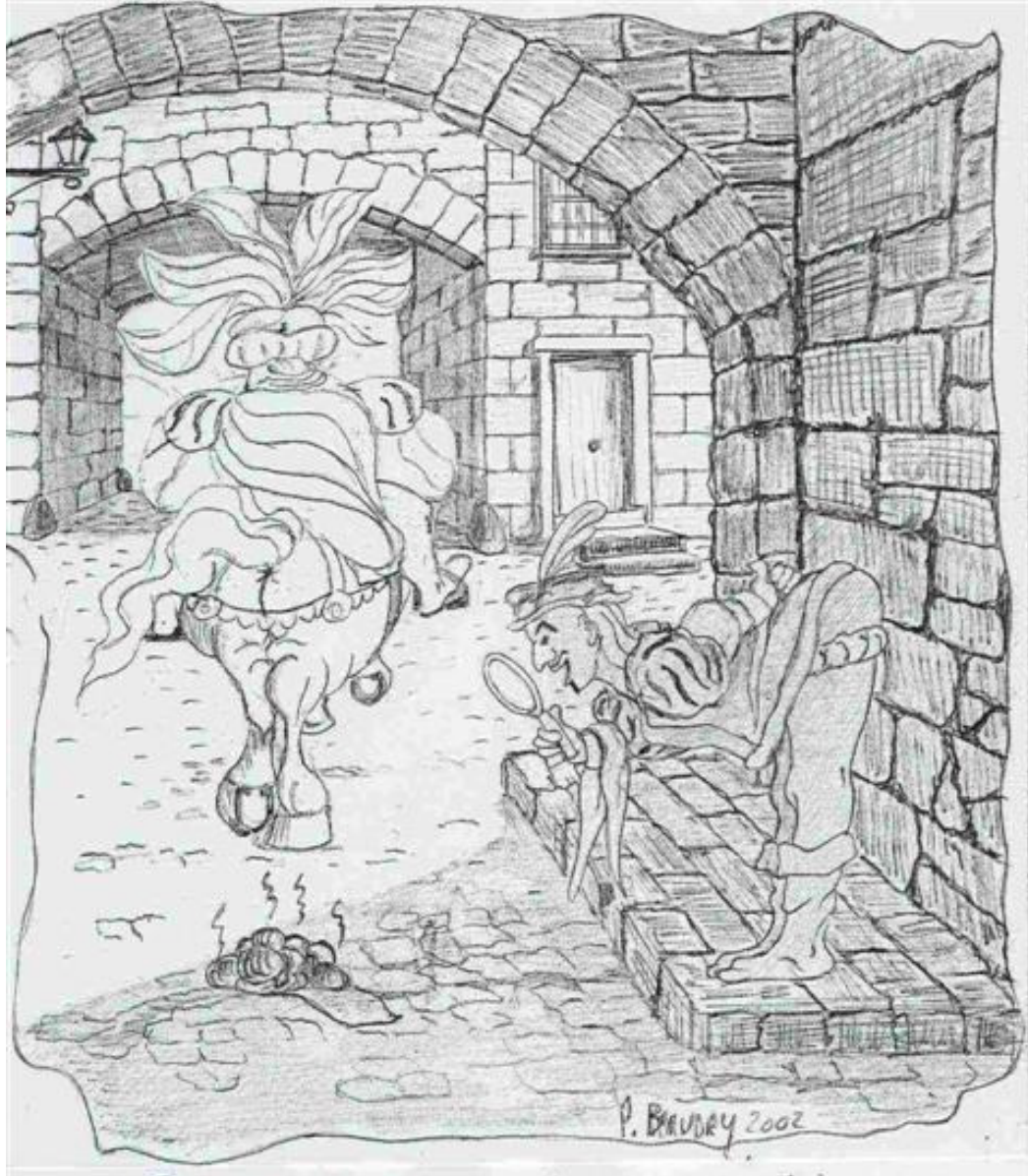


Figure 2. Panurge discovering the secret of an underlying assumption.

