

The Furtwängler Principle: Defying The Slavery of Sense-Certainty

Lyndon LaRouche orchestrated a trilogy of in-depth discussions with colleagues Matthew Ogden, Jason Ross, and Ben Deniston, on what LaRouche described as “one of the greatest accomplishments in science in the past century or so.” This is expressed most powerfully in the musical ideas of Wilhelm Furtwängler (1886-1954) and the scientific work of Vladimir Vernadsky, Albert Einstein, and Max Planck, and the relationship between the two domains. The discussions took place over the course of three consecutive LPAC-TV Weekly Reports (May 23, May 30, and June 6), hosted by John Hoefle, all of which are available at www.larouchepac.com.

We present here edited transcripts of all three discussions, beginning with May 23 (<http://larouchepac.com/node/22793>).

Lyndon LaRouche: Today, we are going to inaugurate something which is unusual for this theater, shall we say, but it is quite relevant to what we do in this place, usually. The subject itself is one of the greatest accomplishments in science in the past century or so, and that is the development of the principle of Vernadsky and company, as others, which come into, what is music? What is musical composition; what are the principles of it, what is the relationship of this to physical science? What is the relationship of this to the way in which mankind should organize his and her affairs?

Matthew Ogden: Well, I think that the subject of our discussion can come under the heading today of “Escaping the Prison of Sense Experience.” And as you’ve said



Société Wilhelm Furtwängler

Classical music, as performed, and understood by the great conductor Wilhelm Furtwängler (shown here in Berlin in 1938), frees us from the prison of sense-perception. With Furtwängler, LaRouche says, “You know you’re listening to the future!”

many times, now recently, on this forum, and also in some recent writings, the best means by which we can escape the walls of sense-experience as such, is via Classical art, and specifically, Classical music, as performed, and understood, by Wilhelm Furtwängler.

Furtwängler was a conductor in the first half of the 20th Century. And just as a cautionary note, the standard of Furtwängler is the key to this: that we are not discussing Classical music as it’s conceived of today, the kind of entertainment that you usually get over the radio. But this is a rigorous standard, which has the quality, in and of itself, of scientific principle, which is unfortunately lost in our culture; after two to three generations of a real *de*-generation, most people in our culture today have lost a living connection to the understanding, to the experience, of what the Furtwängler Principle is.

And it's precisely this: I would call it the "Furtwängler Principle." Because the principle which he expressed repeatedly, not only in his performances, but also in his writings, is not only a principle, which must inform how music should be performed and understood, but, in fact, the Furtwängler Principle is a *universal physical principle*, which must inform and redefine our view of the entire ontology of the physical universe, as such.

'Between the Notes'

Now, just to introduce the subject: What is this phenomenon that we describe as the Furtwängler Principle? What is it that makes Furtwängler's performances so characteristically unique? It has been described by Mr. LaRouche, that his first experience of hearing a recorded performance of a symphony, in this case a Tchaikovsky symphony, by Furtwängler, after the conclusion

of World War II, while he was stationed at an Army base outside of Calcutta, was that of total shock—something completely distinct from anything that he'd experienced before. And I believe the way you described it, Lyn, was being practically pulled off of your chair, physically, by the relentless suspension of this performance, from opening to close. This remarkable coherence of the entirety, as a unity, from the beginning to the end.

Also, this has been described by another conductor,¹ who had the experience of sitting in on rehearsals of Furtwängler's, when he came to Milan, as an "electric



Furtwängler's predecessor and mentor Arthur Nikisch, in his conducting, imparted an "ineffable" sensation, that existed "between the notes," a phenomenon which we find also in Furtwängler's music.

tension," which would pervade the orchestra pit when Furtwängler would even walk in. And it's a tension which was all-pervasive, which pervaded not only the tones as such, but the silences between the audible tones, when there's no sound.

And then, most recently, Lyn has described this as the "pre-tone" and the "after-tone," which one hears in the mind, as distinct from the audible tone, as such, as heard by the ear.

Furtwängler's predecessor and mentor was a conductor named Arthur Nikisch, to whom he grants much of his experience of what this living principle was, having heard Nikisch's conducting. Nikisch was described as a conductor who was able to give an ineffable, indefinable, mysterious feeling which existed "between the notes."

And I think this idea of what happens "between the notes" is the characteristic phenomenon which we hear in Furtwängler's music. And for the sensitive mind, for someone who has not been made mentally deaf, and whose soul has not been crusted over by popular music and a generally cynical culture, which we have today, upon listening to a performance, a recorded performance—anything, of Wilhelm Furtwängler, one will hear this immediately—and it will grab you, too! And you will have, invariably, extreme difficulty in putting this into words.

It's this "mystery" itself, which allows us to, as I said, peek into that world, which lies outside the prison walls of our sense experience.

What Furtwängler's secret was, ontologically: If the mind can experience something other than, something which is independent, and comes prior to sensation as such, then that means that the mind is not contingent upon sense experience. It's not an aggregate, the summation of all of its sense experience, prior to that moment. Rather, the sensory experience itself, which

1. Claudio Abbado, as quoted in *The Devil's Music Master*, by Sam Shirakawa (pp. 349-50). "Even when Furtwängler walked into the pit, there was tension around him like electricity. In the rehearsals, he would go over certain parts again and again, patiently explaining what he wanted, patiently, everything patiently. And slowly, this wonderful warm sound came out of the orchestra, and the tension, always this wonderful tension from beginning to end. He was one of the few musicians who could create tension even in the pauses when there was nothing but silence. That continuity, that flow was something I will never forget. Those rehearsals and the performances were something very special for me."

comes from a lower chemical or physical domain, becomes subordinated to, and contingent upon the more necessary substance of mind. And not only does this turn on its head the reductionism of the way that we're told to view the human mind today, and invert it, turning it completely inside-out, but it also allows us to invert the entire bottom-up ordering of the universe, to establish what's actually a clear, top-down hierarchy, an ontological hierarchy of a creative universe as such.

So, with that said, I would assert that Furtwängler understood this, in its *full* implications—the full universal implications of this idea—which he discovered from inside his world of music, but understood this as a universal principle of the creative human mind, and of the creative universe.

