

From the desk of Pierre Beaudry



**RAPHAËL SANZIO : THE SIMULTANEITY OF ETERNITY
OF THE SCHOOL OF ATHENS AND THE DISPUTE.**

(A pedagogical on the idea of causality from the future)

PART I



by Pierre Beaudry, 2/18/2009

INTRODUCTION: FROM INSIDE A STEREOGRAPHIC PROJECTION.

Imagine the following dialogue between a Religious Minister and a Philosopher who are paying a visit to the Vatican in Rome, and are standing in the center of the Room of the Signature, where are displayed the two great frescos of Raphael Sanzio, *The School of Athens* and *The Dispute of the Holy Sacrament*. As if he were standing in the center of a sphere, the Minister begins to realize the nature of his privileged position and, looking up in a state of total perplexity and admiration, asked the Philosopher:

- Minister: Don't you think that *The School of Athens* is the most extraordinary representation of our ancient heritage?
- Philosopher: No! I don't think that Raphael intended to paint that fresco as a representation of the past, but, rather, as a representation of the future that we are standing in the middle of today.
- Minister: I don't understand what you are saying. What do you mean by representing the future? These are all dead philosophers who lived before Raphael's time.
- Philosopher: That's right. Their physical envelopes are dead, but their minds are still very much alive through Raphael himself and through us. They are the immortals who have come together in this singular place with the intention of changing us in the future. You see, we have not really walked into a room of the Vatican; we have actually walked into the mind of Raphael. All of these scenes represent his state of mind. And, all of these people have come together in this singular place to show us the decision that Raphael had made with respect to his choice of orientation and destination for mankind. These

thinkers have come to speak to you and me about their future. So, we are now standing in the middle of a stereographic Pythagorean Sphaerics projection, as if inside of a *dodecahedral nesting* of the Five Platonic Solids!

- Minister: I really don't understand a word you are saying. Please explain yourself more clearly.
- Philosopher: Sorry if I am being cryptic. It is actually very simple. What I mean to say is that Raphael has painted the idea of intention in the simultaneity of eternity as LaRouche has identified the function of this concept in history. Raphael has painted the idea of the conditions of change that the Renaissance of a creative humanity is able to exert on the future of mankind, in order to modify the disastrous course of the present time, our time. And he has done that time change by means of Plato's *Timaeus*.
- Minister: I am not sure I follow you, but go on just the same.
- Philosopher: As LaRouche put it: "The existence of the real future of mankind's universe lies along a physical-dimensional "line" called (human) *creativity*, a notion which might be identified by the technical term *anti-entropy*. In this view, the existence of the universal future exists not as a fixed point in the future, but, rather, as if it were a wave of change in place and choice of ultimate destination, a change over which mankind can exert willful control by the future, on the present."(1)
- Minister: I see! You mean to say that Raphael knew that we, in the future, would be investigating his mind and would be using his paintings to change the current direction of mankind?
- Philosopher: That is precisely correct. And, he was counting on us to use his ammunition as epistemological directed charges against the enemy.
- Minister: Do you realize what this means?
- Philosopher: No. What?
- Minister: This means that Predestination does not exist. This means that you have the freedom to change the future by changing the destination of mankind with creativity.
- Philosopher: That's right. You've got it! And the best part of it is that God is in agreement with that. This is what Raphael was doing in changing from what he had done in *The Dispute* to what he was hoping humanity could become in the future with the help of *The School of Athens*. And he did this by means of revolutionizing artistic composition, the very soul of which we are now contemplating.
- Minister: In other words, we are part of the subject of these two painting? We are the result of his intention?
- Philosopher: Yes, absolutely! Raphael painted *The Dispute* first, because it reflected the past and the present that had to be changed in order to have *The School of Athens* reflect, afterwards, the future that humanity must become, in the simultaneity of eternity. But, he started with the future function of *The School of Athens* in his mind. He did not start from the past. This is why he painted the two frescos in such a manner that the two different manifolds would be folded together to become a single one in our minds, as we stand, here, in the center of this Room of the Signature.

1- HOW THE “*SCHOOL OF ATHENS*” REFLECTS UNIVERSALITY AS THE “ONE IN ALL PLACES AND ALL ENTIRELY IN EACH PLACE.”

Lyn has many times referenced the universal historical feature of the difference between Plato and Aristotle, and has noted that this fight has been at the source of the profound historical conflict between republicanism and oligarchism; that is to say, between societies based on the future oriented discovery of universal physical principles to increase man’s power over the universe, and societies based on the traditional obedience and propitiation of the Olympian gods aimed at stamping out creativity and thus, reducing world population. Raphael made this difference explicit in *The School of Athens*. To use LaRouche’s phrase, Raphael defined *The School of Athens* as the “current wave of the future,” a wave which is acting reciprocally to change his own time and the generations of all of humanity from the Renaissance until today. This is the “future line” that the idea of simultaneity of eternity is generated from, and which contains the anti-entropic experiment of the folding of those two frescos in the mind of the observer who is standing, self-consciously, in the center of the Room of the Signature, with the intention of changing the world. As Lyn put it more recently:

“When we view these matters as expressing a general principle within our universe, we have the scent of the higher principle which I am discussing here. In other words: there is a principle more or less comparable to the notion of qualitative anti-entropy (e.g., new dimensions in physical space-time created), a principle which is also expressed by the potential of the mind of the individual member of the human species, to “expand the universe” qualitatively. This expansion defines the “current wave of the future” which is acting reciprocally, and dynamically upon our present. We, in turn, by aid of those of our potential noëtic powers, which are absent in all lower forms of individual lives, are able, potentially, to shift that “wave of the future” upward. This works to the effect that all of our actions, even those which appear to be unchanged forms of individual practice, are changed in character *dynamically*, reflecting the change in the character of the universe’s future which has been effected by some relevant action upon society generally, by some creative action performed by the individual human will, by means of (speaking theologically) the divine soul, in the likeness of that of the creator, of the human individual, a soul absent in all other known living creatures.” (2)

Raphael touched on the quality of these “noëtic powers” in the universe when he reflected his fresco in the medallion of the ceiling located just above *The School of Athens*. Of the four ceiling medallions, identified today as Philosophy, Theology, Justice, and Poetry, Raphael identified, *The School of Athens* with the powerful expression from Cicero that said, “*causarum cognitio*” (cognitive knowledge through causes). He identified the Dispute by the expression, “*divina notitia*” (noticing divine things.) As any Platonic thinker knows, this means that the intention of the fresco, its motif, and its reason, oriented teleologically, is being pulled by the catenary function of final causality, as if by the dynamic function of the Leibnizian principle of inversion of tangents. For

Leibniz, the principle of space-time reversal was just another means of expressing the universal dynamics of the infinitesimal. Thus, *The School of Athens* is similarly motivated, intentionally, from the future precisely in the anti-entropic way that Lyn referenced the issue in the above statement.

Raphael's spectator also experiences this higher form of human existence by integrating, in his own mind, both *The Dispute* and *The School of Athens*, into a higher manifold, and thus, he participates in this future-oriented task in a most extraordinary pedagogical manner. The reason for the existence of this higher Riemannian manifold, as expressed in the higher form of knowledge of "the simultaneity of eternity," is aimed at reflecting the fact that both the domain of faith and the domain of reason are conjugated and unified to change mankind from a higher anti-entropic principle. In other words, if the domain of faith is identified by "*notitia*," the domain of reason is characterized by "*cognitio*."

"*Notare*" is the verbal action of noticing or representing, while "*cognoscere*" is the reflective verbal action of seeking to know your knowledge, that is, by way of thinking about the reasons for your own thinking. In other words, by borrowing this "*causarum cognitio*" expression from Cicero, Raphael emphasized that the human mind had the ability to access a higher knowledge by means of universal physical principles, as expressed by *The School of Athens*, rather than simply recognizing or noticing things that are divine, which takes the form of an inferior knowledge in *The Dispute*. With this distinction in mind, let us look at *The School of Athens* and *The Dispute*, together, as if they were one in our minds, but from a higher Riemannian ONE, higher than the individual ones of the frescos taken separately.