## 2- RABELAIS AND THE DISCONTINUITY OF PYTHAGOREAN TETRAD.

At the end of *Book Five*, when Pantagruel, Panurge, and Friar John arrived in *Lanternland*, they were greeted by *Midnight-Oilers (Lanternois)*. These are people who stay up all night and feed themselves only with ideas that are generated from their lanterns, otherwise known as *Pythagorean Sphaerics*. In *Book Five, Chapter 36: "Our Descent of the Tetradic Steps; and Panurge's fright,"* Rabelais brings the reader into



making a fundamental discovery of a universal physical principle by using Pythagoras and Leibniz's *principle of continuity*. This relates to the example that Leibniz had used as the metaphor for an axiomatic change in the passing "at infinity" from an ellipse to a parabola. Something similar happens here.

*The Temple of the Holy Bottle*, towards which Pantagruel and his friends are heading, was used by Rabelais as an experiment in Plato's Cave. The bottom of the cave where the temple is located cannot be reached unless a certain number of preliminary crucial discoveries are made. Here, Rabelais demonstrated the profound depth of his knowledge of Plato and of Pythagoras by setting up the conditions for a crucial scientific experiment; that is to say, for the discovery of a universal physical principle. He set the stage in a spiral staircase which was constructed like a stereographic conical musical scale based on the progression of the *Pythagorean Tetrad*, in the complex middle of which, there is a crucial discontinuity, for which you can find the illustration in LaRouche's thermodynamics section of *So You Wish to Learn all About Economics*, page 51-52. This *Pythagorean Tetrad* is a metaphor for the spiraling well-tempered solar system, the spiraling well-tempered musical system, and the progress of universal history, as Leibniz understood it in his "*principle of continuity*."

The idea that Rabelais is reconstructing here, reflects the metric of change in the domain of ancient Egyptian *Sphaerics*. In the *Pythagorean Tetrad* construction, the point is 1, the line is 2, the surface is 3, and the solid is 4. These represent different dimensionalities, and the passing from one level to the next requires a non-linear leap, an epistemological jump, as in Leibniz's *principle of continuity*. This *Pythagorean Tetrad* represents the ancient Greek Cosmos as a four-degree expanding and axiomatically changing continuous manifold. Einstein would call it a self-binding finite universe.

The numbers that Rabelais used may appear to be pure numerology, but they are not. Those numbers are merely an illusion that Rabelais is playing with, as a means of getting at the truth of his crucial experiment. Here, again, you have to make the appropriate distinction between what is real and what is fiction. The ordering of these numbers is a metaphor expressing the different levels, or different changes in powers that the human mind is capable of discovering in the universe. However, as Lyn used to say: "***Believe nothing that for which you cannot give yourself a constructive proof.***" Just walk through the Rabelais construction with me, and you will see what he meant. But, watch your step.



Figure 3. Panurge stepping over the register shift of the Pythagorean Tetrads. Is Friar John holding Panurge back or is he pushing him forward?

*“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.*

*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. [That is,  $1+2+3+4 = 10$ ]*

*'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. [That is,  $10+20+30+40 = 100 + 8 = 108$ ] At the end of that foreordained number of steps 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. [That is,  $1+2+3+4+9+8+27 = 54$ ]*

*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 Boeotia. When we had gone down seventy-eight [78] stairs, Panurge cried out to our most luminous Lantern:*

*'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.'*  
(François Rabelais, Op. Cit., p. 686.)

Again, what appears to be pure fantasy reflects the most vivid reality. Now, after this perplexing clinical experiment, concentrate on the result that Rabelais has generated with numbers. What are they? How do the change of numbers reflect the number of changes? What is the meaning of this mirror effect? Look for their shadows on the wall of Plato's cave. One more time you are witnessing an extremely significant inversion. What is the significance of the results **108**, **54**, and **78**? How do they relate to what Panurge has gone through? You can't just slide through this without feeling the bump.

