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# THE NEGENTROPIC EFFECT OF THE TRANSFINITE

by Pierre Beaudry, 4/27/2021

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## FOREWORD

“...they will begin to neglect the people in spite of their responsibility as guardians, failing to estimate as they should the value of music and subordinating it to gymnastics.”

Plato, *Republic*, VIII, 547a.

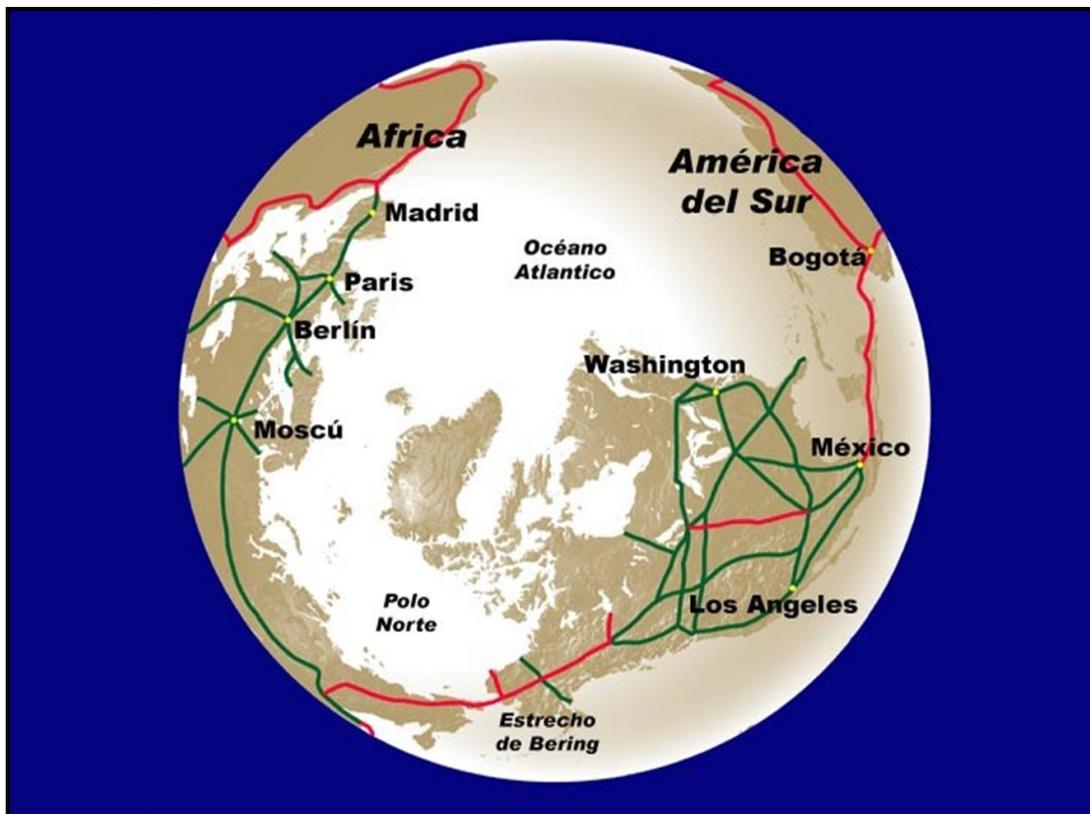
In his book, [Project A](#), Lyndon LaRouche treated the question of the One and the Many in a fashion very similar to Plato's treatment of that same subject in the *Republic* and in the *Parmenides*. LaRouche demonstrated that a fundamental characteristic of the sovereign creative human mind, which is contrary to all animals, is capable of having a direct relationship to the universe as a whole, through an idea which is capable of changing the whole of human history, past, present, and future, and thus, change the universe as a whole.

LaRouche made this crucial point by emphasizing that the individual human mind is capable of changing history directly, that is, without any mediation whatsoever, and in such a way, that such a relationship of reason causes history to be transformed as a whole. Lyn wrote: “Although the sovereign individual act of creative reason is conditioned by a social context, ultimately, the primary relationship within society is a direct, as if to say *unmediated*, relationship between

the individual person and all of past, present, and future historical existence of mankind.”<sup>1</sup>

The individual human mind identifies such relationships to the past, the present, and the future as unique sorts of actions of human creative reason which take place at decisive renaissance moments of human history, such that they affect all times and the entire human species in the simultaneity of physical eternity. Such events are so unique and so rare, that one can count them on the fingers of one's hand. In point of fact, I know of only four such great creative moments of discovery in history: Plato's "geometrical number," St.-Paul's idea of "agape", Cusa's "coincidence of opposites", and LaRouche's idea of the "transfinite."

### LAROCHE'S IDEA OF THE TRANSFINITE: THE VIEW FROM ABOVE



World Landbridge, by John Sigerson

<sup>1</sup> Lyndon LaRouche, *THE SCIENCE OF CHRISTIAN ECONOMY*, Schiller Institute Inc. Washington D.C. 1991. p.104. See also: Lyndon LaRouche, [Project A](#), EIR, Vol. 17, No. 41, October 2, 1990, p. 11.