Thus, the two very different forms of knowledge that Raphael has chosen to replicate into artistic composition become subsumed into a higher form of the human creative function. It is for that reason that certain things in *The Dispute* could not be stated openly, and so, Raphael left a poetic note about that fact in the back of one of his preliminary studies. Raphael's poetic note said: "Just as Paul, descended from the heavens, was unable to reveal the secrets of God, so my heart has covered my thoughts with an amorous veil. So I say nothing of all I have seen, of all I have done, because of the joy which I hide in my heart. My hair shall change in colour rather than my duty should be forgotten in thoughts which might be blamed." (3) This means that certain things can only be said poetically and in no other way.

The existing iconography relating to the philosophers present in the setting of *The School of Athens*, confirms what Lyn has said about the overriding intention of the fresco expressing the idea of simultaneity of eternity, by projecting the future into changing the present. The scene reflects the paradoxical assembly of Raphael's friends, and his primary enemy, coming together in the imaginary gallery of his mind, in order to inform the spectator of how the different ideas that came into conflict during different periods of time in the past history of European civilization, are now being resolved, cognitively, with the purpose of changing the future, through the new idea of the Italian Renaissance.

For example, during the early part of 1508, Raphael made a number of major changes in his cartoons for *The Dispute*, showing that he was still undecided as to what the final “divine notifications” of the main figures of the composition would be. And, because cognition through causality only occurs teleologically by means of time reversal from the future, he required, in his mind, the anticipated composition of *The School of Athens*, before he completed the first draft of *The Dispute*, that is, two years before he started composing *The School of Athens*. How did that work?

The dates of the different cartoons for *The Dispute*, and their contents show that he had a big fight over this time-reversal question in his mind, as early as 1508. The problem was that he could not express the living ironies of *The Dispute* without having resolved them in *The School of Athens*, by time reversal causality. In other words, had *The School of Athens*, which he started in 1510, not been already in Raphael’s mind as early as 1508, *The Dispute* would not have had the degree of resolution that it already had when he started the fresco. The fact that this was weighing on his mind can be asserted with certainty because of the results. The proof of it lies in the fact that, after he had finished the composition of *The Dispute*, in 1509, Raphael made only a single sketch for *The School of Athens* that included all of the main features of the final composition. This means that during the year of completion of the final sketch for *The Dispute*’s, Raphael already had in his mind the completed thought-object of *The School of Athens*. Thus, the two frescos were connected together and inseparably as one single great dynamic work in Raphael’s mind, as a time-reversal two-pronged event, as early as 1508: one as the problem, and the other as the solution. However, it was the solution that came first from the future, before the problem had a chance to be completely resolved.

The same solution already existed in the writings of Nicholas of Cusa and had just been implemented in a new form of political economy in France, under Louis XI after the siege of Nancy, in 1477, but the problem had yet to find a solution within the domain of artistic composition. The Aristotelian problem, as represented in the religious form of *The Dispute*, had to be first rooted out epistemologically, politically, and scientifically. It could not be resolved from within the religious domain, because it is not a theological problem. The completed solution came about when Raphael understood the scientific revolution of Nicholas of Cusa with the artistic application of “*causarum cognitio*” as in the form of simultaneity of eternity. This idea requires a closer examination.

As Lyn demonstrated, the higher state of existence that establishes the simultaneity of eternity as a principle of action in the universe as a whole is a characteristic that is unique to Platonic ideas, and to no other form of so-called ideas. Aristotelian logical ideas, for example, have no relationship to such Platonic ideas, and are universally offensive to them, by nature. Take the idea of “universal,” for example, as understood by Aristotle. The term τό καθόλου (catholou) used by Aristotle and Thomas Aquinas, simply means a “universal” that is defined as *a general determination which is without exception and which leaves nothing outside of itself*. That is the Ultramontane imperialist idea of the Catholic Church. If things fall out of that universal, they have to be heretical. This is the reason why, during the Thirty Years War, Cardinal Richelieu could never accept the idea that the Reformers were Protestants. They were simply Catholics

that strayed away from the universal Church, and so, were heretics who needed to be recovered or rooted out, that is, killed. As long as that idea persisted, war would go on. That concept of universal is one of the central ideas being debated in *The Dispute*.

As history shows, this false notion of universal reflects how this Aristotelian idea has been based on a false notion of space and time. It is that fictitious idea of “universal” which has been imposed on theological thinking for centuries and came to be known under the name “Catholic.” Thus, the name “Catholic” has been used and abused as meaning the exclusion of all other religious denominations for that nominalist reason. The paradox that those so-called “Catholics who are not Catholics” find themselves in is that there exist more people outside of its universal than inside of it. This is obviously not what the Platonic idea of “universal” was meant to express cognitively.

The Platonic concept of “universal” reflects Kepler’s idea of “universal gravitation” and Leibniz’s idea of “infinitesimal,” as Lyn has profusely demonstrated it. Pascal best encapsulated this Platonic idea of a universal, as in the simultaneity of eternity. Speaking of the “Universal Being”, as if he were expressing Leonardo da Vinci’s cognitive causality of physical space-time, Pascal said: “*It is one in all places and all entirely in each place.*” (*Pensées*) [*Il est un en tous lieux et tout entier en chaque endroit.*] Such was also the dynamic idea of universal that the Protestant Leibnizian had developed. Therefore, for Pascal, who was a Catholic of a different stripe than Thomas Aquinas, the idea of the universal (Catholic) principle of the Peace of Westphalia, for example, was a Universal Good in the sense of Leibniz. And, accordingly a “*Universal Good is in us, is us, and is not us.*” (*Le Bien universel est en nous, est nous-mêmes et n’est pas nous.*) (*Ibid.*) This is the sort qualitative change that *The School of Athens* embodies and radiates universally, with respect to *The Dispute*. The point is that for Raphael, there exists no higher state of human existence than to live in accordance with that form of dynamically changing universality. Thus, the Catholicism of *The School of Athens* reflects the expurgated Catholicism of *The Dispute*, and represents a higher form of existence of universality which Lyn has appropriately identified as in the simultaneity of eternity. Now, let’s examine *The School of Athens* up close from that vantage point.



Figure 6. Raphael Sanzio, *The School of Athens*, 1510-1511. (*causarum cognitio*)

The central feature that Raphael brings the spectator to focus on, in the fresco of the *School of Athens*, is first established by the vertical elevation of the gesture of Plato (in the image of Leonardo) pointing up to the heavens, and of Aristotle's reaction of pointing down to the ground. The essence of the two doctrines is represented in these two opposite gestures. Here, Raphael shows his true genius for representing how the most complex ideas can flow out of the simplest physical gesture. Plato's gesture points upward to the divine immortality of human creativity, whereas Aristotle is pointing to the ground, indicating the lower mortal animal nature of man, in the here and now. This opposition is further reinforced by the powerful Bramante architecture, which reflects the same opposition, expressed in the two statues of Athena and Apollo in the background. Similar demeanors are expressed in the niches, on both sides of the arcade with the statues of Athena Minerva, in the pose of Plato representing intellectual power and Apollo in an exaggerated sensual pose similar to Aristotle representing the violence of carnal desires as depicted in the lower relief under him.