What do the numbers tell you about the epistemological behavior of Panurge? Why did Panurge inverse the toothache and the dog-bite?

If you take the total number of steps in the spiral staircase, **108**, as forming a musical octave with **54**, in the ratio of 2/1, then the complex halfway rotating step between them, **78**, represents the step-singularity that Panurge is jumping over. This is what Lyn demonstrated in his thermodynamic example of *{So You Wish...}*: the discontinuity of the arithmetic-geometric mean function. This function is the result of a double conical spiral action, that is to say, the resulting discontinuity reflected by the actions of an arithmetic spiral and of a geometric spiral. This is the metaphor of the passing tone in a voice register shift, known during the renaissance as the devil's interval. If you do the sundry calculations, you will discover the following result:

*How to calculate the arithmetic-geometric mean function for the Rabelais construction of the Pythagorean Tetrad, from Book Five, Chapter: 36 "Our Descent of the Tetric Steps; and Panurge's Fright." Take the minimum and maximum values that Rabelais found, that is, 54 and 108 and find the following series of arithmetic means  $A + B / 2$ ,*

*and geometric means  $\sqrt{A \times B}$ .*

---

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

$$54 + 108$$

$$\text{-----} = 81. \text{ Then take the geometric mean of the same two values,}$$

$$2$$

$$\sqrt{54 \times 108} = 76.36753...$$

---

*2) Secondly, take the arithmetic mean of the last two values, which are:*

$$81 + 76.36753$$

$$\text{-----} = 78.6837... \text{ Then take the geometric mean of the same two values,}$$

$$2$$

$$\sqrt{81 \times 76.36753} = 78.64966...$$

---

*3) Lastly, take the arithmetic mean again of the last results: which are:*

$$78.6837 + 78.64966$$

$$\text{-----} = 78.666... \text{ Then take the geometric mean of those values,}$$

$$2$$

$$\sqrt{78.6837 \times 78.64966} = 78.666..., \text{ the arithmetic-geometric mean.}$$

Thus, you have arrived at an apparent limit indicated by the arithmetic-geometric mean value of **78.666...** which reflects the singularity of the quantum of action that is associated with the register shift interval in Bel Canto singing, and which also expresses the passing “wolf tone” from the chest register to the head register of each and all six human voices. This limit is also the best pedagogical representation for Kepler’s explanation as to why a planet must have exploded and disintegrated in the middle of the solar system, between Mars and Jupiter, and whose debris formed the Asteroid Belt. Moreover, this beautiful *Pythagorean Tetrad* problem that Pythagoras had posed as an axiom buster problem to his students was also replicated by the young 20-year-old Gauss, more than 2,000 years later, when he discovered the pathway of Ceres, the first piece of evidence of Kepler’s exploded planet. This singularity is also the less inadequate representation of the awful discontinuity that occurs during the existential crisis of an axiomatic change between a lower and a higher Riemannian manifold. The boundary conditions of such a change in the system are such that if the crisis is not resolved, the system breaks down and reverts to a still lower manifold than the one that had been formed before its collapse, like a planet exploding into pieces. How can you explain the fact that such a wild experiment can actually change the physical universe?

What is interesting here is that Rabelais has used this singularity of an axiomatic change to identify the great fear of Panurge as an epiphany of discovery. The point at which Panurge reached step **78** represents the most important axiomatic shift that he had to make in his entire life. Indeed, all of Panurge’s travels, from the *Second Book* to the *Fifth Book*, were done with only one purpose in mind, and that was to finally arrive in *Lanternland* and obtain, from the *Oracle of the Bottle*, a definite answer to the most important question of his life: “*Will I ever Marry?*” However, the day before he was to ask his question, at the point where the axiomatic shift occurred in the *Tetradic Steps*, Panurge became totally perplexed and began to lose control of himself, as he started consulting his own fears, because he wished to avoid the suffering of having to change and go through this painful moment of the unknown, and, consequently, he wanted to go back to his previous reassuring *comfort zone*.



