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# THE SOLFÈGE TORUS

by Pierre Beaudry, 2/24/2016

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## INTRODUCTION

*“The idea that human individual, is able to create, a power of creativity in the human being! And that's not something that dumps on you; that's something that comes from the process of your existence. And if you can achieve that progress, that's the proof, of creativity. And the idea, the creativity which lies beyond the past, that is what the truth is.*

*“People say, we're going to inherit this, we're going to inherit that -- no. Mankind as a species, develops within the body of mankind, the aptitude, of creating creativity beyond anything that any living mind has heretofore done: the creativity of the individual.*

*“And it's when you understand {this}, which has been my particular emphasis, that's what makes the difference. The human species is the only species we know of, which can voluntarily create a new state in the universe.” (Lyndon LaRouche, [Policy Committee webcast](#), Monday, February 8, 2016.)*

## 1. A DIALOGUE WITH LYN ON THE QUESTION OF SOLFÈGE

*“The chirp of the gravitational wave captured by LIGO and coming from a billion years away is the proof of Einstein’s genius, because it demonstrates that the creative power of the human mind resides in the coincidence of opposites; that is, in the unity of the Macro and Microphysical truth of the Universe based on the solfège principle of music. If you don’t believe me, you can hear it [here](#).”*

Dehors de Bonheur

“Q: Hi, it's Jessica from Brooklyn, New York. My question is about solfège. Now, there are various feelings about solfège and opinions about why we do it. So I wrote down a little bit about what I think about it, and then I'd like your comments on it.

“I like solfège, yeah, I do! I like solfège because it allows people with different musical backgrounds, and some with no musical background, to challenge themselves to learn the language of music by practicing it. I had a musical background. I'm not like really proficient, but I did learn piano; my mom made sure of that. And I know that there's a language to music. The do, re, mi's that we do in the solfège is translated into the voices, the soprano, alto, tenor, and bass; and that we make sentences, in my mind we make sentences from that language, just as someone that's writing something wonderful makes sentences in a great piece of writing.

“And so then we take these sounds, this music, and we take what we have practiced, and we apply to challenging ourselves to sing the work, of one of the Classical composers; and we, as a group, we are actually able to make something that actually sounds beautiful. When we sing together here, and we finish going through the practicing, it actually sounds beautiful! And then, we say, "Wow! Did I do that?" OK?

“And I'd kind of like to know what you think about the solfège, because that's basically how I see it.

“LAROUCHE: Well, I've not been a musician but I'm been exposed to music, intensely, because I didn't agree with my father, who was also trained in music. And the two of us didn't quite agree. But I always had this attachment to Classical composition, and I had an early understanding of what the meaning of that was, and what it is today; is because, you say, "Why do we do this? What is this thing about solfège? What does solfège mean?"

“Well, I think the best way to get at is in Italy: the Italian school is probably the most facile period — I had a lot of time I spent in Italy, when I was involved with the Italian programs and Italian music and so forth for much of the time. And the harder thing was German. So I earned a specialty in German, and in the Italian then, as long since I've been into that area.

“But what's important to me is, that the composition of language, the composition of music and the languages of music is something unto itself. You cannot translate it, into words. You have to get out of words, into music.

“Then you understand in that area, you don't go out on the basis of trying to get the language; you're trying to learn to speak, the music, *not* the language. The language comes as a secondary product when it's done right. And this is the thing that's most important.

“So therefore, what you have, is you have the conception, that the natural thing for mankind, is to have a use, of the human language. And it's that human *language*, not the words, it's the human language which is vital in this matter. And that's I think enough to say about it. That's the issue. The music itself, Classical musical composition, as developed, is a *natural source* of idea communication; it's unique. And these are unique developments, batches of developments, which have carried mankind through. And the use of languages, languages, languages; as you look through ancient languages, ancient subjects in language, the human voice is in that form, as a form of music is the essence that goes to the soul of the human individual.” (Lyndon LaRouche [\*Dialogue with the Manhattan Project\*](#), Saturday, February 6, 2016]]

## 2. "SOULFÈGE" AND THE DOUBLY-CONNECTED TORUS

*"When you come to a fork in the road, take it."*

Yogi Berra, American Philosopher

It should be noted that the word "solfège" is a composite of "sol" and "fa," which refers to the passing tone region of the voice register shift for the soprano and tenor voices. It is in that sense that solfège is the expression of the soul; that is to say, the expression of an impossible wrenching moment of change through conflicting dissonances whose discontinuities get resolved only and exclusively through axiomatic changes. Bel Canto speaks to the soul, because such changes can only come from the soul and go back to the soul. This conflicting nature of SOULfège is the home of the human soul.