The only way to approach this question of the transfinite is to look at it as a whole and from the top down. Take, for example, a view of the Earth as taken from the heavens above the Arctic Circle. This view from the top down comes from the future; it is a view of unity of mankind as it appears now from the vantage point of what mankind has to soon become, if it wishes to survive as a species.

The significance of the LaRouche idea of the “*transfinite*” can come in full view of your mind when you imagine how the potential of your mind is dependent on discoveries of principle for the purpose of increasing the rate of progress of all of your fellow human beings. It is this accessibility to the heavens that the mind must crave for, and this is precisely what oligarchism has always attempted to destroy in humanity.

This view, of the LaRouche World Landbridge, for example, requires that the “*transfinite*” integrate the application of all other similar ideas that were created in the past, among the different civilizations of the planet and which must be recovered today for the benefit of all of mankind, including those that may not have been acknowledged throughout history. LaRouche made the crucial point about such an idea in the following way:

“Nonetheless, the essential, efficient aspect of any discovery is its effect upon the potential rate of progress of the power to exist of the human species as a whole. This includes, as we have said before, the fulfillment of contributions from the past which are incorporated implicitly, or directly, in the discovery. Thus, every action in the present, which is created, as opposed to non-created or deductive, acts upon the entirety of mankind's past. In the same way, but also in a different way, every truly creative act in the present, or the omission of such an act in the present when required, acts upon all future human existence, directly.”<sup>2</sup>

Such a discovery of principle implies the ability to change the past by bringing about the appropriate reconstruction of long dormant and unaccounted for principles and ideas that were discovered a long time ago, and whose restoration to

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<sup>2</sup> Lyndon LaRouche, [Project A](#), EIR, Vol. 17, No. 41, October 2, 1990, p. 11. See also, Lyndon LaRouche, [The Science of Christian Economy: and other prison writings](#), Schiller Institute Inc., Washington D. C. 1991, p. 105.

their original intentions thereof for the future, offer a new course of progress for all of human history, past, present, and future.

It follows, therefore, that since no deductive knowledge is capable of accomplishing such a task, no currently accepted sort of entropic classroom knowledge based on deductive forms of action/reaction is capable of accomplishing such a task or of shedding light on such an endeavor. Why not? Because such a new discovery implies the emergence of a high density of singularities during the course of which an axiomatic transformation must take place. As LaRouche added:

“My essential discovery in physical geometry, and therefore, bearing upon physics generally, is that scientific conceptions are geometrically ordered in a transfinite way. That is, if you construct things, such that the same construction with one action added (one ply of action, to put it properly), in a multiply-connected manifold, this ply has the requirement not only of generating an additional singularity, but actually, or implicitly, re-defining the entire process, the entire nonlinear function. So, the rate of generation of singularities is increased.”<sup>3</sup>

Let's take the case of exploration of space as the most efficient domain where future discoveries of principle will take place. The knowledge of space exploration is the future from which the oligarchical past must be excluded for the purpose of improving mankind as a whole; and such a change must stem from the principle that solutions to problems can only come from a state of mind whereby man will consume newly discovered ideas and resources based on the isoperimetric principle of accomplishing the maximum amount of work with the minimum amount of action. Unless this principle is restored in the education process of mankind, people will remain enslaved to the destructive oligarchical system.

The reason this idea will work is because such a view of the future must be based on a constant anticipation of solving new problems that did not exist before; or which did exist, but were buried in the tomb of time unchanged. In other words, space exploration becomes a new platform of governance of mankind, conceived

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<sup>3</sup> Lyndon LaRouche, [Project A](#), p. 8.

ahead of time and where anticipating a future must replace the outcome of what was formerly expected to go along with the perpetuation of a non-changing past. The point is that the past must change, and that is the reason why the best way to keep your feet firmly on the Earth is to have your head anchored in the Stars, because the heavens is the only domain where the past and the future coexist and can be changed in the simultaneity of eternity.

### **TRIPLY-CONNECTED SELF-CONSCIOUSNESS**

However, the only way this new idea of exploration of space can work is through the discovery of how change of self-consciousness works. This may appear to be a little tricky, but it is really quite simple. Let's look at self-consciousness in the manner that Lyn has taught us:

“You conceptualize your own state of mind, and you conceptualize it in a Socratic way such that you don't simply admire, accept, the state of mind of yourself that you are observing, as if it were a hero in a drama, some silly soap opera or something.