Figure 4. Descartes trying to split the mental from the physical.



And so, out of pure fear of the unknown, Panurge was ready to quit right there and then, promising his Lantern-guide that he would renounce marriage, and clamoring that all he wanted was to go back to his former life. However, after that experiment, Panurge no longer had simplistic Cartesian ideas. At that point, Friar John grabbed him by the collar and told him that he had nothing to fear. ***“I’m here’ said Friar John. ‘I’m here. Don’t be frightened. I’m holding you by the collar, and eighteen devils couldn’t get you out of my hands, even though you aren’t armed. Arms never failed a man in his need, if he had a stout heart and sturdy muscles.”***

Encouraged by Friar John into recovering a ***“stout heart,”*** and having secured himself by wearing ***“vine leaves in his shoes,”*** Panurge found his willful fighting spirit once more and recovered from his fear, but, this time, on the opportunity side of the crisis. At the end of the chapter, Panurge claimed his victory over his near-tragedy by saying that he was ***“willing”*** again: ***“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, 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.”*** That joking conclusion of going beyond the fear of mortality shows how Panurge had broken through his fears, and that he had made the discovery of principle by shaking out the cobwebs of mortality. Thus, Rabelais demonstrated the singularity of axiomatic change by showing that his method of giant madness revealed more of reality than the fantasies of daily life were capable of conveying. The question now is: Where did Panurge find the strength to break through this axiomatic wall?

The point here is that the secret of passing through such a register shift successfully as Panurge did reflects the power of the will to change; that is, the intention that must coincide with what destiny is looking for in leading the willing to take personal responsibility for the world. Thus, as a result of having successfully gone beyond step 78 and having reached step 108, the two loadstones operated great doors of the ***Temple of the Holy Bottle*** opened as if by a force of self-reflexivity, showing the visitors their inscriptions:

On the right door was carved

***“Ducunt volentem fata, nolentem trahunt.”***  
***(Fate leads the willing, but the unwilling drags.)***

and on the left door,

***“ALL THINGS MOVE TO THEIR END.”***

The point to be emphasized here, with this experiment, is that the works of Rabelais are not fiction, but the reality of change, as such. They represent major breakthroughs in science, especially in the domain of epistemology, and, therefore, they represent crucial medical contributions to the mental health of mankind as a whole, especially with respect to the necessary historical progress that each human being has to also go through, individually, from childhood to manhood, and then, from manhood to wise maturity. Thus, the ironic time-change feature of what Lyn had identified as a moment of high density of singularities during an axiomatic crisis, corresponds precisely to Panurge's fear, and becomes a crucial measuring rod for the development of mankind and civilization as a whole. So, the necessity to make axiomatic changes becomes very real and very urgent. Therefore, as Lyn said in {*The Cult of the Oligarchy: The Gore of Babylon*} on March 16, 2007, it is high time that humanity grew out of its childhood diseases like environmentalism, and that the current infantile greeny schemes of Prince Charles, George Schultz, and Al Gore be stopped at once.

### **3- ON THE PROPORTIONALITY OF THE ARITHMETIC-GEOMETRIC MEAN ITERATION AND KEPLERIAN HARMONICS.**

On the proportionality of the Pythagorean - Rabelaisian arithmetic-geometric mean iteration, you can construct the equivalent of such a double spiral action by using the elliptical range of an elliptic function. In doing this, you will discover that the harmonic relationship between the minor and the major axis of each ellipse is such that the ordering and interlocking of the ellipses no longer measure simple extension, but become the *measure of change* and transformation of the process as a whole; that is to say, the change of geometry becomes the geometry of change. This reciprocal process can, therefore, be characterized as a form of action of *participating in causality*.