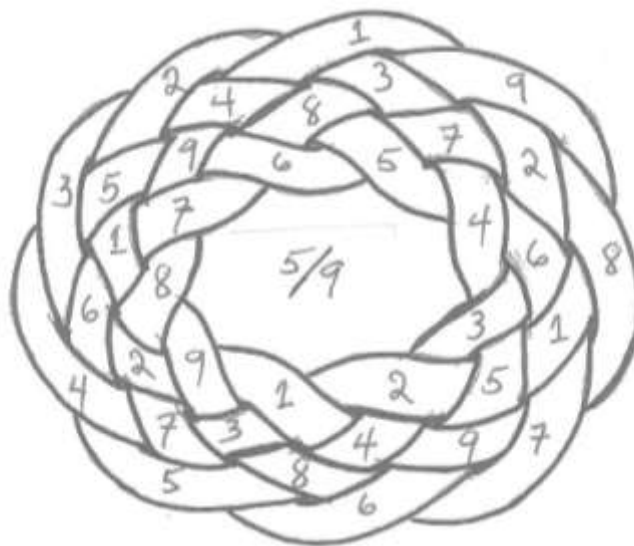
However, when you use the wrong frequency, when you don't use the frequencies of solfège, all you get is dissonances with no possibility of resolution. That's not music, that's noise, and, unfortunately, that is mostly what you get in society today. Confucius said: *"If one should desire to know whether a kingdom is well governed, if its morals are good or bad, the quality of music will furnish the answer."*

Moreover, since the human soul is a replica of God's Mind, what you are considering in Bel Canto is the musical principle of composition of God's Mind. Therefore, when you consider each musical sound as being an integral multiple of the lower and higher frequencies of musical sound in accordance with solfège, you begin to understand that every musical interval is already part of a divine composition, even beyond what you can hear, because the musical system was created by God, including Very Low Frequencies (VLF) and Extremely Low Frequencies (ELF).

So, if you want to know how God's Mind works, and how the Universe works, you have to learn solfège, and if you want to learn solfège, you have to learn how the geometry of the torus works, because the torus is the least faulty representation of how to geometrically organize your mind to understand the

musical types of waving actions that hold the Universe together. That's the kind of waving action that generates change in the Universe, especially when the resonance of change speaks with the Solfège Voice of God.

The way to look at the geometrical lawfulness of the musical system, therefore, is best exemplified by the doubly-connectedness of the torus, that is, by looking into the Poloidal and the Toroidal interconnectedness within a closed surface of negative curvature. Take the example of the torus in **Figure 1**.



**Figure 1** The Solfège Torus wave function.

As **Figure 1** shows, if you follow the pathway of the torus in a clockwise motion starting from 1, and you ascribe four times the number of intervals of least action, 1, 2, 3, 4, 5, 6, 7, 8, 9, along the pathway, you will have created 4 waves of 9 units each, or a total of 36 units throughout the entire torus before returning to your starting point without obstructions. Consider those numbers as representing wave segments of solfège actions in rotating motion.

The wave process of the Poloidal/Toroidal ratio of 5/9 in **Figure 1** shows how the energy of the mind flows in a least action manner within its self-bounding condition. On the one hand, the counterclockwise motion of poloidal waves generates the doubling power of two series, 1, 2, 4, 8, 16(7), 32(5), 64(1), 128(2), 256(4), 512(8), 1025(8), 2050(7), 4100(5), 8200(1), etc., and demonstrates the

living process of mitosis as well as the power of two of the musical system. On the other hand, the clockwise motion generates a set of poloidal waves of 5 units each starting at 1, 5, 7, 8, 4, 2, 1, each of which corresponds to the number of waves that have to be generated in order to accomplish the next step.

Let these numbers represent a sort of musical tachometer of the mind such that, when you come back to your starting point, you will have discovered that you can go on singing like this forever without ever getting off track, because the process is predetermined by its own spirit power. That's what I call going on a *k(no)where* at the least action speed of mind; that is, by using a minimum of force-free Revolutions Per Musical action (RPMa).

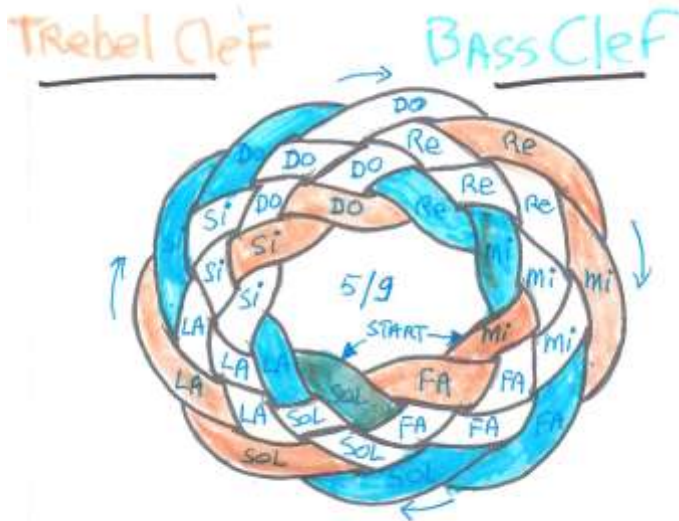
The reason why this works, as it does, is because God created such a preestablished musical congruence of least action in your mind, and that is what the Pythagoreans and the Platonists recognized throughout history as the underlying force of ordering a state of peace in the universe. That is also the congruence that Cardinal Jules Mazarin used in the Peace of Westphalia Treaty of 1648, when he told the Ambassador to the Netherlands that if he wanted to have peace, he had to eliminate the difference between France and Spain. That's precisely what the intention of these numbers do. That's what Gauss meant by changing powers, when he said: "*If number A divides the difference of the numbers B and C, B and C are said to be congruent relative to A.*"(Carl Friedrich Gauss, *Disquisitiones Arithmeticae*, Op. Cit., p. 1)