“You look at it critically. See your own follies; see the assumptions you make, as in tragedy. One might say, ‘Have consciousness of your ordinary conscious states, as you would of the progress of a tragedy; looking at your everyday self, your ordinary self of the classroom, or whatever, as you would look at Hamlet, for example.’ Then you are trying to be conscious, to have insight into Hamlet's mind, as you are observing it, you, being Hamlet. And using the knowledge that you have, as being yourself, and therefore having access empirically to everything that is happening to the Hamlet inside you, the one who ordinarily speaks, you can look at some of the assumptions that Hamlet is making, in order to behave the way he does, or to justify, or to perpetuate the way he behaves as he does. You can look then and see what the alternatives are, as to how you might change Hamlet's assumptions to cause him to behave differently.”<sup>4</sup>

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<sup>4</sup> Lyndon LaRouche, [Project A](#), p. 28.

Here, Lyn noted two things that happen in this simple kind of self-consciousness:

The first is that you are looking at yourself from outside of yourself, as if from above yourself. This is not an easy thing to do if you tend to be only concerned with yourself and you are incapable of looking at yourself as if you were someone else looking at you. On the other hand, you cannot be so distant from yourself that you become completely foreign to yourself, as if you were making an objective examination. This is not a linear deductive action; this is a non-linear self-reflexive action.

The second thing is that you must look at yourself as someone who is changing: the new conscious self looking at yourself becoming the future you, the one that does not yet exist and is still to come. In this second step, you have to be high enough above yourself to be able to see the non-linear twists that you are going through, laugh at your own failures, and make the appropriate corrections.

After you have done these two things properly, then, the excitement begins. As Lyn remarked: “Now, with a certain quality of zeal, and a determination to persist, without losing track of what one is doing, the result is a movement toward the kind of concentration, which, extended over days, weeks, whatever, leads to creative discoveries.”<sup>5</sup>

It is that this process of self-conscious transformation is the only way in which the universe can be understood as going from an entropic state to a negentropic state. Such transfinite transformations constantly take place in the universe, except that the universe is unaware of it; that is the reason why human beings are needed to comprehend the universe. Lyn concluded:

“You have essentially, therefore, a universe which is not entirely dissimilar from Kepler's; in which the characteristic of the universe, as Kepler's model implicitly states, is negentropy, rather than entropy, and in

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<sup>5</sup> Lyndon LaRouche, [Project A](#), p. 29.

which the Second Law of Thermodynamics is not tolerated, except in the loony bins of society.”<sup>6</sup>

### **A SECOND LEVEL OF TRANSFINITENESS: PLATO'S 'GEOMETRICAL NUMBER'**

Why do we have societies where children's natural curiosity and ability to discover through play gets stultified and destroyed? The reason is because the controllers of our governments do not wish to foster the creative process of mankind. I have constructed, here, a geometrical exercise to help remedy that social failure with children of all ages, because it requires a state of pure curiosity and no *a priori* knowledge of any sort to make the discovery. All you have to do is to look for Plato's "*geometrical number*" and into your own mind.

As I indicated in my previous report<sup>7</sup>, the purpose of Plato's "*geometrical number*" is not for ingratiating mathematicians, but for encouraging the youth into discovering by themselves the transfinite quality of the golden soul necessary for future government leaders. That is the reason why this so-called "*geometrical number*" is not a number, as such; it is a transfinite process of constructing an axiomatic change which takes place between the second and the third spatial dimensions of physical-epistemological space-time; that is to say, a second level of self-conscious transfiniteness or a triple level of consciousness.

The most fascinating aspect of this construction occurs when you add a second ply to the simple circular action manifold of your self-reflexive mind. One of the most remarkable integrations of this transfinite process is the passing from the plane geometrical domain, such as a triangle, to the solid domain, such as a cube, in discovering either a method for doubling the cube or for discovering how to apply Plato's "*geometrical number*" to the doubly-connected domain of the torus.

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<sup>6</sup> Lyndon LaRouche, [Project A](#), p. 29.

<sup>7</sup> See my report:

[PLATOS GEOMETRICAL NUMBER FOR SOLVING THE PARADOX OF THE ONE AND THE MANY](#)