Just to put some meat on that assertion, this is one short passage of one of the writings of Furtwängler. He said: “Let us consider the activity of artistic creation. When we look more closely at this process, we find that we can distinguish two levels. On the first, each individual element combined with those adjacent to it, to form larger elements. And these larger elements then combine with others, and so on, a logical outward growth, from the part to the whole. But on the other level, the situation is the reverse. The given unity of the whole controls the behavior of the individual elements within it, down to the smallest detail. The essential thing to observe, is that in any genuine work of art, these two levels complement each other, so that the one only becomes effective, when put together with the other.”²

Classical Music and Physical Science

This is one of the most ontologically precise statements of scientific principle that you could ask for, from anybody, in the entirety of the 20th Century. And it's not a coincidence that this echoes several of the greatest scientists that were alive at exactly the same time—two specifically, Albert Einstein and Max Planck. And not coincidentally, both of these scientists required as their recreational activity—actually, the moment in which they, as Einstein said in his own words, made their greatest scientific discoveries—the practice of Classical musical performance. Planck was a very skilled pianist and organist, and Einstein was a skilled violinist, who played in many string quartets.

2. *Furtwängler on Music: Essays and Addresses*, Ronald Taylor, trans., “Thoughts for All Seasons” (London: Scholar Press, 1991), pp. 123-124.

Vernadsky himself, also a contemporary, said that some of his greatest insights into the living quality of the universe, came when he was listening to great Classical music.

So, this is not a coincidence: that Furtwängler, a musician, also turns out to be a great physical scientist in his own right. Because the very playground of the human mind, for the human mind to discover its identity as a creative substance, and to then see the reflection of the universe in that, *is* physical science. And this is what we're participating in, with the performance and understanding of great Classical art.

So, it's also not a coincidence, that what Furtwängler stated in the passage that I just read—that the given unity of the whole dictates the behavior, down to the smallest detail of each individual elemental part—that this echoes the greatest philosopher of the last three centuries, at least, Gottfried Leibniz, who, in many places in his writings, in the *Principles of Metaphysics*, in *The Monadology*, in an essay he wrote on the “Ultimate Origination of the Universe,” everywhere in his writings, exactly the same idea is expressed: that nowhere in finite things as such, or the aggregate of all the finite things, can we find the sufficient reason for that finite thing. But rather, the existence of a superior substance, which necessarily has to lie outside the finite thing, or the aggregate of all finite things, a dominant One, which lies outside and above these things as such, is the only place in which we can locate the ontologically sufficient reason for the existence of finite things.

And so, it's absolutely not a coincidence, that what Furtwängler discovered is not exclusively a principle of music per se, but rather, is a universal physical principle, which contains within it the ontology of the entire universe. Because—and this is the significance of Leibniz, and also the significance of LaRouche: When you start from the standpoint of the existence of a Creator, which is that necessary substance, which has created all of the finite things; and then the fact that man is in the image of that Creator—when you start from that, then, only then, can you understand what we're experiencing, as a sacred experience, with the performance and composition of Classical music.

Now, what I want to have some fun with momentarily, is taking a look at what the Furtwängler Principle allows us to do, to overthrow all of our ingrained and habituated notions of linear, chronological clock-time.

If it's true, as Furtwängler stated in the passage that I quoted, that you have a simultaneous, dynamic,

mutual reciprocity between the whole and the parts, with the dominance belonging to the whole, then, where—and also when—does that whole, in a piece of Classical music, exist? If the reason, or the cause of the existence of any of the parts can not exist in the parts alone, can not exist in the finite parts themselves, then it's this superior whole which dictates the behavior and the very existence of all of these parts as such, then where does that whole exist, if it can not exist in any moment of experienced, so-called time?

So, if we're talking about something which can't exist anywhere in sensed experience, and can't exist anywhere within the parts of this mere succession of tones, as such, then at no moment, can the sensed experience, can the mental experience of the whole be perceived by the senses. However, if this whole must exist *at all times*, and always dictating the behavior of all its parts, the question is: Where and when can we locate the existence of this unifying whole?

If you put yourself into the shoes, for a moment, of a performer, and understand that at every moment of this experienced process, as such, there has to be, necessarily, the yet-to-be-completed totality existing within the *mind's* ear of the conductor, then you're dealing with something which contradicts *all* ideas of linear clock-time as such! You're talking about something which lies completely outside of the moment in time, lies completely outside of the idea of mere sequential time, and you're dealing with a domain in which the conductor himself—and Furtwängler describes this vividly—is as if listening to the future, as if listening to the whole upon completion, which has not yet occurred in sensual experience. You haven't yet arrived there, for the experience of the senses, but one is listening *backwards*, from the standpoint of a non-experienced, or not-yet-experienced, future totality of the whole.

And so, this listening “from the future,” as he navigates the unfolding of each of the parts in the present, *this* is the experience of the performer, this is the experience of Furtwängler, the conductor. And this is what Lyn, in various places, has called “the memory of the future,” where you actually have the echoing of the future, into the “ear” of the present.

And so, this can not exist as isolated from the other, because the coming-into-being, the becoming of this whole, is something which is unfolded over the course of experienced time, but the other directionality of listening backwards from future-time, is this interaction of the whole, as situated above time as such, and out-

side of experienced time, the interaction of this whole, and then the process of the parts of the temporal performance in time: The interaction of the “above-time” with the “in-time”—this is the mental experience of the performer.