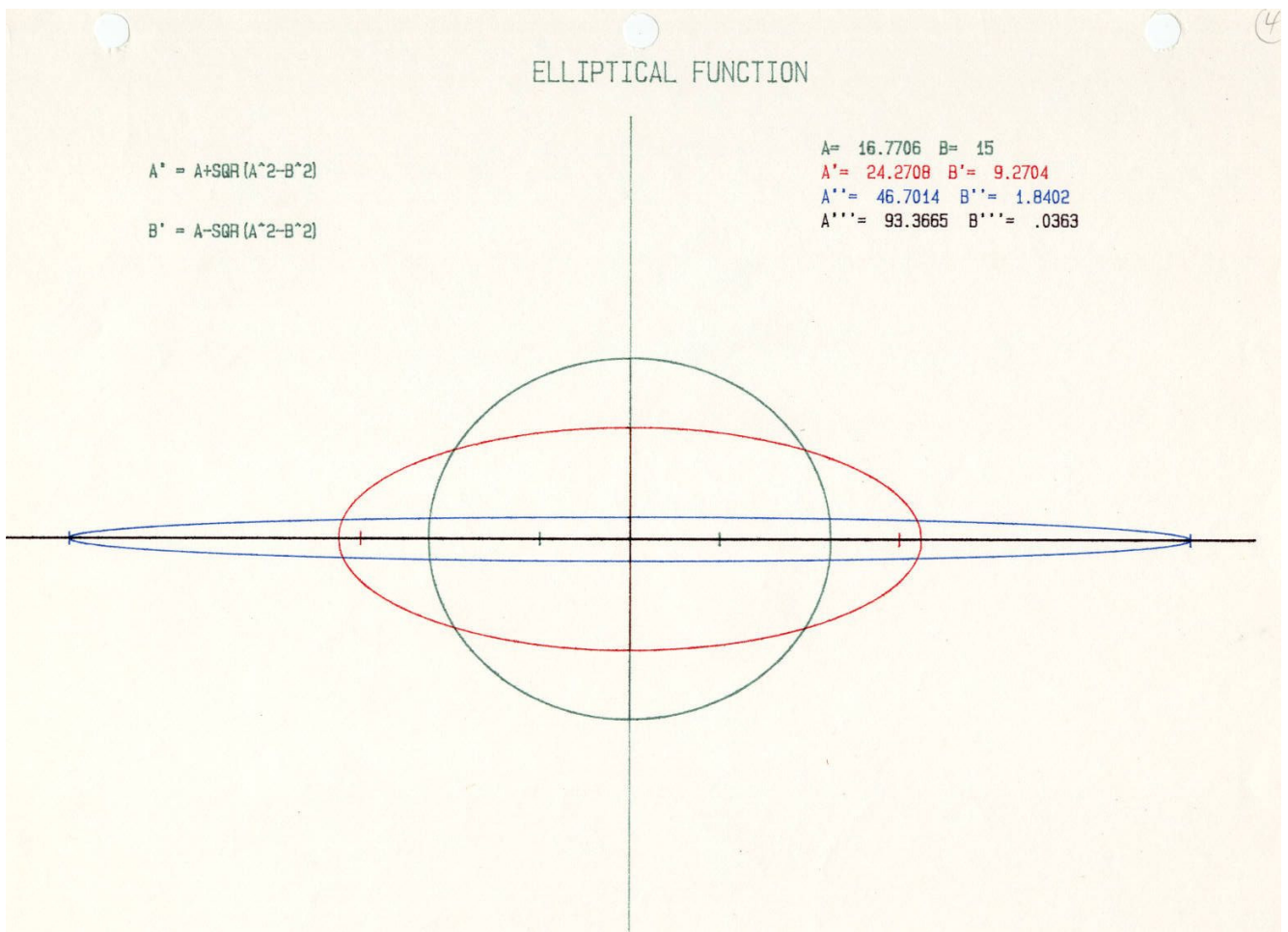


Figure 5. The harmonic elliptic function of an arithmetic-geometric mean.