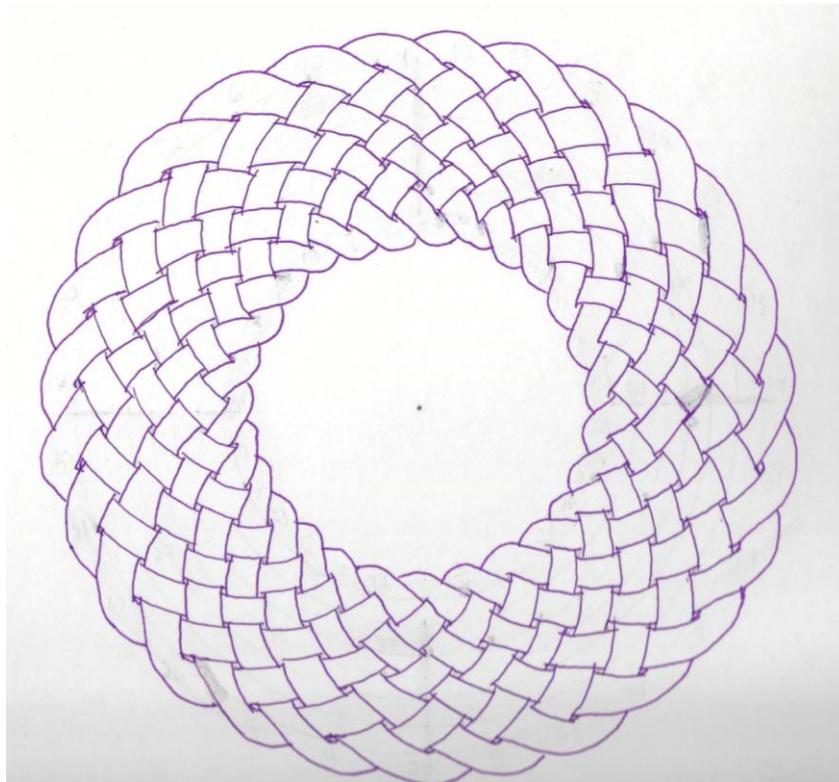


Figure 1. The torus of Plato's "*geometrical number*"

Take, for instance, a torus whose P/T ratio is 8/27; that is, where the Poloidal value is 8 units of action (small circumference) and the Toroidal value is 27 (large circumference). These numbers were chosen simply because  $8 \times 27 = 216$ , which is the minimum number for constructing Plato's "*geometrical number*." This is no great discovery, but it is a refreshing new way of looking at old things.

Here, I recommend that the following exercise be accompanied by a tutor who is able to guide the reader, step by step, into discovering by himself or herself, the way to make this discovery of principle. However, one particular point of method must be strictly observed: there is a difference between discovering something and discovering a principle, and the difference is between achieving an objective and discovering the pathway to get to that objective. On matters of principle, the pathway is always what must be discovered first and foremost. As you reflect on the nature of Plato's "*geometrical number*", bear in mind that in various dialogues Plato had Socrates observe that failing societies emphasized gymnastics over music.

This geometrical construction of the torus is in keeping with Plato's idea of using integers as cycles of motion, where the integer-waves are expressed in a transfinite manner with a total of 216 waves of doubly-connected circular poloidal actions (circular action upon circular action). The question to be answered by construction is how to generate a total of 216 waves in accordance with Plato's "geometrical number"? My first attempt at an answer is in orderings of the following three Figures:

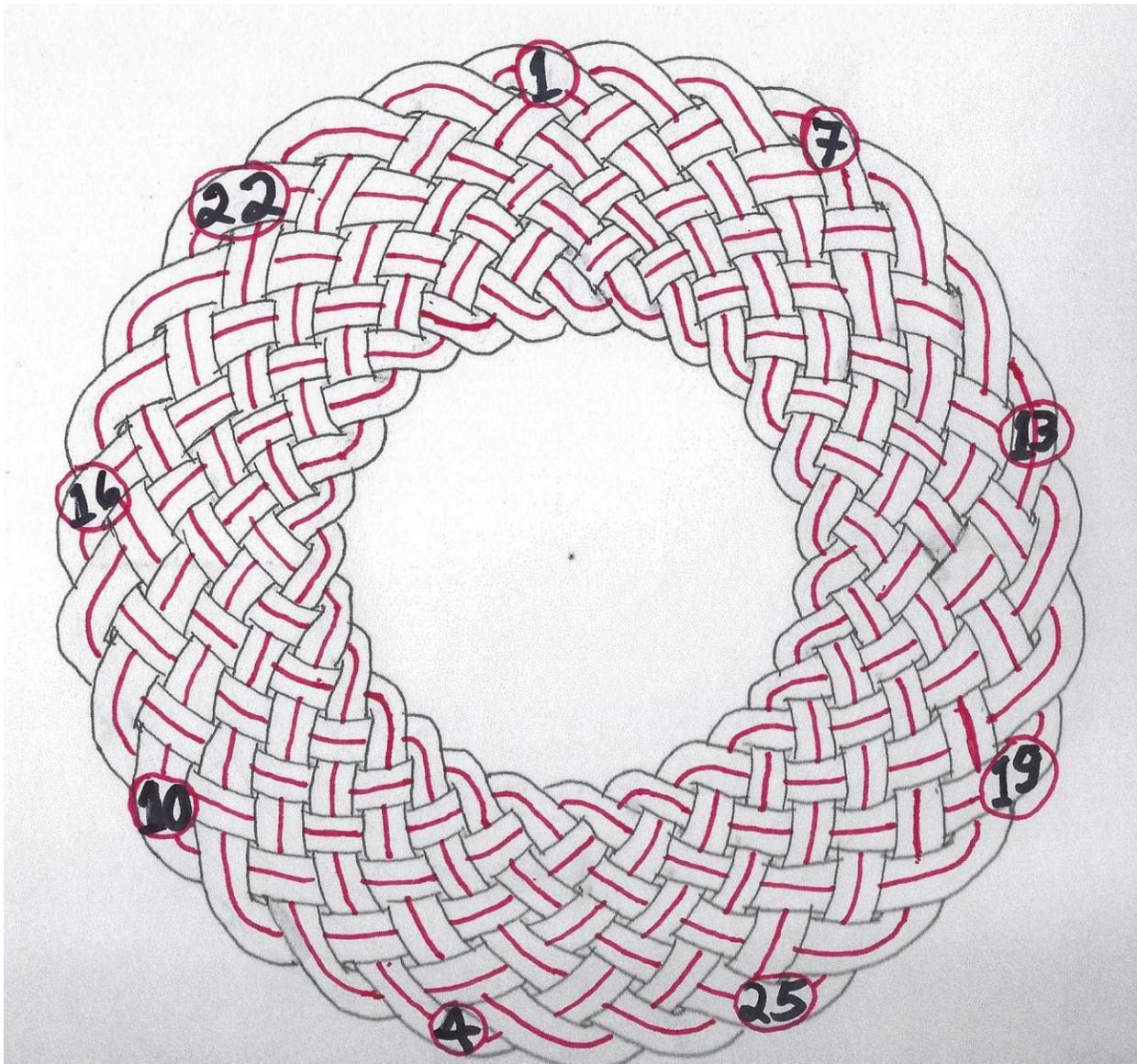


Figure 2. Triple counterclockwise waves for a total of 27 waves. Note how the couples (4-25), (10-19), (16-13), and (22-7) are all well balanced reciprocals of 29.

If you count the half-wave instead of a whole wave, you will find that each integer plus 6 will generate the next higher integer in the series of 1 to 27. Therefore,  $1 + 6 = 7$ ;  $7 + 6 = 13$ ;  $13 + 6 = 19$ ;  $19 + 6 = 25$ ;  $25 + 6 = (31 - 27) = 4$ ;  $4 + 6 = 10$ ;  $10 + 6 = 16$ ;  $16 + 6 = 22$ ;  $22 + 6 = (28 - 27) = 1$ . The triple poloidal ordering of the 9 integers of Figure 2 is generated counterclockwise, but the toroidal location results of the series 7, 13, 19, 25, 4, 10, 16, 22, 1 are all projected clockwise. The total amount of poloidal waves is 27.