‘Near’ Sound and ‘Far’ Sound

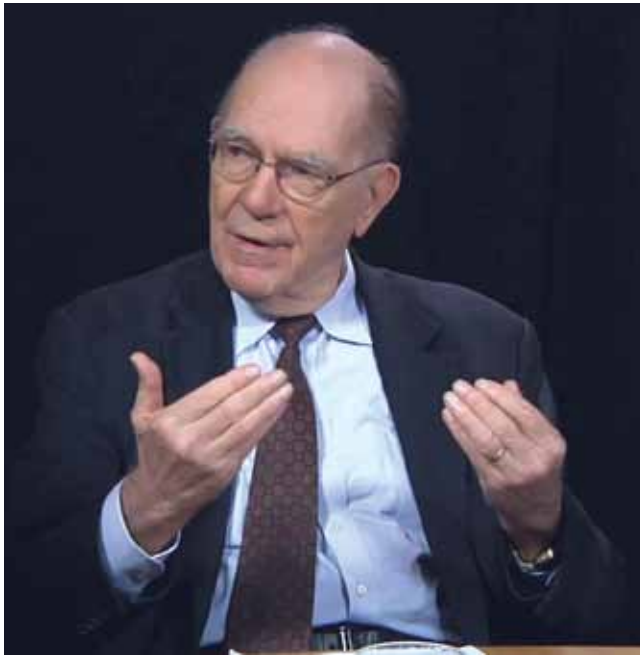
And one way in which Furtwängler expresses this, what I would call a “dynamic quality of musical space-time,” is, he uses two terms: He uses the expression, the *Nahören*, which you could say is the “near-sighted sound of the present moment”; and the *Fernhören*, which is the “sound from afar,” the “far-sighted sound” of the whole, of the future upon completion of the totality.³

And it's this constant interaction, the constant collision, between *Nahören* and *Fernhören*, which is the experience, *in each moment* of passionate performance, of this piece of music. Furtwängler says that the two of them meet and intersect at each moment. And it's this collision, this intersection between listening to the present from the future, and listening to the future from the present, which is the relentless tension, which expresses itself as the experience of preceding pre-consciously, and also the ghostly after-presence of the tone, as such, as simultaneously experienced in the human mind. So, this dual directionality, of listening to the present from the future, and to the future from the present, is what Furtwängler described.

Now, significantly, this same *Fernhören* of Furtwängler was rather famously described by Wolfgang Amadeus Mozart, in a passage from a letter I think he wrote to his sister, that describes his experience, what it means to be inside the mind of a composer. And in the same way that Furtwängler describes this *Fernhören*, Mozart's description was an “overhearing” of a piece, “as if from above,” which is not a succession of parts, it's not a sequence of tones, or a mere succession of phrases, but something that occurs one after another, not something which occurs all at once, instantaneously, as if in a single breath, in a single moment. He uses the description of seeing a beautiful face: We don't see its parts, we see the face in a single instant.

So, this experience, of the “hearing from above,” or

3. For example, see fragments in *Wilhelm Furtwängler: Notebooks 1924-1954*, Shaun Whiteside, trans. (Quartet Books, 1995). See also: Wilhelm Furtwängler, *Ton und Wort: Aufsätze und Vorträge 1918-1954* (Wiesbaden: F.A. Brockhaus, 1955).



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“The characteristic of a successful economic forecaster, which I claim to be,” LaRouche declared, “is precisely that you are anticipating the future.” Figure 1, first published in EIR in 1987, documents the success of LaRouche’s forecasts, contrasted to the failures of his opponents.

the *Fernhören* of the whole, of the unity of the whole—where does Mozart say that this experience takes place? Nowhere in sense experience, nowhere in the succession of mere chemical or physical sensations as such, but in the imagination.

And if we’re understanding the mere shadowland of sensed experience as the pale shadows cast, as if from the unheard melodies, from the imagination—to bring this back to our point of ontology: If the whole is more real, in terms of substance, than the contingent, subordinate parts, then must not this imagination—the only domain in which this supra-temporal whole can all at once exist—be therefore necessarily more real in terms of substance, than the world that we sense? The world

that we think we taste, see, hear, and we think of as being real?

As we saw from Leibniz, this is necessarily so.

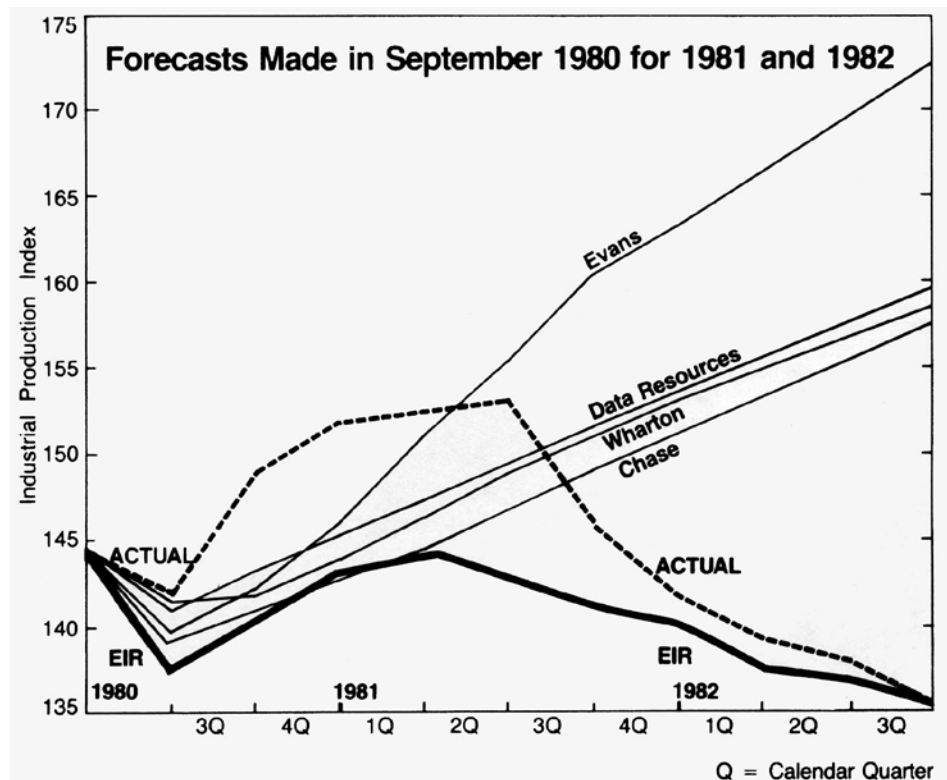
And so, therefore, I think, with this understanding, and allowing oneself, out of the corner of our eye, to understand this world which exists, which can be accessed most efficiently for the sensitive soul and the sensitive mind, through the standard of performance of Classical art as set by Wilhelm Furtwängler, we’ve at least glimpsed the world that lies outside of the walls of the prison of our sense-perception.