Therefore, the elevating gesture of Plato establishes a rupture in the fresco, a measure of axiomatic change between the two fundamentally different world outlooks. By identifying the *Timaeus* that Plato is holding and the *Ethics to Nichomachus* that Aristotle is carrying, Raphael identified the two fundamental principles of those two

philosophies: man created in the image of the creator, or the pragmatic principle of manipulating the appetites of men as one does with the training of animals, as in the traditional Cult of Apollo at Delphi. These two opposite fundamental principles have not only divided the Catholic Church, but have also divided the whole of humanity for more than three millennia of known history. Thus, in a manner much similar to the one Leonardo used in *The Virgin of the Rocks*, in breaking from the apparent unity of central perspective, Raphael is addressing the fundamental difference between the sublime and the tragic nature of humanity, as the true measure of axiomatic change in the universe.

Moreover, the uplifting gesture of Plato further impels the spectator to look at the world from the top down as opposed to from the bottom up. And, the view from the top down (from the universal to the particular) shows that the position of every figure in the composition was designed and placed with that measure of change in mind. First of all, the ceiling that Plato is pointing to reflects the Sphaerics of the *Timaeus*, and not the platitudes of the *Ethics*. It is the Sphaerics content of the *Timaeus* that determines the main lines of projection whose center falls precisely between [1] Plato (Leonardo) and [2] Aristotle, that is, on Plato's left hand holding the *Timaeus*.

However, those main lines of division are not established by central perspective, but by a completely new application of the Platonic idea of stereography. When Plato described the creation of the Living Creature of the Universe, he emphasized that it required proportionality in order to fit into himself all other living creatures that are akin to itself. Thus, the Living Creature of the universe required solidity to become intelligible and visible. This is when Plato first solved the Riemannian problem of changing manifolds by showing that proportionality of the solid ($\sigma\tau\epsilon\rho\epsilon\omicron$) required not a single middle term but two proportional middle terms. (4) Moreover, it is the content of the *Timaeus* which defines the four dominating topics located in the foreground below the steps; that is to say, the Quadrivium of *music* and *mathematics* with [11] Pythagoras, *geometry* centered around [15] Archimedes (Bramante), and *astronomy* centered around [16] Zoroaster and [17] Ptolemy.

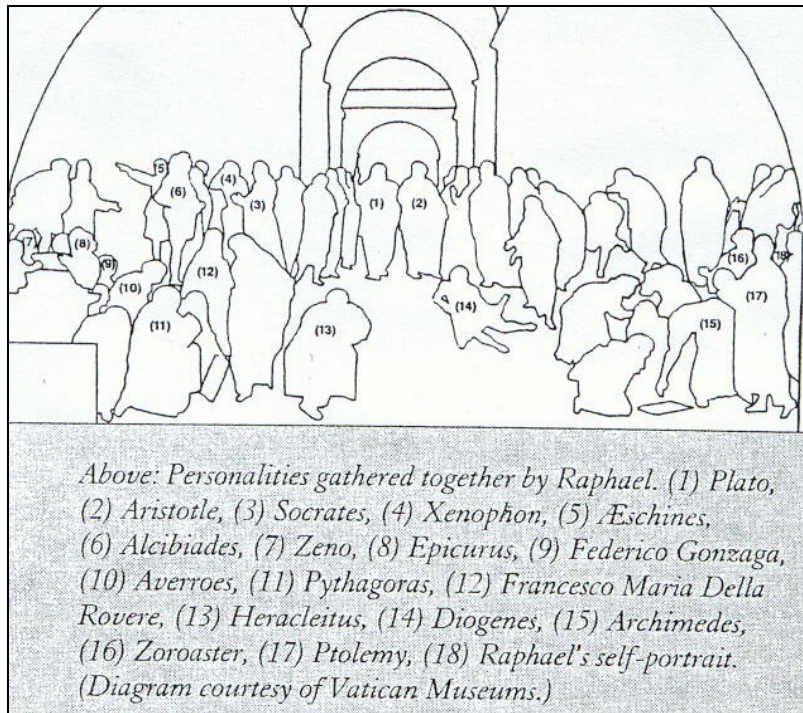


Figure 7. Identification of the main characters of The School of Athens.

All four domains, in the small, reflect the sphere of cognitive knowledge through causes (*causarum cognitio*) in the large, as if the spectator were already in the dynamics of Leibniz. That is to say: given an integral function, you can discover the differential. Such is the idea dominating and captivating the attention of every participant inside of the fresco as well as every individual who stands before the fresco, as an outside-inside captive audience. Thus, we are immediately taken in, and put into the context of a debate on the nature of man and creativity as inspired by the dynamics of the *Timaeus*.

On the other hand, the *Ethics to Nichomachus* of Aristotle is a manual of practical ethics (pragmatics) of how to discover one's place and be happy with the society one lives in. A good man is he who realizes his function ($\tau\epsilon\lambda\omicron\sigma$) of best responding to what is expected of him. Man must develop what is in him that can be recognized by others as being part of the community of human beings. In other words, for Aristotle, the highest human virtue is to aspire to the political good of the city in such a way that, by responding to the consensus of what is expected of him, his social actions are in accordance with the changes which rule human society. Be like everybody else, and don't rock the boat. Aristotle's *Ethics* is based on the practicalities of how to go along to get along, the true antidote to creativity. Holding his *Ethics* book in his hand, it is as if Aristotle were saying: "Don't look at the universe. Look at how people are looking at you. Your God is Public Opinion."

From that same vantage point, one can also identify three isolated anomalies in the foreground of the fresco: [12] Duke Francesco Maria Della Rovere, [13] Heraclitus

(Michaelangelo), and [14] Diogenes the cynic. Those are the only three figures that are left isolated as singular warnings to the creative mind. The presence of Della Rovere is an obvious and obligatory space filler, since he is the current Duke of Urbino, and the nephew of the military conqueror of Rome, Pope Jules II who hired Raphael for this job. But, Della Rovere is also a reminder of the evil of Aristotle-Apollo staring us in the face. Secondly, Diogenes is isolated to identify the danger of cynical existentialist fits that the creative mind may be tempted by. And, thirdly, there is the irony of Michelangelo, portrayed in the thoughtful figure of Heraclites, for whom “everything flows.” Michael-Angelo was added after the final execution of the fresco as a reminder to the creative mind not to be blocked like a ton of cement when confronted with new ideas. The portrait was added at the last minute in 1511, because Raphael was waiting for Michelangelo to finish the Sistine Chapel ceiling that was completed during the same year.

Lastly, and most importantly, ever since Pierro della Francesca had initiated the idea of putting his own portrait in his *Resurrection*, both Leonardo and Raphael used a similar heuristic device in order to turn the spectator’s attention to the creative state of mind and intention of the artist. The central problem that [18] Raphael is confronting the observer with, in the watchful eye of his self-portrait, is meant to reflect creativity itself. This is the same self-consciousness function that Leonardo used with the pointing angel in his controversial *Virgin of the Rocks*. The question that this self-conscious action poses is how did Raphael project from the future, as if the present were to be changed from that future, into a higher form of phase-space subsuming central perspective? The answer to that question will also show how Raphael was able to break with central perspective, as Leonardo had done before him.

2- HOW RAPHAEL CREATED A HARMONIC PHASE-SPACE OF CHANGE WITH AN ANALOG STEREOGRAPH.

Raphael’s Room of the Signature was designed architectonically like Kepler’s *Harmony of the World*. However, unlike Kepler, he did not apply the Harmony of the Pythagorean *quadrivium* of Music, Geometry, Astronomy, and Mathematics to the solar system. Raphael projected those domains from the same harmony of the Five Platonic Solids, into a unique nested manifold; but, he applied it as a harmonic analog to determine all of the design angles required for both *The School of Athens* and *The Dispute*. That was the higher stereographic projection that replaced central point perspective.

Thus, Raphael folded together the four disciplines that Pythagoras taught into a special sort of twelve-fold geometry that was congruent with a new visualmental stereography, as opposed to central point perspective. He derived this twelve-fold idea as an ornament of the universe, like Plato did in the *Timaeus*: “And seeing that there still remained one other compound figure, the fifth, God used it up for the Universe in his decoration thereof.” (*Timaeus 55c.*) These were the primary elements that Raphael used for liberating man from the enslavement of Plato’s Cave.