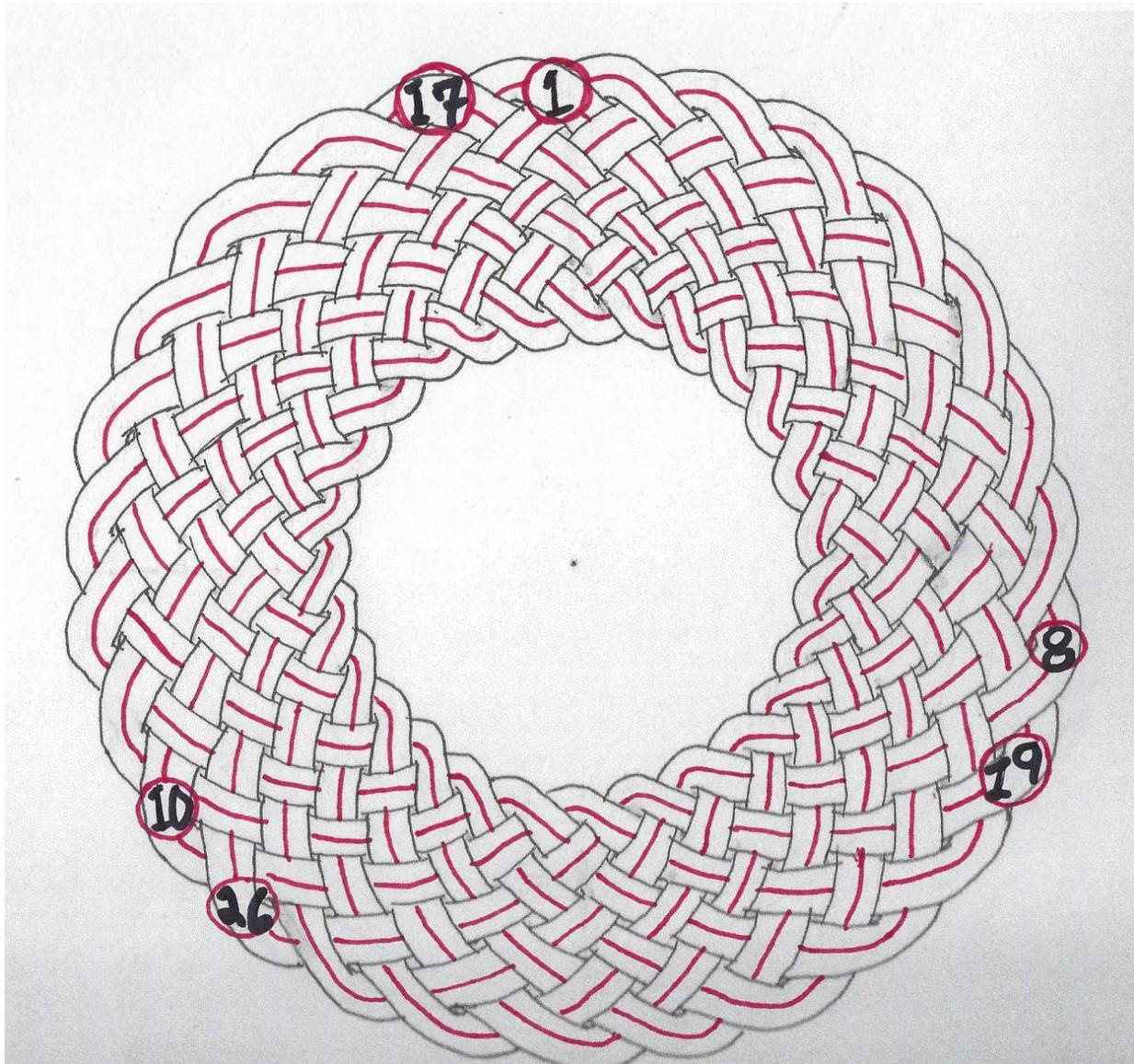


Figure 3. Quadruple wave of power residues for 8 modulus 27 for a total of 81 waves.

Figure 3 is the same torus which can be used to apply modern theory of numbers following the conceptions of Poincaré and Gauss. This exercise requires that you find the 6 residues of 8 modulus 27 and place them in their proper locations in accordance with the P/T ratio of 8/27. You will not know where all of these will be located, but you will know, ahead of time, how many waves you will be required to generate in order to get there.

There are 6 powers of 8 with respect to number 27 and all six powers can be generated by Cusa's isoperimetric principle where the maximum amount of work is accomplished by the minimum amount of action. Furthermore, all higher powers repeat the same ordering of those 6 power residues. The first action is  $1 \times 8 = 8$ ; the second action is  $8 \times 8 = 64 - (2 \times 27) = 10$ ; the third action is  $8 \times 8 \times 8 = 512 - (18 \times 27) = 26$ ; the fourth residue is  $8 \times 8 \times 8 \times 8 = 4,096 - (151 \times 27) = 19$ ; the fifth residue is  $8 \times 8 \times 8 \times 8 \times 8 = 32,768 - (1213 \times 27) = 17$ ; and the sixth and last residue is  $8 \times 8 \times 8 \times 8 \times 8 \times 8 = 262,144 - (9709 \times 27) = 1$ . The residue number represents the number of waves you need to count in order to get to the next residue. The sum of the residues of all of the six powers are, in order of increasing powers,  $8 + 10 + 26 + 19 + 17 + 1 = 81$  waves.

Lastly, Figure 4 below shows that you have to count an interval of 4 waves between each integer from 1 to 27 for a total of 108 waves. Thus, the total number of waves from the wave functions of those three Figures are:  $27 + 81 + 108 = 216$ , which is Plato's minimum number for the construction of his "*geometrical number*."

Note, as a bonus, that all of the integers of Figure 4 are well ordered reciprocals of 28 and of 29, and that the entire series reflects the isoperimetric principle of Nicholas of Cusa (minimum amount of action for the maximum amount of work). Why is that significant? Because it reflects an increase in energy flux-density where all of the numbers are harmonically ordered by least action and reflect beauty in such a manner that whatever the cycle, or no matter how many times it may be played, it will always be well-tempered among well-ordered residues of powers and can never be subjected to corruption unless modified by some outside force.