But, the question Plato asked had nothing to do with numbers as such. For him numbers were merely the shadows of how the Mind of God works. So, I also asked myself the same question: "How can human beings express creative beauty and truth in the Universe by understanding the ordering of the *power of changing power* inside of their own minds?"

Since I had discovered about twenty years ago the principle by means of which *the power of change that created numbers was nothing else but a change of power by time reversal* (See my 1996 [VIDEO ON TIME REVERSAL](#) on my [Galactic Parking Lot](#)), I realized that if I applied that question to the Poloidal-Toroidal ratio of 5/9 to a torus, I could derive the mitosis series of the power of

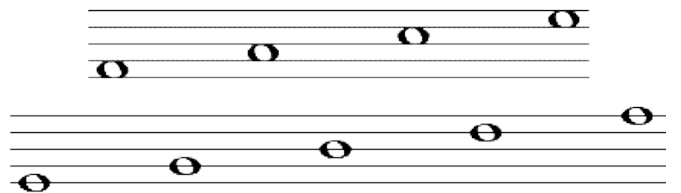
two by the clockwise and counterclockwise series 1, 2, 4, 8, 7, 5, 1, etc. Note that 3, 6, and 9 are excluded from that series.

The way this series works is very simple. One Poloidal wave can be counted from outside rim to outside rim, or from inside to inside. If you start the wave function clockwise, say from 1, and you follow the pathway of the internal windings with your finger, from 1 to 5, the first complete wave of five units of action will get you to number 5 on the outer rim of the torus. Five waves of five units of action later will take you to 7; and seven waves after that, will take you to 8, and so forth. If you continue counting each Poloidal wave from rim to rim, you will go through your entire series of 1, 5, 7, 8, 4, 2, and will have generated 27 Poloidal waves of five units of action each, before getting back to your starting point.



**Figure 2** Replace numbers by solfège musical intervals and you will find that each half-wave expresses an interval of the classical lines and spaces of the staff solfège system. Since the musical staff has five lines and four spaces, it can be adequately represented by a Torus of  $P/T = 5/9$ .

**Figure 3** In the Treble Clef (orange), from the bottom up, the lines are Mi, Sol, Si, Re, Fa, and the spaces are Fa, La, Do, Mi. (In English, the lower staff EGBDF says Every Good Boy Does Fine, and the upper staff spells FACE.) The Bass Clef (blue) applies as well.



Some people will see in this staff-torus transposition a sort of mysterious religious phenomenon that they cannot explain, because it seems to come from some magical geometry of God's Mind. This is nonsense; there is no magic to this. What you are looking at is the way God's Mind works inside of your own mind as the power of reason. And, yes, you can access God's Mind from the inside of your own power of reason as opposed to your unsecured belief.

In this way, God's Mind is not mysterious, because it is discovered through the application of the human mind constructed in His Image; that is to say, by *creating creativity* inside of another human mind through anomalies. If you are created in the image of God, this means that you know how God's Mind works for the benefit of others, inside your own mind.

That's the point that I want to emphasize with this little exercise, because the human mind is capable of explaining why this universe is so ordered and so beautiful only when it follows the least action pathway of change that God has created inside of the universe and inside of your mind. The great Muslim historian al-Masudi was absolutely on the mark when he said: ***"Of all of the human actions the most resembling those of the Creator is the beneficence to your fellow-man."*** (Al-Masudi, [\*Les Prairies d'Or\*](#), Vol. II, p. 275.)

Meanwhile, within the intervals of action of the previous solfège exercise, there is a notable anomaly where three numbers 9, 6, and 3, corresponding to Re, Sol, and Si, have been left out of the 1, 2, 3, 4, 8, 7, 5 wave function, as if they had been pushed into the background for some unknown triply operating purpose; that is, by means of three waves at a time. This is an interesting new way of thinking about the Christian concept the Trinity. What is the intention behind this triple function? Is it only a coincidence that the three sets of integers, taken two by two,  $8 + 1$ ,  $7 + 2$ , and  $5 + 4$  are all equal to 9, and that the musical intervals of 9, 6, 3 or Re, Sol, Si correspond to the bugle call in a memorial service to the dearly departed?