The Future Shapes the Present

LaRouche: There is a complement to what Matt’s just presented, in my own work in economic forecasting. Because every forecaster I’ve run into—that is, in the formal area of economic forecasting—has been intrinsically incompetent (**Figure 1**). And the reason is simply, as we’ve done studies at this table and so forth on the life-cycle, the process of living processes within our universe as we know it: that the future shapes the present.

Now, that’s what I do. Every forecaster I run up

FIGURE 1
How EIR Predicted the Volcker Collapse



against, would-be forecaster, has been intrinsically a failure, incompetent, because the future, just as in the case of our studies of living processes of the principle of the future, which we call “growth,” or “development,” or “revolution,” or whatever, a principle is added to the repertoire which changes the character of the whole process.

Now, most people in economics are conditioned to believe that the deductive method is the method that determines the present economy. And every economist I’ve known on this matter has been incompetent, and is incompetent, because they always take the so-called “realistic,” deductive approach. Now, the characteristic of living processes generally, and the characteristic of the human mind, the characteristic of a successful economic forecaster, which I claim to be, is precisely that you are anticipating the future.

Now, the question of the future in economics takes a very specific form: You are defining a change, a change in what you’re doing. You are not deducting from what you know, you are creating something new that takes you beyond. And all creative artists, all creative scientists think that way. Economists, generally, do not. There are some economists who have a stroke of genius in them, but it’s not the way they were trained in their profession. They’ve gone outside their profession and they become competent by reaching into the area of creativity. Creativity is simply recognizing a future which lies beyond experience. Creativity means searching for a future event, a future development, which does not exist in the present or past. That’s creativity.

And what does that mean? Well, in physical science, as applied to economics, you have an innovation of some quality. The easiest way to explain this kind of thing is with physical science, when you make a new discovery of a new principle, and essentially that’s what they call it. Creativity in mathematics or in physics, is always discovering a new principle that you didn’t have before; it’s discovering a principle the other guys didn’t have. The other guy will take the deductive approach, stick in there, defend himself de-

ductively by saying, “experience has proven to me, that BOOM!”

And it means the guy’s a failure! He has failed from the beginning, because he has failed to recognize the importance of the discovery of a principle. And to have a principle, we do that, by what? We define a problem: We define a failure in the system. We seek out, to imagine what the secret to that failure can be.

And that’s the same thing in music.

Mankind is essentially distinguished from the animal by creativity. That’s the nature of mankind, the essential nature of mankind—it’s creativity. It is always reaching into the future. It is always discovering a principle that did not exist before. And in making discoveries like this sort of thing, once you get into a state of anticipation, a moment of suspension, in any time you’re doing something creative, in all my experience in this sort of thing, there’s always a moment of tension, and you wonder if you can make the next leap to the next level.

And the competent economist—they’re very rare; they mostly imitate something that was forgotten and they figure it out again, and say,

“Oh, this was wonderful, we should have considered this before.” But in all scientific work, it’s the same. You recognize that everything you now are doing, is probably intrinsically stupid. Not that it was stupid in the past, but it *is* stupid going into the future. And if you can not make that gesture of getting into the future, as like a surprise, the effect of having a surprise of discovery—not only a surprise, but you realize that it’s valid, that it works, it can be used. And the same thing in music. The same thing as all Classical artistic composition.

And the problem in today’s society is, there are very few people who are capable of thinking creatively. What happens in music is an example of this: the degeneration of music which has gone on, both in discovery—I mean, Brahms is almost the last scientist of music; there are other cases which reflect the same thing, but when Brahms died, music was almost dead, except for echoes from the recent past.



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Johannes Brahms (1833-97) is almost the last scientist of music; when he died, music was almost dead, except for echoes from the past. Brahms is shown here in 1853.

And that was a long process: You had a period from Bach on, which was a great progress of discovery! Bach was a complete discovery! Discovery upon discovery, upon discovery! It's the same as the principle of forecasting.

So, the difference between man and the beast, is the beast is like an accountant. The beasts think like accountants, and accountants often think like beasts. Whenever you've had to deal with one, you'd know that. So that this principle of the future, the experience of the future, the future as a change for the better, a change for advancement, is a discovery of a new principle.

And this is expressed concisely in the work of Furtwängler, and all of us who have been exposed to Furtwängler as I have, have always had this sensation: You know you're listening to the future! That whatever his subject is, you're talking about the *future* of that subject-matter. Just as we should be doing in everything.

But we live in a society which is highly decadent. There's not much intelligence. Even the so-called scientists aren't too intelligent these days. They get less and less so. There is a process of degeneration which is going on now, which is carrying us toward the threat of the destruction of the human species. We're close to that now: Why? Because we didn't discover. Because we adopted looking into the past, or looking just to the present—like an animal, not like a human being! You try to keep pace with current opinion, you try to fit in, which makes you stupid.

And only with this sense of shame, of not being creative, the sense that you're doing the same old thing, when you should be doing something new, and fresh, that solves problems, that opens doors to things that you have never done before. Going to new planets, hmm? Going into space. Facing the problems of the defense of mankind, in terms of the Solar System. Something new, something fresh! Keep ahead of the process of deterioration and stagnation.

Anyway. And I think we should also point out some of the implications of our dear friends.

On the Subject of Riemann

Jason Ross: Well, on the subject of Riemann, first, that was really fun: Because music really provides an affirmative view of what so often seems to be created negatively or provocatively, or in an anticipatory fashion in the sciences, and in music you can affirm it in a much clearer way. And for Riemann, the creation of new entreties was the primary substance of the uni-

verse, it wasn't the parts. When you take that away, you've got a real flatness. You don't have a lively personality any more. When you're in the prison of the senses, everything is flat, and there's no room for actual growth in it any more. In reality, the universe itself has a very complex personality, one in which you could say we play a role in developing, by our ongoing dialogue with it, by our changing conceptions of it, by our work that we do in changing it and shaping it. It is a real dialogue, it's a real musical dialogue.