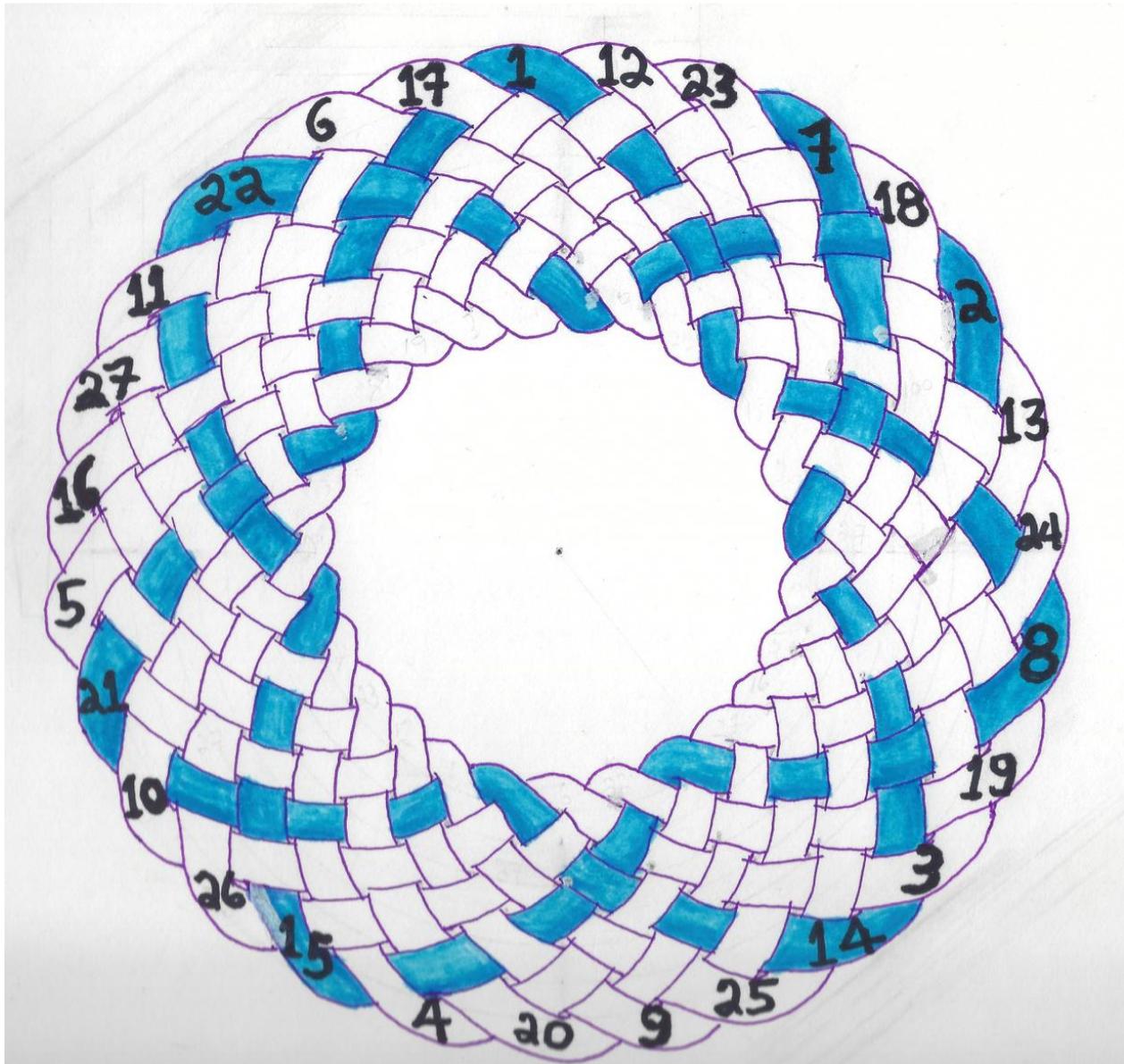


Figure 4. Quadruple clockwise waves from 1 to 27 for a total of 108 waves.

### **WHAT IS THE NATURE OF A TRANSFINITE SINGULARITY?**

Suddenly, the following question arises as I reexamine the previous section on Plato's "*geometrical number*": are we tracing here our own assumptions to the ultimate roots of critical evidence, or are we attempting to convince ourselves that this geometrical torus exercise is the proper way to make the pedagogical point that Plato had in mind with his "*geometrical number*"? What is the nature of the higher

power within the transfinite domain? What is the nature and the function of the singularity in an axiomatic change? These questions are not for the purpose of putting into question the Platonic doctrine, but to question the authority of the investigator, himself. And the way to answer that question is to call upon the crucial singularities or dissonances, which establish all of the right connections to the creative process of reason, which is *agape*. LaRouche explains the process as follows:

“These dissonances have to be resolved. These are not resolved in order to reestablish the theme as subject of the composition. Rather, the resolution of the dissonances in this form, in well-tempered polyphony, is the subject of the composition. That is, the composition exists for the purpose of defining and resolving the dissonances. The solution to that, as expressed in respect to what is chosen as the thematic material, so-called, employed to create the ironies, becomes the composition as a whole.

“Thus, the elaboration of the irony, the dissonances to be resolved, the treatment of the material afresh from the standpoint of this development, these complete the statement of an idea, and present us with a creative discovery which is precisely analogous in that respect to a fundamental, valid, scientific discovery. It is not merely analogous, but employs the same faculties of the mind, maybe in a different mode in some respects, but the same essential faculties of the mind.

“In creative scientific discovery, and in the proper composition, performance, and hearing of music so performed, there is a distilled expression of the quality of emotion which is called sacred love, as opposed to profane love: *agape*, for example. The function of music is expressed by the correlation in that way of this keener sensing of this emotion of sacred love (*agape*) with the overall process of development of a composition to encompass one or more creative discoveries, a development which is itself the composition.”<sup>8</sup>

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<sup>8</sup> Lyndon LaRouche, [Project A](#), EIR, Vol. 17, No. 41, October 2, 1990, p. 24.