Aside from this musical irony, the unique feature of this triplet, 9, 6, 3, also reflects a curious anomaly whereby all of the multiples and powers of 9 are also



congruent to 9. For instance,  $5 \times 9 = 45$ , and  $4 + 5 = 9$ . Similarly,  $9 \times 9 \times 9 \times 9 \times 9 = 59049$ , which adds up to  $5 + 9 + 0 + 4 + 9 = 27 / 3 = 9$ , etc.

This amazing limitation of the power of two reminds me of the limitation the slave boy of the *Meno* dialogue discovered in his mind, when he changed his principle of construction and leaped to a higher dimensionality to discover the truth. As I said in my last report:

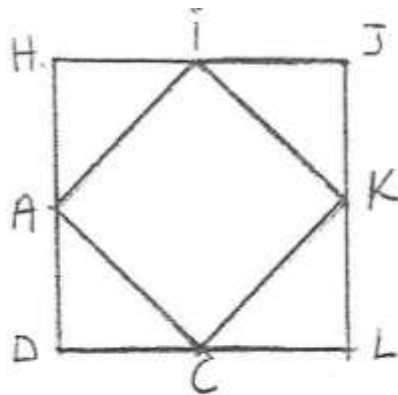


Figure 3

“Like a flash of lightning, it becomes clear to the slave boy that the solution is found not by dividing the linear side of the square but by dividing the surface of the square into triangular halves from the vertices in such a manner that twice the area of the initial square divided through the diagonal makes him discover the square of 8 that is not there; that is, A, C, K, i. His mind was able to accomplish that leap because he

was willing to look for a new degree of freedom that made him *look for what is not there*. In other words, you have to look at the universe from the backside of the Moon, that is, you have to be looking to discover that which you cannot possibly see?” ([WHAT SHOULD HAVE BEEN THE FUTURE](#))

In fact, the back side of the Moon has always existed for mankind, but it has never existed as something *to be discovered* before. And what is now being discovered, by China, is that the true state of the creative human mind works by forecasting inference. It is like the first time mankind discovered that it was the Earth that was going around the Sun and not the other way around. That was a revolution for mankind. It's the same thing with the back side of the Moon; it is that expectation which creates the future. This time, the back side of the Moon is there, right now, as the future. The back side of the Moon can only be discovered *by inference*, by a ricochet inversion from reflected mirrors, so to speak, which is telling us *what the unknown is all about*. This is how the future comes back to you

by time reversal. We cannot know the unknown otherwise. In other words, humanity is no longer blindsided by the unknown back side of the Moon. It is no longer just unknown, it is *the discovered unknown*. That is *the discovery of principle of what's not there*. It is such an inversion of a mirror effect that causes the revolution in the minds of all of mankind to change, and that is what mankind is presently required to properly realize as the mission of the future. As Lyn put it:

“So, the problem is there is no simple, correct solution. When you make a discovery in physical science, a real physical discovery, what happens then? What happens, then, is a discovery of something that was *not yet otherwise known*. And therefore, what we are always doing if we are thinking clearly, is we're making discoveries, of principles, which as principles we had not known. And that's the standard. Mankind has to advance beyond what mankind has been able to understand, about the universe, heretofore. And just like I've just had this reference to the China back side of the Moon program, that's going on now in terms of the space program. That is not known automatically. When the Moon project is presented fully, by China, as a concluded event, we will begin to discover what the true meaning of that was. And so, therefore, that's the point with which mankind must orient. If you want to get the future, you have to discover it *as* the future. And when you can prove that that *is* the future, then, you've made a discovery.” (Lyndon LaRouche, *Dialogue with the Manhattan Project*, Feb 20, 2016)

This prompted a perplexing question in my mind: “Since 9 is the limit of whole integers in the power of two series, could it also be the expression of the limit of the double-connectedness of the Torus Manifold? Is this the outer boundary condition of a higher triply-connected universe, which cannot be made visible, and which is congruent with the Christian idea of the Trinity? [See my report on [HOMOIOUSIOS](#) ] I cannot go beyond asking these questions at this time; but, if anyone has a hypothesis as to where this may lead us, and which does not involve Tibetan singing bowls tuned at A-432 Hz, you are welcome to send me an email.

One look at the Pythagorean distribution table of numbers of the power of two and the musical wave function they represent should be sufficient to give you a clue as to how the musical system of the solfège system and the power of two have in common.