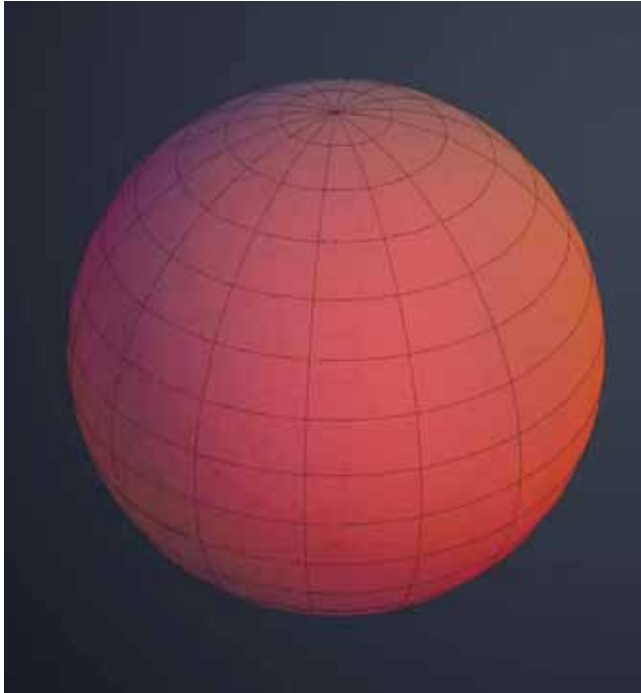
Just one thing about Furtwängler: With some conductors, you can describe their conducting style almost as a *shtik*. Like, "this guy really likes to draw out things," or "this guy really, he's got..." You can describe something about the notes and the way they perform notes and passages. When you try to describe Furtwängler, it ends up becoming a series, if you're talking about pieces or the actual notes, it ends up being a very dense specificity. Because the pieces are distinct, they have a distinct idea, a distinct personality. So, at best, when you describe him as a person, or as a conductor, you end up doing it in a very different way from the way you describe other conductors, I believe.

So, on the use of Riemann in this, and understanding economics in particular, just yesterday some of us went to a Global Space Exploration conference in Washington, D.C., and one of the discussion panels was about understanding the value of the space program. And it was a clear problem for everybody, that they didn't really have a way of distinguishing—I talked to the people afterwards—between the physical profit of science, and the financial profit of investing in the stock market; that they didn't really have a way of getting that across to people, or really have a good framework for understanding it themselves.

I'd like to bring up one specific example of what Riemann did, in terms of developing a non-localized idea of change. Typically, these terrible economists, these bad forecasters that Lyn was just describing, they see an economy as a system, at best, but a system that is composed of pieces, and then ordering among them.

To give a geometric example: The difference between a sphere and a watermelon is one where a large variety of local changes have been made. The sphere has been stretched out, and if you looked at it as a bunch of little pieces made out of watermelon skin, they've changed, they've deformed; you've gone from a sphere to a watermelon (**Figures 2 and 3**). The distinction be-

FIGURE 2

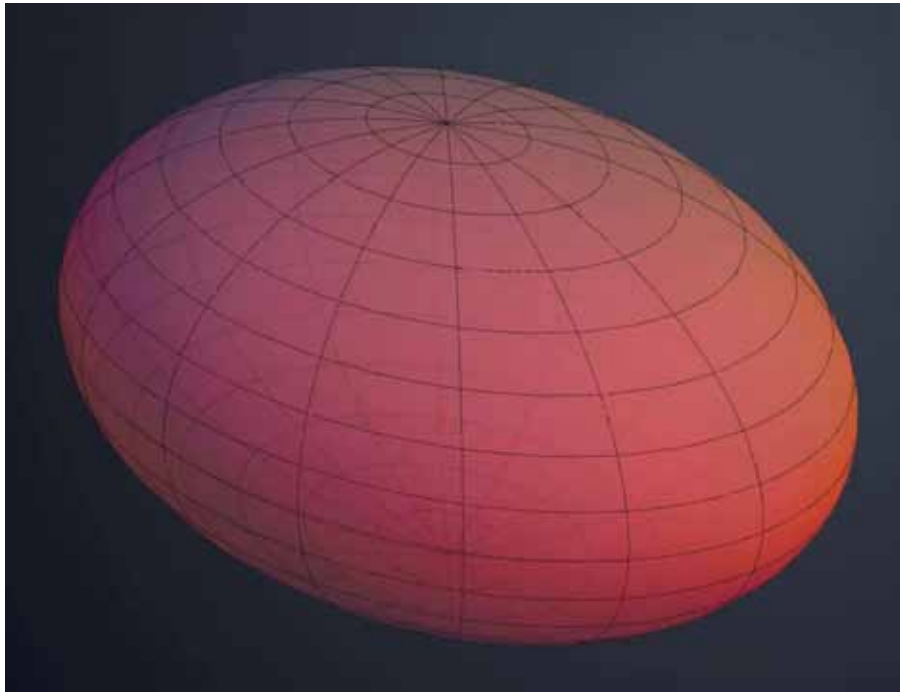


Apollo weren't the same as the dollars before.⁴ With a scientific investment, the payback isn't measurable as a scalar with the cost. With financial investments, you invest money, you make money.

When you do that with Apollo, the different transcendental economy that you've got afterwards is expressed in a direct analogue, geometrically, with the difference between a torus and a sphere. Just to describe one difference between the two: On the sphere, any loop that you draw on a sphere, you can condense down to a point (**Figures 4-7**). That's not the case on a torus. If you've got a torus, and you can draw a loop that goes around it, like a little meridian line, you can't shrink that down to nothing. It's an irreducible loop (**Figures 8 and 9**).

That distinction between the two is a global difference. It's not one you can arrive at by any series of local changes: If you took a sphere, there's no way of changing any of the relationships among all the parts of that sphere, to arrive at a torus. It's a qualitative distinction.

FIGURE 3



tween say, a three- and a five-axis mill, or the U.S. economy before and after the Apollo program, where the payback from Apollo was measured, when it's measured in dollars, has the problem that the dollars after

The Personality of Creation

When you look at the problems that are plaguing modern science right now, say, just the failures in quantum mechanics, where, with Niels Bohr and others, the solution they proposed was to give up on ever finding the real cause of quantum effects, they ended up saying, "Look, we're going to stick with the senses. We're going to stick with the description of appearances, and we're going to, in fact, try to prove that it's impossible to know what the cause of these events are."