This idea that Raphael borrowed from Pythagoras and Plato was derived from the universal physical principle of proportionality developed by Plato in the *Timaeus*. This principle of proportionality, otherwise known as the principle of the analog, was similar to that of the stereographic idea underlying the discovery of the doubling of the cube by Archytas, and the discovery of the astrolabe by Hipparchus. It was designed by Raphael from the higher form of unity of a gestalt, in which what appears to be mentally conceived as belonging to the dimensionality of the plane is actually intelligible only from the dimensionality of the solid (στερεο).

Such an analog stereograph can be called a stereographic angle finder, a sort of epistemological slide rule that Raphael used to find the multiples of angular change between the two manifolds of the plane and the solid. This is a Pythagorean Sphaerics problem that goes back to the ancient Egyptian method of proportional multiplication that Raphael had rediscovered and had used to solve the problem of proportionality between two incommensurable domains. Plato speaks of this in *Timaeus*, 32, and gives directions as to how to solve the problem. Archytas also used a similar angle finder to discover his unique equal-tempered conical construction for doubling the cube through Lydian musical intervals.

The way that Raphael solved this problem can also be obtained, otherwise, by projecting the solid angular intersections of the Five Platonic Solids through an integral sphere of sixteen great circles divided into two different spheres of six great circles and of ten great circles. (5) The sphere of sixteen great circles is projected from the center of the room onto both *The Dispute* (icosahedron) and *The School of Athens* (dodecahedron). As I will show below, the analog patterns of such a unique spherical manifold developed the gestalt from which could be generated all possible polyhedra, that is, one in all and all entirely in each.

The new angular links and intersections between the different disciplines of the *Quadrivium* relate cognitively in the same way for the purpose of generating new ideas. Metaphors and analogies of those four sciences all contribute to a universal cognitive knowledge of physics as a universal science, but, fortunately, not as the result of numerology and statistics, or some other set of mathematical formulas that people are peddling under the guise of science today. There is no magic in this. This is pure constructive physical geometry, and artistic composition integrated as a higher form of epistemology. This is the principle of artistic composition that Raphael understood as being of a higher form of existence, that is, the existence of thinking creatively about how you think.

At length, this is more than a geometrical exercise for generating new angles; it is also a cognitive idea finder between the two frescos of *The Dispute* and *The School of Athens*. Even though there is no visual resemblance between the two frescos, there exist a strong historical, epistemological, and cognitive analog relationship between them, a unity of intention, of action, and of finality between the two, which can only be

cognitively assimilated by the mind of a creator-observer standing in the middle of the room.

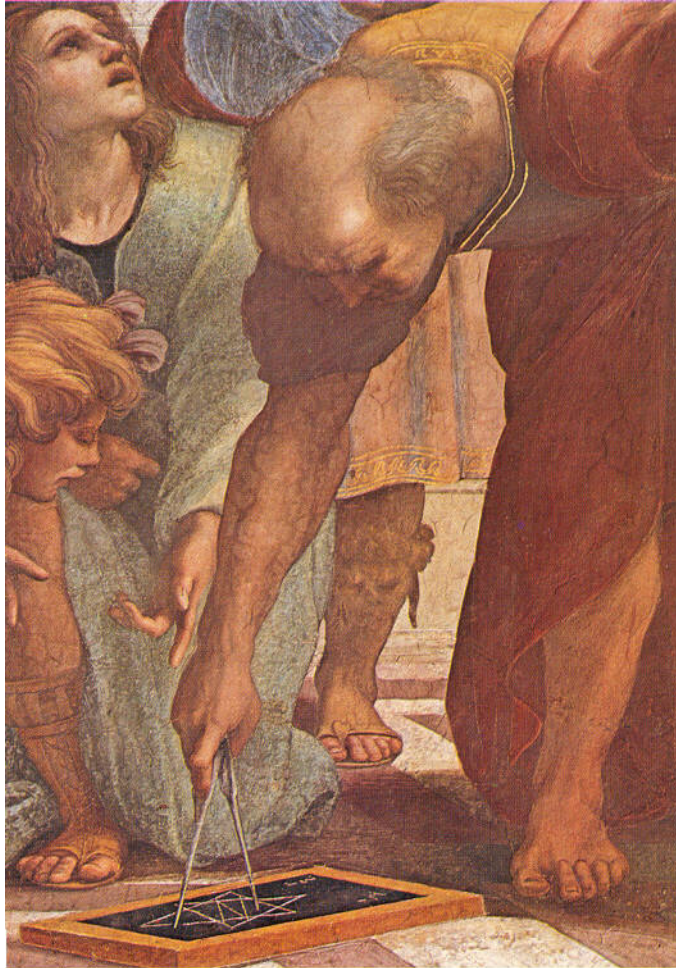


Figure 8. Archimedes and the shadow of Raphael's analog stereograph in *The School of Athens*. (Detail)

How does this analog stereograph work? Raphael used a God-given mental compass as a directed motion multiplier or divider between the two domains of the plane and of the solid, something like a direction finder that a school of fish or a school of birds are able to use, as a group, and without any knowledge of it, in order to modulate their playful harmonic movements in water or in space, as if along the invisible harmonic lines of a magnetic field. That is the idea that Raphael is exhibiting with the Archimedean drawing on the floor of *The School of Athens*, (Figure 8.), as if he had generated a pair of mental wings to lift the viewer to the ceiling of the room. Note the awful joy in the face of the student discovering this quadrature, by pointing to the geometric drawing while staring at the ceiling of the room. That is one of those unique moments of the soul that Raphael had the genius of capturing, in which you can almost hear the young man cry out: "Oh my God!!!"

Although the dodecahedral feature of the Room of the Signature is not visible, the presence of a dodecahedron in wood chips carved into one of the wooden panels near the entrance of the room is a notable sign that Raphael was using this form of higher integral process for the architectonic design of the entire room. However, the more explicit use of the dodecahedral feature, reflecting the common measure of the Pythagorean *Quadrivium*, is suggested directly by the drawing of the motif that Archimedes encompassed on his blackboard. What Raphael is composing, here, is a special form of stereographic projection for nesting the five platonic solids into a unique stereographic spherical projection, a precursor to Kepler's *Harmony of the World*, for nesting the same Five Platonic Solids.

The principle of projection that Raphael chose in order to replace central point perspective is quite unique in the annals of artistic composition, and can be reconstructed in the following manner. Given the higher stereographic dimensionality shown in Figure 10, project the Archimedean motif onto the plane as shown in Figure 9. In other words, the method is actually very simple, but it is difficult to apply: given the property of the inversion of tangents of Leibniz, find the angular change that will create the difference between the two manifolds. (6) You are going to have fun with this one. I guarantee it. It is difficult because it involves the unknown that resides in the future. For example, concentrate on the difference between the two following propositions. Given a circle, find the tangent. That is easy to do. But, on the other hand, given the property of the tangent, find the curve! That is more difficult. That requires an inversion from the future.