1	3	9	27	81	243	729	2187	6561
2	6	18	54	162	486	1458	4374	13122
4	12	36	108	324	972	2916	8748	26244
8	24	72	216	648	1944	5832	17496	52488
16	48	144	432	1296	3888	11644	34992	104976
32	96	288	864	2592	7776	23328	69984	209952
64	192	576	1728	5184	15552	46656	139968	419904
128	384	1152	3456	10368	31104	93312	279936	
256	768	2304	6912	20736	62208	186624		
512	1536	4608	13824	41472	124416			
1024	3072	9216	27648	82994				
2048	6144	18432	55296					
4096	12288	36864						
8192	24576							

C G D A E B F# C#

Source: Stanford University

**Figure 4** *If the devil is in the detail, then, God must be in the gestalt of the whole.*

### 3. HOW DOES SOLFÈGE MUSICAL ACTION APPLY TO THE GALAXY

*“The problem is that, after you have found the answer, how do you properly formulate the question?”*

Dehors de Bonheur

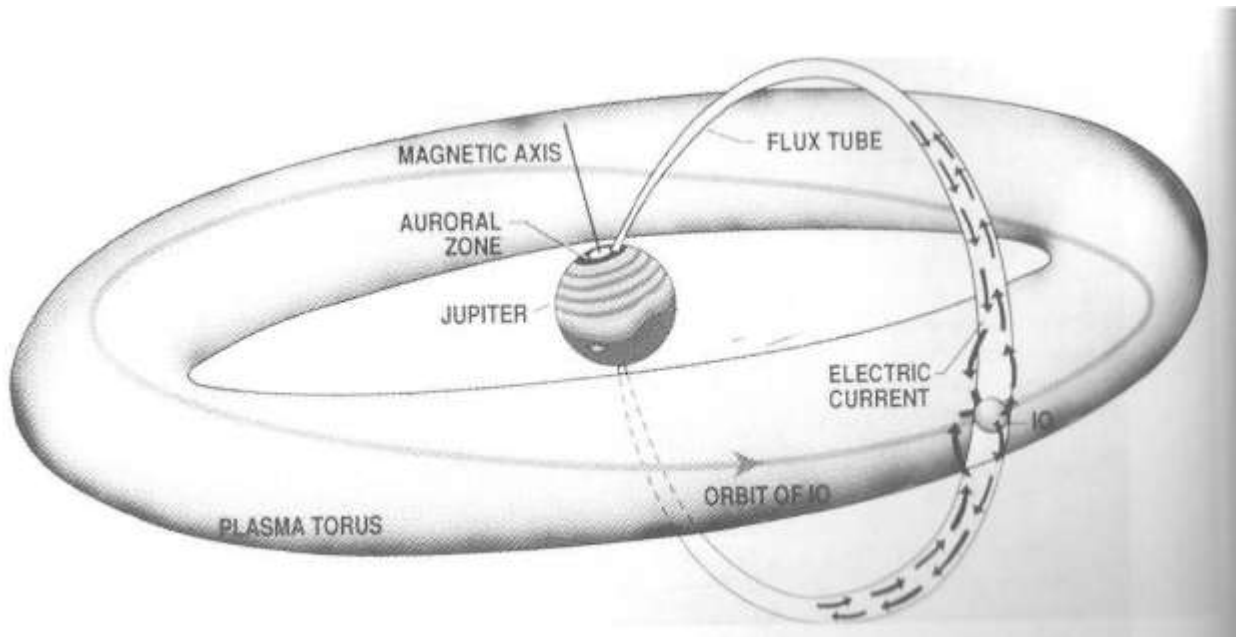
Although everything seems to indicate that the geometry of the solfège torus might be a useful means of understanding the dynamics of physical-space time, beware of the multitude of online blogs which have twisted this geometry into

mystical mumbo-jumbo. The point is not to describe some visual experience of black-holes for the purpose of harnessing some incomprehensible energy, or to discover some look-alike model of atomic or molecular structure to titillate your sense perception appetites. The point is to discover how God's solfège applies to the human mind and to the galaxy as a whole. Does this mean the question is theological?

Since music has been created universally, it stands to reason that all of creation can be explained by using singing musical principles. So, what is the significance of applying the solfège system to the Galaxy, and more specifically, to the register-shift principle? For example, since the Poloidal/Toroidal function of the Solfège Torus describes a double motion, clockwise and counterclockwise, how does that tornado-like process relate to the unity of opposites inside of the Galaxy? What is really going on within the pinch-effect of the Jupiter-Io plasma torus that physicist, Tony Peratt, has been examining for decades?