In reality, you don't really get a proof of randomness with their work. What you get is a lack of real study into the principles that are driving it from the future.⁵ For example, life and cognition, where time doesn't operate the same way as it does in the abiotic.

4. See May 16 LPAC Weekly Report at <http://larouchepac.com/node/22713> and Ross's report at science.larouchepac.com/riemann.

5. See "A New Quantum Physics: Rejecting Zeus" at <http://larouchepac.com/node/18081>.

FIGURE 4

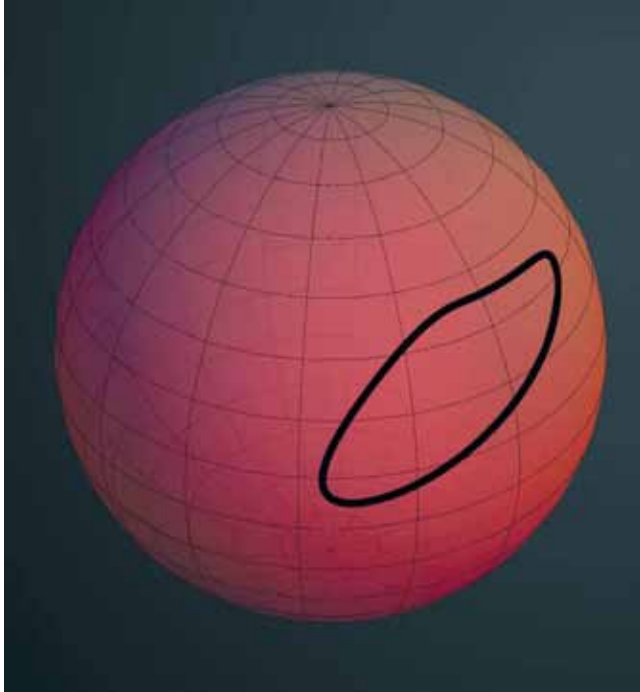


FIGURE 5

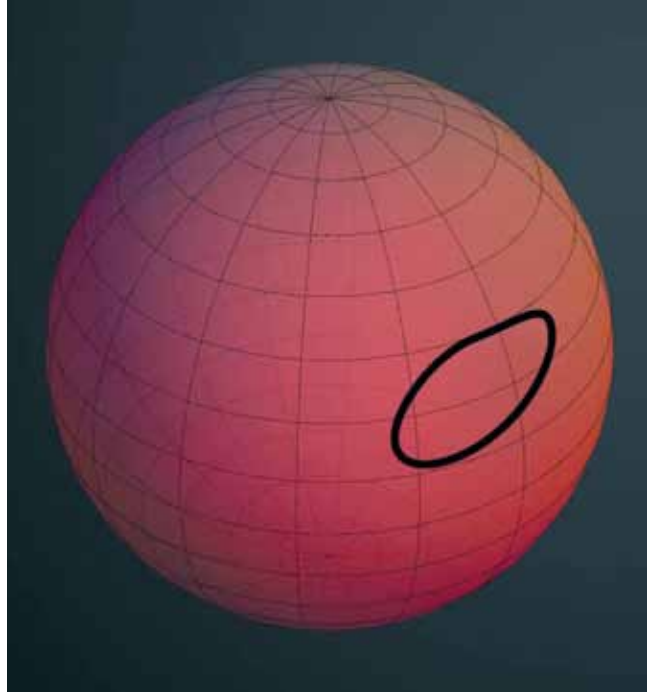


FIGURE 6

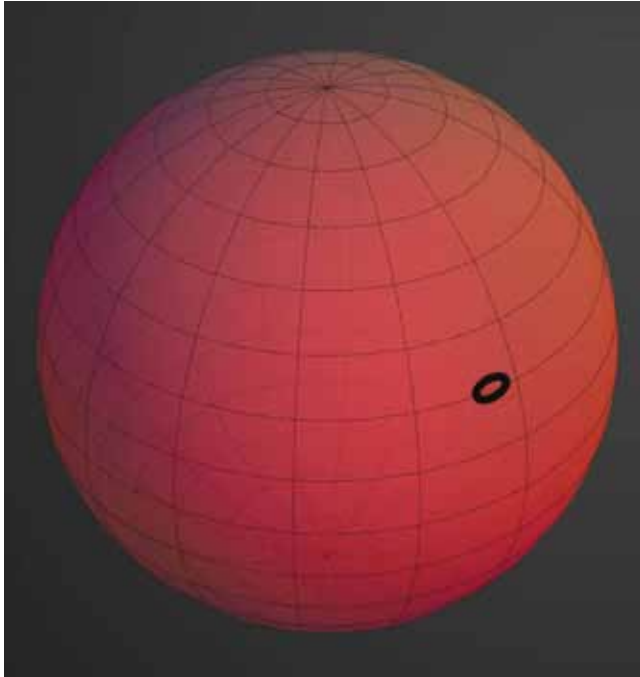
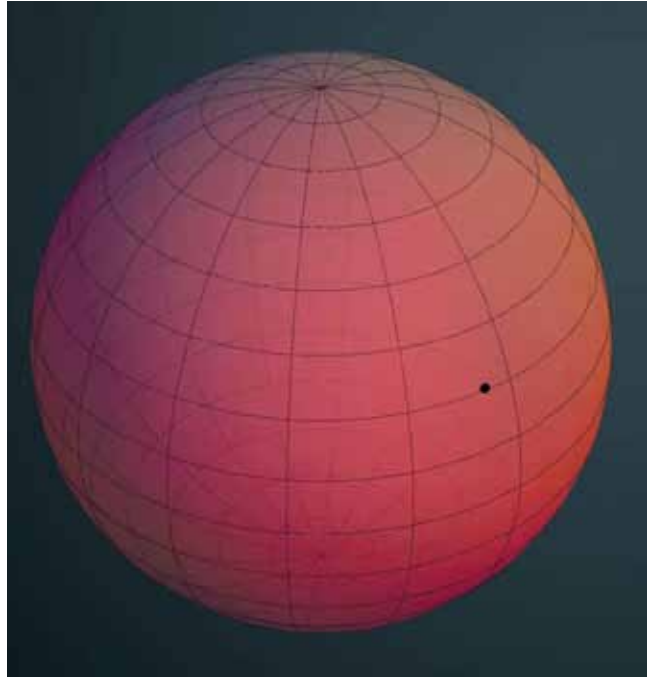