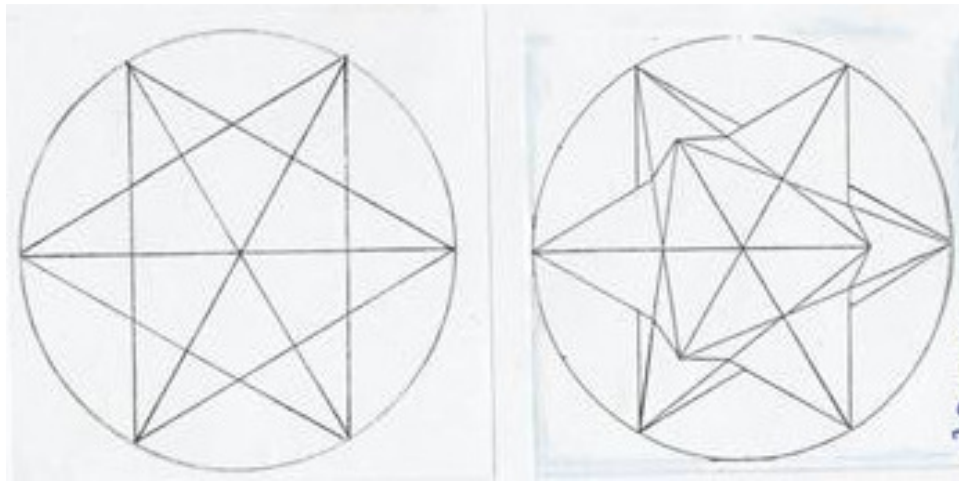


Figure 9. Plane Hexagonal projection

Figure 10. Kepler's stellated dodecahedron

The principle involved in this analog angle finder, is that Raphael was giving an elementary lesson on the subject of how a harmonic change in manifolds occurs in your mind, when you lift yourself above the platitude of the Aristotelian-Euclidean plane by creating a new dimensionality. The irony lies in the fact that even though Kepler's stellated dodecahedron was not yet discovered during Raphael's time (Figure 10), it can, nevertheless, be identified as one of the stereographic shadows pertaining to the analog

stereograph used by Raphael. Pedagogically speaking, this future discovery was already implied in Raphael's stereographic projection. He could have discovered it himself. The point I wish to make is to show how Raphael had composed a visual gestalt resulting from the projection of a solid manifold onto a plane manifold. In doing that, Raphael demonstrated how the human mind had the power of changing the flat world of the Middle Ages from the future vantage point of the higher dimensionality of the Golden Renaissance.

Next, project the same analog stereograph shadow onto the half-circle plane of *The School of Athens*, wall and integrate the angular projection of the twelve-fold geometry of music and astronomy into the center of the fresco. As a result, the architecture of the hexagonal Bramante ceiling is set into its vertical position, in proportional stereographic relationship with the floor plan of the entire fresco. In Figure 11, points ABCDEF are connected to the position of the Bramante architecture, while points GHIJ are connected to the points for the stereographic projection of the dodecahedron. The receding features of the different figures are, similarly, locked into analogous stereographic positions by the same principle. The entire phase-space of the room becomes defined by the dodecahedron, and comes together, as Leibniz put it, when "Human virtues are analogs of divine perfections." (Sorry, I lost the reference)

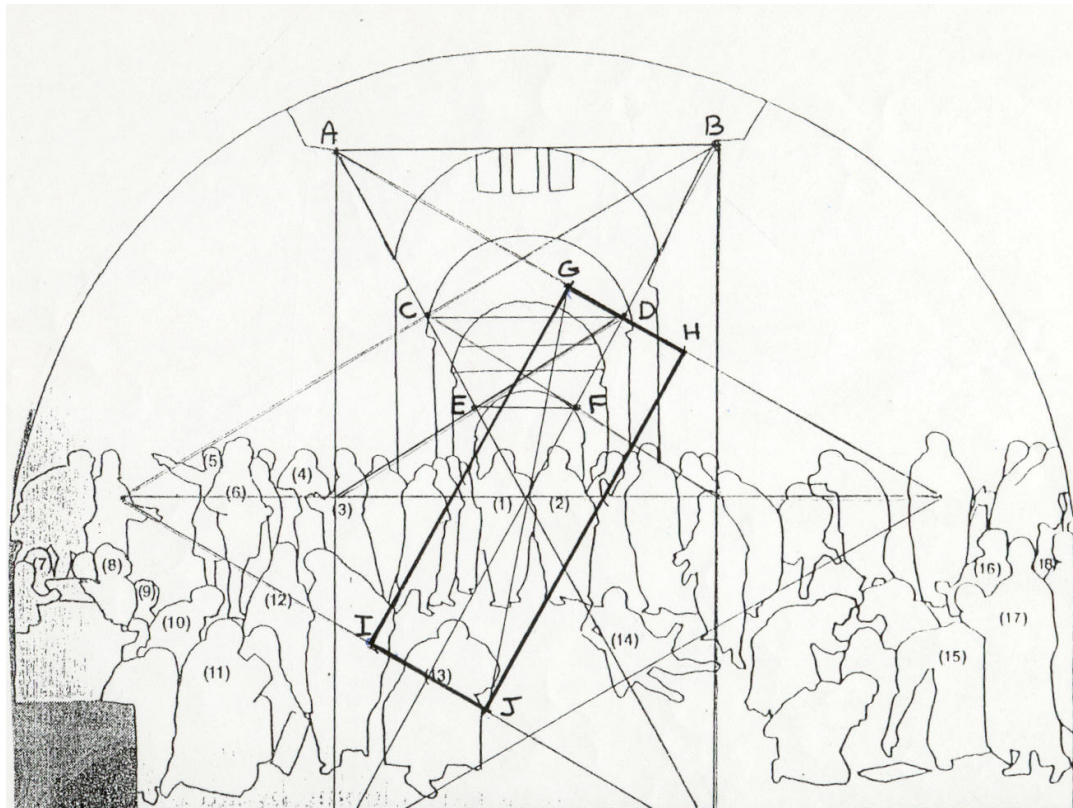


Figure 11. Shadow projection of the Raphael analog stereograph onto *The School of Athens*.

The idea that Raphael is provoking the spectator with, here, is that the shadow of his analog stereograph points to his cognitive creative process in two ways. One, it shows the traces of a higher projection, the source of which is not visible; and two, it shows the failure of his geometric construction! This is what the Archimedean student is discovering in his amazement, which is the discovery that a plane manifold cannot generate a solid dimensional object. Points cannot generate a line no more than lines can generate a surface, or that surfaces can generate a solid. In other words, Raphael has created a stereographic illusion, a fallacy of composition, in order to reveal the truth about the true cause of his creative process, which is not geometrical. It is an error to think that the dodecahedron can be generated from the hexagonal motif of Archimedes. Solid geometry cannot be created out of a plane geometry. This is a perception that has all the trappings of being right, but which is wrong. In other words, the motif of Archimedes is falsely presented as the geometric model for the construction of the fresco as a whole. This is also one of the most fascinating paradoxes that Kepler, later, developed in his Snowflake paper.

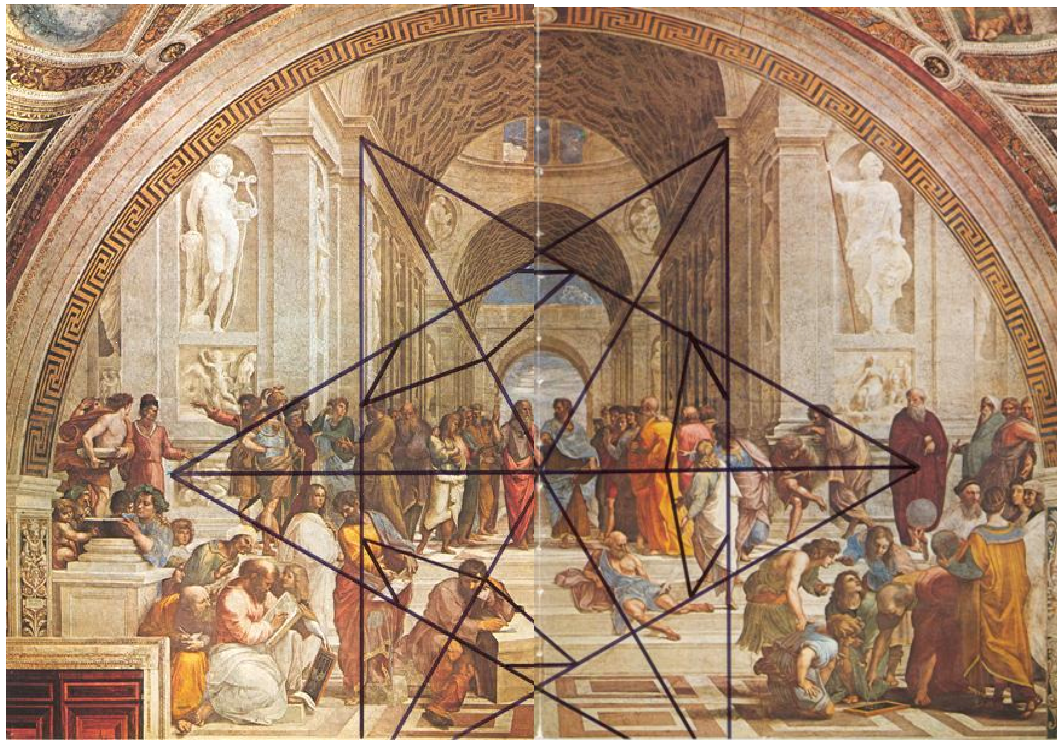


Figure 12. Projection of a Stereographic Dodecahedron onto *The School of Athens*.