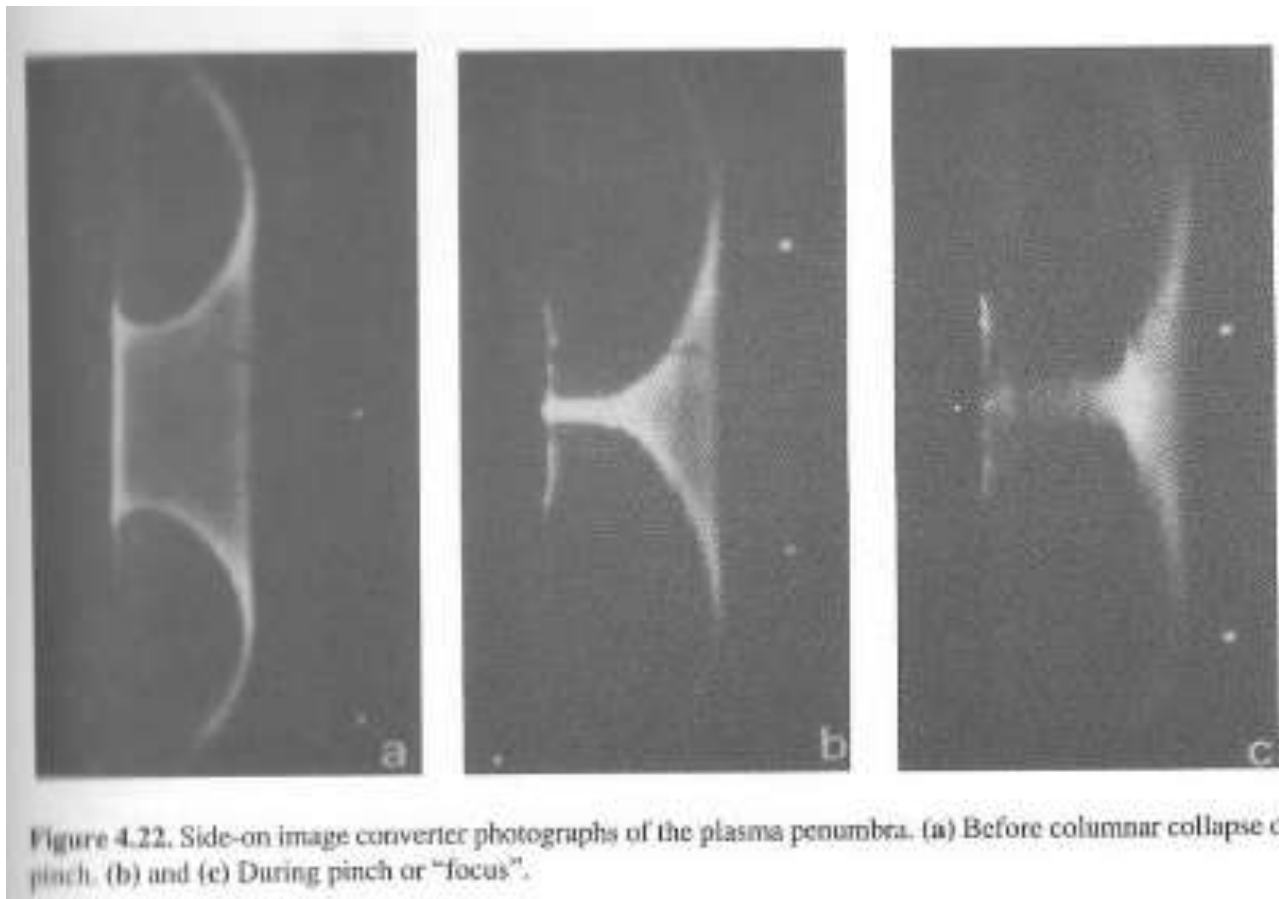
Like two vortices rotating in opposite directions inside of a tornado, the Jupiter-Io geometry seems to be begging a number of axiomatic questions. How does it keep its center of curvature centered? How does the center of curvature of the Galaxy keep the unity of the opposite forces of its currents and fields together with the center of the Universe? Since the currents of the weather patterns of the Galaxy are like an immense tornado with a counter rotating electrical current acting orthogonally against its magnetic field, how does the dynamic of its toroidal surface of negative curvature form and hold itself together? How can such actions also be replicated throughout the star system of a Galactic system, and most notably inside of our own Solar System? These are only a few of the questions that the pinch-effect of the Birkeland currents seems to be posing within the Jupiter-Io geometry that Peratt has investigated. **(Figure 5)**

Finally, there is also the case of unexplained Outer Space Music recorded from the back side of the Moon by Apollo 10, but which was never explained. Are they charged particle singing? Are they sounds coming from the Moon or from outer space? See: [Part I](#), and [Part II](#).



**Figure 5** “The Jupiter-Io plasma torus. The diagram shows the megaampere Birkeland currents flowing between Jupiter and Io.” (Anthony L. Peratt, [\*Physics of the Plasma Universe\*](#), Springer-Verlag, New York, 1992, p. 12. Second Edition, Springer, 2015, Jupiter Torus, Fig. 1.9, p.11)

Here, Peratt may have given us a means of looking into these questions when he first published some of the laboratory experiments that former member of the Fusion Energy Foundation (FEF), Winston Bostick, made with a Plasma gun during the 1970's. What Peratt identified is the resulting impact of what he called a doubly-connected  $\mathbf{j} \times \mathbf{B}$  force within the plasma formation of a pinch-effect, which he identified in a triple-phase process. (**Figure 6**)



**Figure 6** Anthony L. Peratt, *[Physics of the Plasma Universe](#)*, Springer-Verlag, New York, 1992, p. 161. Second Edition, Springer, 2015, Fig. 4.22 torus, still Fig. 4.22, plasma penumbra, p. 162.