This question of *agape* is the very heart of the idea of “substance” which LaRouche is investigating as being the generator of the proper relationship between the human mind and the Creator in the general form of *Imago Viva Dei* (the Living Image of God); because it makes the connection between the individual mind and the future of mankind as a whole. This quality of *agape* has the power to alert two other crucial emotions in the soul in connection with the future of humanity. *Agape* has the power to alert the specific quality of *truth and beauty*, which always resonate together from the non-linear qualities of the composition as the scientific evidence that the composer is following a negentropic pathway of improving mankind as a whole. That’s the proof in the pudding for both science and artistic composition. As Lyn wrote:

“So, we see, in even this aspect of life, in the relationship between the artistic and the scientific experience of the scientific worker, that the scientist *requires* classical art, including classical music, in order to be a better scientist. The experiencing of a form of creative activity, which generates beauty as the classical form of experiencing a stronger impulse of *agape*, in the development aspects of the composition, is a strengthening, a well-source, so to speak, for continued, creative, scientific work as such. Not only are the two based on the same principle; but the one is necessary to the other. A scientific sense, whether in the scientist or not, is necessary for classical musical composition, for example, as obvious for the case of classical arts as Leonardo da Vinci and others exemplified this. The more essential thing to bear in mind is that classical art is essential for the moral development of the scientific creative potential of the scientist.

“This is not restricted to that. In every aspect of life, classical art is essential to enhance the experience and command of that which separates man from the beast. Thus, we give to this combination of classical art, and this emotion, the name *beauty*. In the truthfulness of this classical art, insofar as this art imitates creative scientific work by means of beauty, we have the equivalence of truth and beauty, and beauty and truth. So the function of classical art is essentially to give mankind an experience of truth and beauty, and beauty and truth in this way: to give mankind the light of this beauty, to

illuminate scientific thinking, scientific potential, and, indeed, every aspect of life. So bury Kant.”<sup>9</sup>

Yes, bury sincerity. Truth and beauty are the furthest away from sincerity; they are actually the complete opposite of sincerity. If you catch yourself saying: “I can’t change, this is the way I was brought up since I was born, and there is nothing that anyone can do to change that”, you have become a complete Kantian fool. The best thing you can do is to force yourself out of this mess.

### **CONCLUSION: THE THIRD LEVEL OF SELF-CONSCIOUS TRANSFINITENESS**

Today, humanity has potentially reached a level of consciousness, which can be called the level of human maturity. However, not even one percent of the world population has reached that level. What does that mean for the future? LaRouche answered that question in the following manner:

“This takes us to a *third level of self-consciousness, which is looking down on the level of succession of the sets of axioms and postulates*. On the third level, we are into the realm of true Socratic thinking, in which we are not merely negating the errors, obvious errors, or reducible errors in a set of axioms and postulates; we are now looking at the ordering principles, the choice of ordering principles, by means of which we might order progress among alternative sets of deductive axiom and postulate arrays.

“So there is the third level of self-consciousness.

“In each of these cases, what is involved is consciousness; that is, our actual human consciousness, as an individual, taking our consciousness on the relatively lower level, as a subject of consciousness, as an object of consciousness, and thinking about our thinking. That is, going to a higher level, to thinking about our thinking on a relatively lower level.

“So we go from the level of thinking in terms of simple causalities, subsumed by only one set of axioms and postulates, to thinking about the

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<sup>9</sup> Ibidem, p. 24-25.

differences in notions of simple causality associated with an ordered change in choice among implicitly alternative sets of axioms and postulates. That is the second level.

“On the third level, we take the activity on the second level as the object or subject of consciousness; and we might also think about, in the third level, our consciousness on the third level.”<sup>10</sup>

It is essential to recognize that because we are humans and are born so, a child is naturally inclined to such triply connected transfinite levels at a very early age, because mental and physical universal law is the same universally; therefore, the national education system of every nation should be oriented to fostering the creative process of every child on this planet at a very early age.

What Plato discovered at this third level, is the universal connection between the creative powers of human reason and the universe as a whole. He was able to do that by doing away with all underlying assumptions that did not have a universal stamp marked on them. All failures to accomplish that objective of universality will result in errors, because the empirical limitations placed on the individual human mind by the misleading character of sense perception are never universal.

This third level of self-consciousness is what Christianity used to call the “spiritual level”; Raphael called it the “*Transfiguration*” of the soul or the highest level of atonement with God the Creator. Such a level cannot be reached without the sort of atonement required for creative thinking. As Lyn indicated, this is what makes us responsible for continuing upward Creation; that is progress. So, the question is: when some crisis impedes scientific and technological progress, do you stop progress or do you solve the crisis by taking your people to the next transfinite level?

**FIN**

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<sup>10</sup> Ibidem, p. 41.