It is the other way around that is true. The projection requires three nested manifolds, from the top down, not from the bottom up. The first is the spherical nesting of six and ten sidedness. The second generates the nesting of the regular solids. The third projects either a hexagonal or a decagonal geometry in the plane. There are no other

stereographic options in these transcendental related domains. And, all three phase-spaces form the unique gestalt known by the ancients as stereography. It was in that sense that Raphael stated the fundamental stereographic principle of Pythagorean Sphaerics: that the point comes from the higher dimensionality of the line, as the line comes from the higher dimensionality of the plane, in the same proportion that the plane comes from the higher dimensionality of the solid, as the solid comes from the higher dimensionality of the sphere. This is to this, as that is to that: such is the analog principle that is present in all, and entirely, in each point of the Raphael frescos.

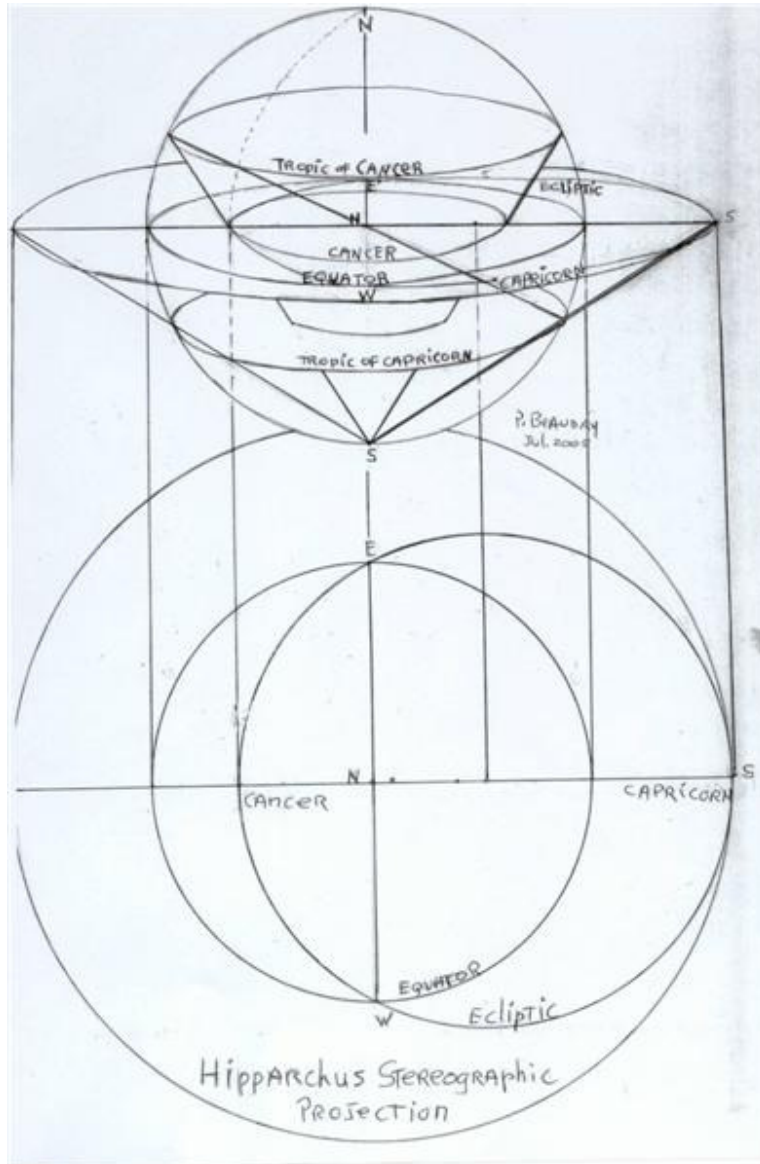


Figure 13. The Hipparchus method of stereographic projection for the construction of an astrolabe from the fallacy of composition of the sphere of the universe.

However, even if this analog stereograph were merely a failed shadow construct, a fallacy of composition, it would, nonetheless, be the shadow of a highly focused compass that Raphael had in his mind to direct himself, and the spectator, from one point of one fresco, to another point of the other fresco, and from one point to another, in the same fresco, in a least action manner, and without ever losing his way. With a compass like that in your mind, you can get dizzy swerving around in the middle of a room, but you cannot get lost. That is the Pythagorean ordering principle of Sphaerics that Raphael had reconstructed in *The School of Athens* for the benefit of future generations. One word of caution, however: be careful not to confuse the hard-core believers in Poincaré stereographic projection with this Pythagorean/Platonic view of stereography. We are, here, in a completely different universe, and they may not understand the Riemannian changes that you are talking about.

How can you connect different Riemannian manifolds together? First of all, don't think of those projections as actual means of mapping one on one the different parts of the frescos, or of scaling down the distances of objects and figures from a sphere onto a flat surface. Those exercises are merely effects; there is no causality in them. The causal function of the analog stereograph does not work like that. Think of causality rather like a stereographic projection of a sphere changing itself onto the plane of its mid-section great circle. (Figure 13) Think of those black line shadows rather as filtering devices that the spectator is wearing over his harmonic thinking process, like a mental helmet of change, as if he were observing the frescos from his unique standpoint of changing the universe from the very center of the Universe. The different harmonic arrangements are organized as if the viewer were looking through the filters of his own harmonic mind's eye, not at a plane, and not at a curved surface, but as if his intention were to have been compared with the harmonic ranges between the different incommensurable manifolds.