Since after an axiomatic change takes place, there is always an increase in energy-flux-density of someone's mental powers; that is, a higher degree of freedom which includes a propensity to joke and laugh, as in the triumphal **Aha!** of Leo Rosten's joke book, *The Joys of Yiddish*. My question is: "Is there something analogous being generated in a plasma process of transformation, some extra burst of *something that wasn't there* before, which cannot be accounted for by what was previously known?"

In other words, can we say the same with the result of the plasma pinch-effect and would it be right to identify it with this doubly-connected  **$\mathbf{jxB}$**  force of the plasma torus? If I understand Peratt's identification of the  **$\mathbf{jxB}$**  force correctly,

$\mathbf{j}$  is the density of the electrical current and  $\mathbf{B}$  is the Magnetic Field: can we assume that somewhere between the creative connections of those two variables there is generated a non-entropic increase in energy-flux-density caused by the pinch?

Peratt showed how this laboratory experiment was replicated by the discharge of a volcanic explosion of Jupiter's Moon, Io, at the time that Voyager I travelled to that planet and took pictures of the volcanic plume of Prometheus. The point to be made, here, is that not only are the columnar pinch or "focus" of the Bostick laboratory experiment and the volcanic plume of the Prometheus volcano on Io similar in their results as well as in their actions of transformation, but they are also the result of the same creative dynamic of an axiomatic change taking place inside of a human mind. How does that relate to solfège? Care to submit a hypothesis, anyone? Are there any galactic plasma musicians out there?