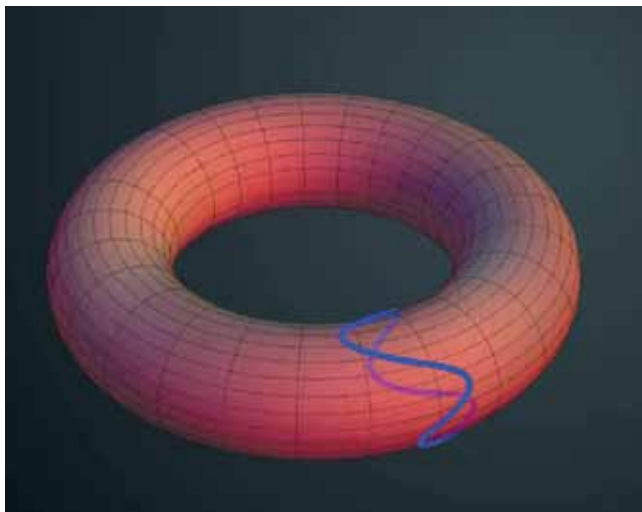
FIGURE 7



So, I think, overall, if you look at what the method of science is, what the method of Kepler's vicarious hypothesis was, you have a system that you're inside, you've got a way of thinking that you're inside; and

then, you end up getting outside of it, through discovery, through metaphor, but not in a way that you're reaching to an already-existing outside. That is, the complexity is created from within, by a process inside,

FIGURE 8



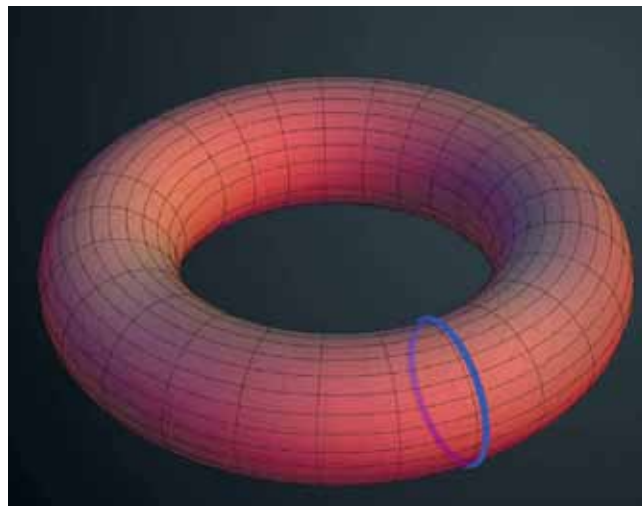
however, which creates a higher complexity. So it has the feeling of stepping outside of a current state. However, that creation exists from within it, exists from what we do, standing inside of it.

On the universe as a whole, that characteristic activity is the personality of Creation. I was thinking about the issue of the pre-tone, that was being discussed: That when you've got the approach of Kepler's vicarious hypothesis, he creates an insoluble paradox that causes the hearer or the reader, to get a premonition of the sound of a solution, that doesn't yet exist; and creating that premonition in the mind of the hearer, is the key to communication. *That creation of a premonition is what exists in successful musical composition, that doesn't exist in a collection of sounds.*

So, I was struck by how well music, affirmatively creates a concept of what we might call it "outsiderness." It creates affirmatively a very clear idea of creativity, that you just can't do without it. The lessons we can learn from music are essential for a scientific approach, and the lack of a scientific, the lack of a Classical musical culture, is one of the major factors in the deterioration of science, because the concept of the universe as a whole becomes degraded to one of a world of sense-impressions that are around us, and the ability to grab onto the true reality, fades.

So, Planck and Einstein referred to this explicitly, on the question of quantum mechanics, where, in a discussion, the reference was made to Bach's fugues, that the standard idea of time, sensory time, is going to have to go, if we are to resolve some of the most troublesome

FIGURE 9



problems of modern physics. That the standard concept of time will not allow a resolution if they have the quantum paradoxes. And the higher idea of time that we get from life, or most clearly, from musical composition, that's going to be key, to then resolving, what might seem to be a physical problem, but one whose resolution can't lie in abiotic physics. There's no way in an abiotic laboratory that we're going to resolve quantum physics, for example.

LaRouche: Yep, exactly. It's the same thing. It's always reaching toward the relative future. And also, it's the difference between dead things and living things, because the process of life is what's crucial. All the things that don't fit the calculus, usually belong to the department of life. So that the action in the universe is motivated and controlled by life, the action of life, not life being controlled by the action itself. And that's the difference. It's the precursor viewpoint.

Ross: And they're precursors of a very specific, new type of personality, a very specific new kind of life. It's not flat. It's not a combination of the already-existing, it's something that's new in a way that's newly specific.

The Precursor Principle

LaRouche: Well, this goes back right to the musical question: The composition of Classical musical composition as such, depends upon the precursor principle. Otherwise, there's no music. The music lies in the precursor function. It does not lie in the elements, but only in the precursor function. And if you don't have an efficient precursor function, you're just making noise.

And that's the point! That's the difference. Because the sense of life always involves this kind of precursor sense; you always get a precursor, an anticipation, that sort of thing. The solution lies there, the meaning lies there.

And we train people in schools and otherwise, "behave yourself," they say. And you say, "Just when you say that, I'm going to defy you, because you make me angry. I'm disgusted with you. You're trying to tell me to shut up about my precursors! And I don't want to hear any more from you, because we've heard that stuff before."

And that's exactly it: We have, in every area of life, in every area of human activity, specifically human, we have this precursor function. That's what distinguishes us from the dead. The non-living processes are what we call "dead" processes. Now, there are dead processes that function in the universe, but the dead processes function only because life drives them! If it's not the life from inside the process, it's life from outside the process that defines it.