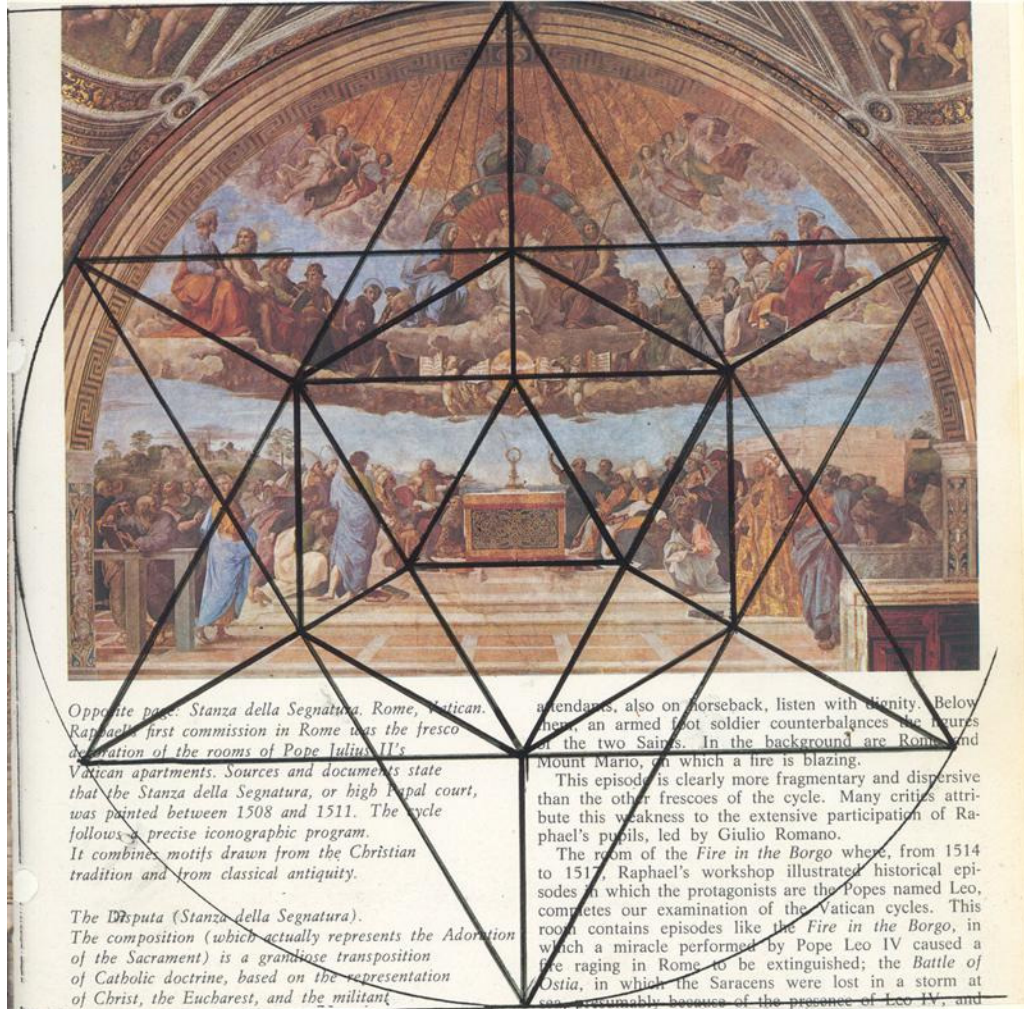


Figure 14. Projection of a stereographic icosahedron onto *The Dispute*.

Note how the projected icosahedron corresponds to the stereographic distribution of the figures in *The Dispute* on your mind (as opposed to the painting). The point is that in the simultaneity of eternity, the application of the analogical process acts like a bridge that leaps over impossible space-time gaps, the boundaries of which your sense perception cannot grasp. Compare, for instance the wing of a bird with the fin of a fish. The analogy does not mean that birds evolved from the fish, as some silly evolutionist would believe. It means that change in the universe is based on a universal physical principle of proportionality. Lastly, if you investigate the power of change of the Raphael analog stereograph, you will come up with a series of stereographic polyhedra, some of which Raphael did not even know existed, because they had not yet been discovered by Kepler, and even later by Poincaré. This should provide enough of a demonstration against the fraudulent algebraic formulation that Euler had concocted against the dynamics of Leibniz, by making believe that he had said the last word on the construction of polyhedra. The so-called Euler Formula $V - E + F = 2$ is merely a result of polyhedral formation not a cause. The fallacy of Euler lies in the fact that he pretended, as Newton

did with his formulation of the so-called inversed square law, that this sort of algebraic topology was expressing the principle for the creation of polyhedra. The truth of the matter is the other way around.

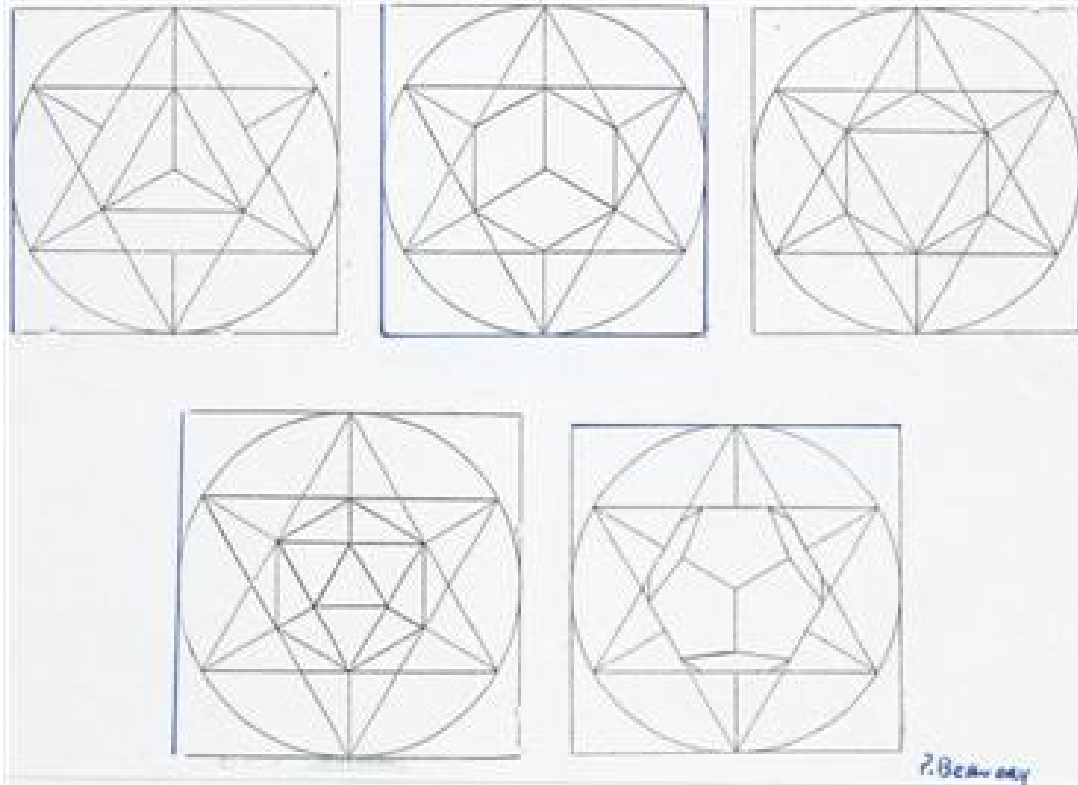


Figure 15. Stereographic projection of the Five Platonic Solids.

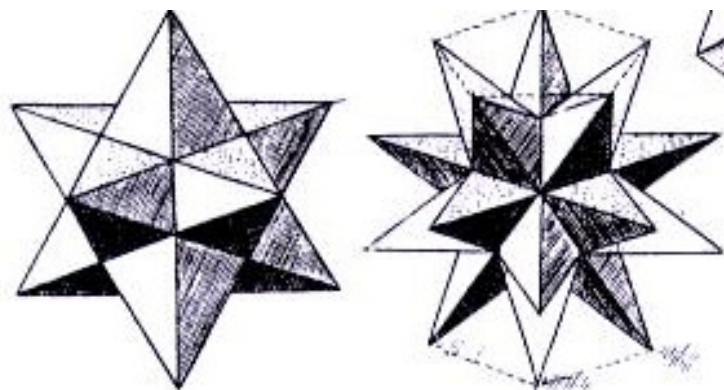


Figure 16. The Kepler stereographic drawings of the stellated dodecahedron (six-sided projection) and stellated icosahedron (ten-sided projection). (*The Harmony of the World*, Book II.)

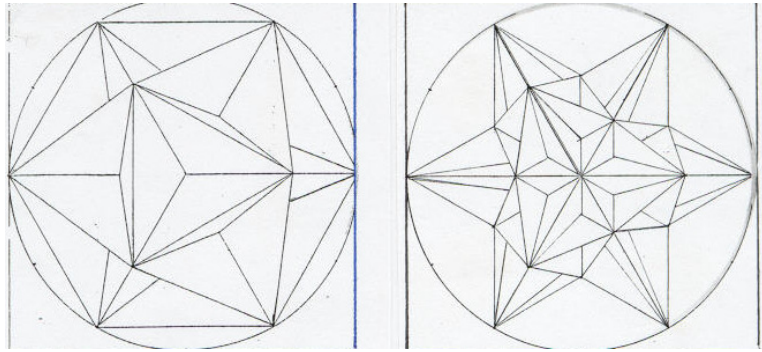


Figure 17. The Poincaré Great Dodecahedron and Great Icosahedron.