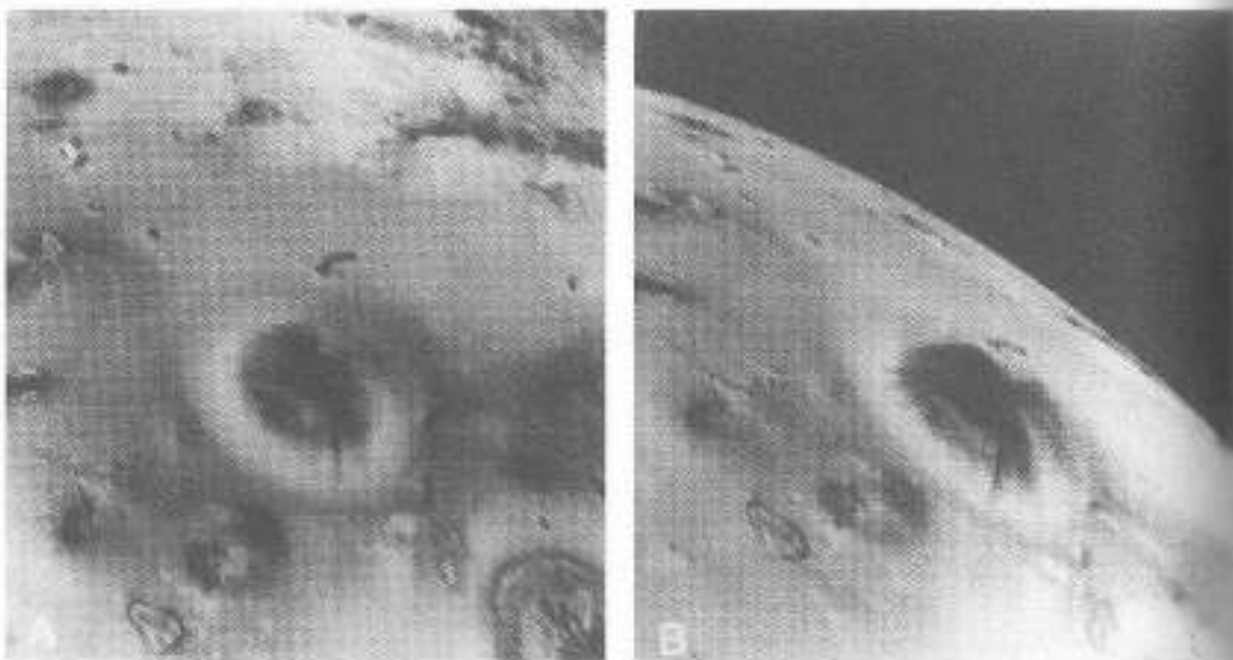
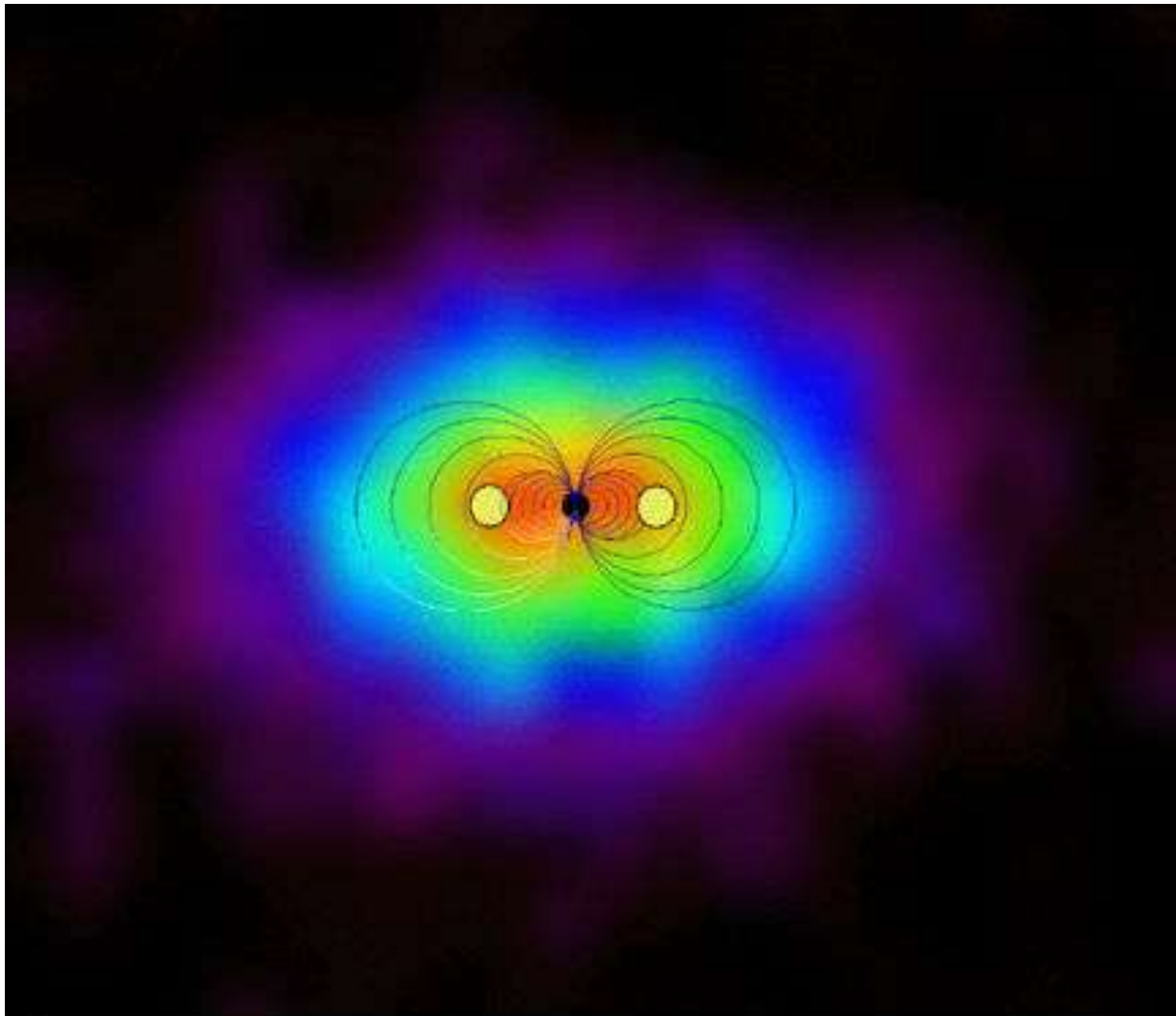


Figure 4.25. Voyager I oblique views of Prometheus's plume. The left-hand image was taken 2.3 hours before the right-hand image.

**Figure 7** Anthony L. Peratt, *[Physics of the Plasma Universe](#)*, Springer-Verlag, New York, 1992, p. 164. Second Edition, Springer, 2015, Fig. 4.25 Prometheus plume, still Fig. 4.25, p. 166.)



**Figure 8** HERE'S JUPITER AND IO SINGING AT YOU!

“This image taken on Jan. 4 and 5, 2001 by the Ion and Neutral Camera on NASA's Cassini spacecraft, makes the huge magnetosphere surrounding Jupiter visible in a way never seen before. Jupiter's magnetic field has been sketched over the image. The disk of Jupiter is shown by the black circle, and the approximate position of the Io plasma torus is represented by the yellow circles.”(Illustration Credit: Chaisson, E./McMillian. S., *ASTRONOMY TODAY*, 3/e, © 1999. Electronically reproduced by permission of Prentice-Hall, Upper Saddle River, New Jersey.Photo Credit: NASA/JPL) [http://planetaryexploration-net.planetpatriot.net/jupiter/io/jupiter's\\_magnetosphere.html](http://planetaryexploration-net.planetpatriot.net/jupiter/io/jupiter's_magnetosphere.html) **FIN**