It is the iteration of those pairs of axis, taken two by two, which forms the proportionality of the iteration between the different ellipses. Take the following example of a minimum-maximum elliptical range and follow how rapidly the rate of change occurs from a quasi-straight line (black) to a quasi-circle (green). This discovery is very fugitive and you must recapture it very quickly if you wish it to stick to your mind for good. Assuming that this reciprocal process were to be similar to that which occurs in the transformation of isotopes, examine this *measure of change* as if it reflected Keplerian harmonics.

The harmonic relationship of the ellipses in the series 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 in the series. This reflects a proportional rate of change between them, a rate of change inside of the harmonic range. That rate of increase in the iteration can be expressed as follows:

$$\frac{A - B}{A' - B'} = E.$$

Because of the internally bounding change is

$$\frac{E}{(E')^{1/2}} = \frac{(E')^{1/2}}{(E'')^{1/4}} = 1$$

The inverse of the A-G mean iteration can also be constructed by the simple equation:

$$A' = A + \sqrt{(A^2 - B^2)}$$

and

$$B' = A - \sqrt{(A^2 - B^2)}$$

This said, I would like to express one word of caution in ending by reminding the reader of the wise counsel that Leibniz had given to his teacher Huygens, on the subject of the limitation of geometry. In his letter of June 12 to 22, 1694, Leibniz wrote to Huygens: “*There always exists in nature something more than can be determined by geometry.*” The point is well taken and applies also in this case, but this counsel also raised a more complex question: how must be measured the effect of our failure of geometry and mathematics with respect to the nature of change in the universe? The answer to that question is very important and can be exemplified by two extremes. At one end, you have the fallacies of composition such as those of Euler and Newton who have attempted to adjust the universe to their mathematics. At the other end, however, you have Einstein and Plank who considered that the impact of the observation of man must be included as a causal influence on the results of measuring the changing physical phenomenon. If the former is a fallacy, the latter represents a most serious matter of truth in science. Let’s look at those two extreme cases, briefly in conclusion.

## **CONCLUSION: REPLACING CAUSALITY OR PARTICIPATING IN IT.**

First, at one extreme, I am cautioning against taking a mathematical or geometrical formula for the generating principle of the physical process itself. In other words, do not be fooled by the likes of Bernhard Euler, who made the mistake of

considering that his formula  $V - E + F = 2$  was the principle for the construction of all polyhedra. This is a complete fallacy of composition; not because his formula doesn't work, but because it only works as a piece of sophistry, as duplicity. It works as an attempt to replace causality.

The topological fallacy of Euler lies in the fact that he pretended, as Isaac Newton had done with his inverse square law of attraction, that such a formulation could become a substitute for a universal physical principle. Never make the stupid mistake of replacing the cause by an effect, or substituting a predicated result, like a falling apple, for a founding principle, especially when it gives you the impression that it works. Attraction, even at a distance, is nothing more than meter reading by sense perception. The point being: human fantasy, no matter how attractive it may be, cannot replace causality.

Similarly, the so-called law of attraction is not a principle of gravitation, because it is not the cause of it. It is merely an effect that is predicated from a generative principle that Newton himself neither understood, nor was interested in discovering. For the same reason, the combination of **V**ertex, **E**dge, and **F**ace that Euler concocted for a polyhedron is not the principle for generating a polyhedron. It is merely derived as a result of an already created product. It is an effect of the generative principle of a polyhedron, not the cause of it. So, the question of science is not how to find a combination that is just sitting there waiting to be used as an explanation for the existence of the universe. The function of the scientist is not to explain how the universe appears to be put together, as if it were a mechanical puzzle. The scientist does not seek a consensus on what appears to work. The role of the scientist is to discover the dynamic universal physical principles that cause the universe to constantly change. That is the key question: what is physical causality and how does it work when human beings participate in its generating process?