The source origin, however, of such an analog process, where an idea is to another as a third is to a fourth, etc., does not come from things, but from a higher universal domain of physical space- time and finality of intention, which envelops and embraces different incommensurable orders of magnitudes, and harmonizes them universally. Such was the metaphysical analog domain of artistic composition that Raphael had expressed from the Pythagoreans and Plato in *The School of Athens*, and used to solve the Aristotelian-Ultramontane problem of *The Dispute*.

The American painter, Benjamin West, had made the same discovery for the benefit of the British and American schools of artistic composition. In his unique lessons to the students of the Royal Academy of Arts in London, West described how the Greeks had discovered the higher domain of the soul whence such ideas were generated. He did not simply emphasize the necessity to bring the analog motion into artistic composition, but rather, to bring alive the cause of that motion and the insight into the causality that made it visible. And, this had to be done in such a manner that the slightest motion revealed the soul and the universal mind of man, *the creative emotion behind the motion*. It was Honoré de Balzac who best captured the congruence of this form of time reversal causality, as expressed by the idea of harmonic depth in Raphael's paintings. Balzac wrote:

““Copy” repeated the old man, with disgust. We’re not supposed to *copy* nature, but to *express* it! We are poets! Do you think a sculptor can fulfill his obligation to express life by having a real woman cast in bronze? Heh, Heh! Try casting your lover’s hand, and then take a look at it. It would look like the hand of a corpse! No, you must find a sculptor who, without copying, creates her hand with his chisel from movement and life. We must seize the spirit and the soul of things. But *appearances*? Appearances are the accidents of life, not life itself! A hand, since I used that example, does not speak only of the body. It expresses and extends an idea, a thought, which we must seize and express in art. Neither painters, nor sculptors, nor poets, should ever separate appearances from their underlying cause. The two are intertwined. Expressing both is where the struggle is. [...] Form is like Proteus; it has a thousand faces! Only after constant combat can you seize it, and force it to reveal its *true* face. You artists! You quit after capturing a first appearance, or a second, or a third at most! But a great painter

perseveres! He isn't taken by false appearances. He waits, until Nature herself goes down on her knees before him. That's what Raphael did! He shattered the use of form as a strict device for representing appearances – which it is for most artists – in order to paint the faces that had been revealed to him in his sublime visions, colored with light, and unveiled by a heavenly finger – visions revealed to him after a lifetime of work, as the Sources of Expression.” (7)

Balzac has captured, here, the profound genius of Raphael in the connection between the harmony of appearances and its causality, between the harmony of the musical and visual appearances, and the non-visible unheard harmonies of the soul. However, if harmonics are accidental appearances in physical things, as Kepler demonstrated in *The Harmony of the World*, then, they are essential features of the human soul, because their proportions are not the result of the soul's dimensionality, but the result of the natural action of the soul on itself when she creates higher dimensionalities; the cause of its own proportional motion without sensation. (8) In a musical sense, the stereographic proportions of Raphael's analog stereograph are the best demonstrations of this principle. And, this raises a question that is important to address in closing the first section of this report.

It is wrong to think that harmonies of the musical domain are more important than the harmonies of the pictorial domain. Raphael made that point exceedingly clear in his frescos. He further made the point that the origin of harmonies is not derived from music nor from geometrical forms, but from the soul, that is, from the soul that integrates the higher quadrature of both faith and reason. So, the question is not what do these harmonies sound like or what do they look like, but rather, how can the human mind understand them, how can it know them, and how can it discover them by means of the principle of insight? The answer to that question lies in the *Timaeus* of Plato and takes the form of the analog function of a double mean proportionality. From that vantage point, the Platonic analog quadrature is a quadratic function of the human mind applicable to sight, to sound, as well as to ideas.

The quadratic analog feature of harmonic proportionality does not simply imply the relationship of four visual or auditory terms to be compared among perceived things, but that those four physical terms relate quadratically, in terms of how they can only be understood cognitively by a human mind. In other words, following the scheme of Kepler in Book IV of *The Harmony of the World*, note the following four steps of the analog quadrature: 1) four physical visual or auditory terms are related in a manner such that, this is to this as that is to that; 2) the human mind recognizes that analog function and compares the four physical terms for their congruence; 3) if true, the proportion is then assimilated by the human mind into the dynamic form of a dynamic idea (not an abstraction); and 4) the mind identifies with the dynamics of that idea of relationship as being truly congruent with its own form of action, accepts it as its own, and fuses itself with it.

Thus, the universal physical principle of proportionality is understood as a dynamic property of the cognitive human mind, and its quadratic feature, capturing its

perfect quadrature, is entirely independent of number and of geometric form. Number and form are only accidental features of sense perception; they are merely the crutches of physical uncertainty helping perceptions find their ways through the confusing labyrinth of the physical domain.

NOTES:

- (1) Lyndon H. LaRouche Jr., *The Truth of Bretton Woods Lies Within Physical Science*, EIR, December 19, 2008, p.51.
- (2) Ibidem, EIR, December 19, 2008, p.53.
- (3) French art historian, Eugène Muntz, quotes a number of sonnets that Raphael wrote in the back of preliminary drawings for *The Dispute*. See Eugene Muntz, *Raphael, His Life, Works, and Times*, Longwood Press Boston, 1888, p. 284.
- (4) Plato solved the critical harmonic problem of the difference between the plane and the solid by means of double mean proportionality. He wrote: “Now if the body of the All had had to come into existence as a plane surface, having no depth, one middle term would have sufficed to bind together both itself and its fellow-terms; but now it is otherwise: for it behoved it to be solid of shape, and what brings solid into unison is never one middle term alone but always two.” (Plato, *Timaeus*, 32b.) These are the same conditions that Archytas required for doubling the cube through a conical function, as I have shown elsewhere.
- (5) See Pierre Beaudry, *LANTERNLAND*, ftp.ljcentral.net/unpublished/Pierre_Beaudry/
- (6) The analog stereograph of Raphael belongs to the same type of *geometry of measuring transcendental change* that Leibniz later developed for transcendental quadratures generated with his method of inversion of tangents applied to the Tractrix and the Integratrix. See G. W. Leibniz, *The Discoveries of the Principle of The Calculus in ACTA ERUDITORUM*, unpublished translation by Pierre Beaudry, Chapter 7, *Extension of Geometric Measurements Using an Absolutely Universal Method of Realizing all Quadratures by Way of Motion: Accompanied by Different Procedures of Construction of a Curve from a Given Property of its Tangents*, Acta Eruditorum, Leipzig, September 1693. ftp.ljcentral.net/unpublished/Pierre_Beaudry/
- (7) Honoré de Balzac, *The Unknown Masterpiece*, Translation Michael Neff, Creative Arts Book Company, Berkeley, 1984, p.10-12.
- (8) Johannes Kepler, *The Harmony of the World*, The American Philosophical Society, Library of Congress, Washington D.C. 1997, p. 310. Kepler applied the same principle of the visual as well as the hearing faculties. “So by the hearing of a sound, and by the power which controls it, consonances are distinguished from dissonances. So architectonic proportions are perceived by the eyes, and by the faculty that

controls the sight, beautiful and congruous proportions are distinguished from the incongruous. [...] To find the appropriate proportion in sensible things is to uncover and recognize and bring to light a similarity of that proportion in sensible things to some particular archetype of the truest harmony which is within the soul.” (Ibid., p. 309 and 295.)

END OF PART I