Secondly, at the other extreme, as Johannes Kepler did before him, Max Plank also raised the all-important question of man's *participating in causality* in physics by emphasizing the role of the actual measuring instrument as part of the scientific observation. However, it only is after having discarded the fallacies of composition, such as the so-called "*uncertainty principle*" and "*statistics*" of an objective worldview that it should no longer be an embarrassment for any one to discover that man has always been, and will always be, an active participant in changing the world through his scientific investigations. Subjectivity, as opposed to objectivity, is the key to science. As Plank stated:

*“According to this principle the laws of an optical phenomenon can be completely understood only if the peculiarities of the process of measurement are studied as well as the physical events at the points where the light originates and spreads. The measuring instruments are not merely passive recipients simply registering the rays impinging upon them: they play an active part in the event of measuring and exert a causal influence upon its result. The physical system under consideration forms a totality subject to law only if the process of measuring is treated as forming part of it.*”

*How progress is to be made by this road is a difficult question and of much importance for the future. In order to appreciate its significance, I propose to extend the scope of my survey, to go beyond the special conditions of optics and to approach the problem from a more general point of view.*" (Max Plank, *The Philosophy of Physics*, The Norton Library, New York, 1963, p. 103-104.)

The condition for *participating in causality* is not merely a requirement in the domain of the very small, as exemplified by optical physics. This human condition is a fundamental requirement, for science as well as for classical artistic composition as demonstrated by Rabelais. Because there exists no other true form of knowledge than that which involves the active causal presence of man in giving direction to the universe through his discoveries. If man is created in the image of God, then, like God, he participates in directing the course of the universe toward its purposeful end. That is the human intention of the Noosphere.

Man is an integral part of the dynamics of the harmonic ordering of the physical universe, through his function of discovering and implementing axiomatic changes, which are the cause of non-entropic progress in the universe. That is the specific job given to man by God. It is such axiomatic changes, not topological results, whose formulas merely demonstrate the errors of our geometrical and of our mathematical pretensions, which gives directionality to the universe as a whole. In other words, if you don't know where the universe is going, then don't mess with it.

So therefore, how can man participate in causality? How far can he go into participating in the process of increasing his powers over the universe? Those are the questions that we must be investigating if we are to visit more than the suburbia of our tiny planet in our solar system in the very near future. In light of this crucial Rabelaisian experiment in universal physical principles, my question to you is: what sort of axiomatic changes are the wavicles (wave-particles) from the Crab Nebula generated from, and what sort of singularities are they propagating in their pathways to reach us?

Thus, in a time of financial, economic, social, and moral crisis as the one the entire world has entered into, since July 25, 2007, it is not only useful, but also compulsory, to revisit Francois Rabelais and to ask him what he thinks we should do in this current circumstance, and most emphatically, what writings of his we should read in order to help us go through this difficult period of axiomatic change. Rabelais responded to my request, almost immediately upon my asking him, by recommending that we should pay attention, especially, to his treatment of the last adventures of Pantagruel, Friar John, and Panurge in *Lanternland*, located at the end of his *Book Five*. "*There,*" Rabelais said to me, "*you will find the 'substantific marrow' that will nourish the willing!*" When I asked him what he meant by that, he added simply that I will find, "*there,*" how to discover the truth of everything that lies behind the three shadows of the "*Veiled, the Hidden, and the Concealed,*" provided that the investigative minds among us follow his recommendation:

*“So, when you philosophers, with God’s guidance and in the company of a clear Lantern, give yourselves up to that careful study and investigation which is the proper duty of man – and it is for this reason that men are called alphestes, that is to say searchers and discoverers, by Homer and Hesiod – they will find the truth of the sage Thales’s reply to Amasis, King of the Egyptians. When asked wherein the greatest wisdom laid, Thales replied: “In time”. For it is time that has discovered, or in due course will discover, all things which lie hidden; and that is the reason why the ancients called Saturn or Time the Father of Truth, or Truth the Daughter of Time. They will also infallibly find that all men’s knowledge, both theirs and their forefathers’, is hardly an infinitesimal fraction of all that exists and that they do not know.”* (François Rabelais, Op. Cit., p. 710.)

FIN