And as in music, in actually performing it; for example, what moves it? What moves it is the mind of man, the power of the creative imagination, specifically, the principle of life. It's the fact of life itself, which defines the meaning of life. It's self-defining. Life itself is creativity. So, we have the three categories: We have the non-living; we think that's a category, and foolish people think that the non-living practical stuff is real; then you get the animal life, which has the instrumentality of life, but isn't able to create new forms of life; then you get the human prototype, and the human prototype is distinguished by the fact that we can innovate new *forms* of life. We create new forms of life, even though we don't change our own biology, we change our behavior, our biological behavior.

And this, then, becomes our connection to creativity. Just like you do when you're forecasting in economic forecasting: What are you looking at? You're looking at, on the one hand, dead things, and you're talking about what's controlling the motion and development of these dead things? Well, there's something living.

Ross: Right. That's real economics, as opposed to accounting, which, as you said, that's basically dead or beastly. Because when you make a system, if you try to create monetary economics, which is just such a ridiculous term; I mean, in a sane society, putting "monetary" and "economics" together, should sound like the beginning of a joke, because it can't possibly exist. You

know, you're basically saying, "We're going to take the projections, we're going to take the shadows of the real lively characteristics of mankind's power over nature, we're going to look at the shadows of the effects of that, and try to run our society based on a bunch of shadow puppets on a wall," as opposed to the specific, lively powers that're allowing us to exhibit such mastery.

An Act of Love

LaRouche: It's anger against being bored to death, is what's important. That you know the fact of your doing the same old thing, all the time—that's boring! And therefore, life, and the meaning of life, and the meaning of creativity, is always rejecting the idea of a closed system, of a fixed system, of a system of perfection: This is the permanent rule. It's always inventing a new condition and discovering it's valid, that you can make it happen, and it actually is a principle of creativity.

And what you get in music, in Classical musical Composition: It's an organized system. It is absolutely unique. Like the role of, say, religious music. Now, there are a lot of problems in that area, but intrinsically, when you look at Bach, for example, the development of Bach, you get the same thing. That creativity, *per se*—and it gets outside of anything you know now—what you have to do is, *do what you never did before*. And now discover what it is, what it is appropriately.

Ross: That's another one of the problems of people getting economic concepts today, is that because we have so de-industrialized, people, certainly younger people, don't have much familiarity with the real insides of what the human species does. And then, with education, it's similar to what you've got with the death of real musical culture, is that education just ends up being formulas and rules; you don't get inside it, the way you get inside of creativity, like really rediscovering how a piece ought to be performed, for example.

Ogden: And I think there's another point about that, is why is it, that with the influence of organizations like the CCF, the Congress for Cultural Freedom—which launched a *vicious* attack against Wilhelm Furtwängler. You know, he was actually interned, then there were de-nazification trials. He was not allowed to conduct for two years. This was a *vicious*, concerted attack, with a political intention. Why is it, since that point, that you had as a corollary of the decline of musical performance and composition, a decline of the moral standard of society as a whole?

And also, inversely, why is it, that the greatest scientists—Einstein, Planck, others—invariably, come across as being fundamentally good? And Furtwängler identifies this, precisely this. He says: Look, the deductive intellect can comprehend the parts as parts; can take this part, understand it; take that part, understand it. Maybe assemble these parts as blocks to built together. But the deductive intellect can *never* comprehend the unity of a whole.

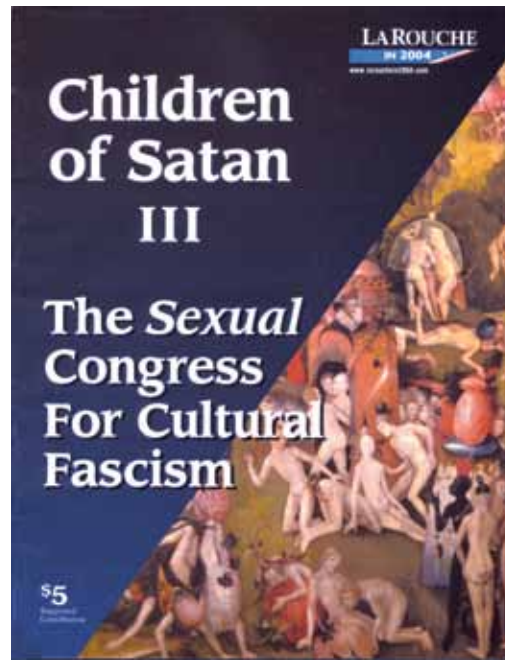
The opposite of deduction, Furtwängler says, is love.

And it's only the passion which we identify as the intensity of love, of a religious, sacred quality of love, that can possibly allow the mind, the imagination, the passionate imagination, to tie the unity of the whole together.

And so, what's been done to musical composition, what's been done to scientific education, what's been done to culture generally, has actually amputated, has cut off the access of the young child, for example, to the experience of real passion, or love in this sense, as the opposite of deductive...

LaRouche: See, it's the proper role of the parent and the teachers. It is an act of love: It's always bringing the young people up to a higher level. This is the essential thing, it's actually the passion in the teaching process, which is the same thing with the parents trying to develop their children. It's the passion that's involved in getting the child to discover a next step. It's not always "teaching the child what you want to teach them." It's stimulating the child to discover for themselves. The function of the parent and the teacher is largely that. It's not to teach somebody how to behave! It's to inspire them to discover how they should behave! And discover the experience of doing that. Then, that becomes a higher order of passion, as opposed to simply learning.

Ross: Yeah. Planck spoke about this. Earlier in his life, he got into a lot of big fights with Ernst Mach, who



The Congress for Cultural Freedom (CCF) perpetrated a vicious attack against Furtwängler, as a result of which he was not permitted to conduct for two years. The destruction of Classical culture, wrought by the CCF, has its corollary in the decline of the moral standards of society as a whole. This pamphlet was issued by the LaRouche in 2004 Presidential campaign.

had this sort of dead, systemic approach to how science is moved forward.

LaRouche: It was more than apparently dead—really dead!

The Passion To Discover The Cause of Things

Ross: Okay, yes! Deadly, in fact.

And Planck had addressed it, also, from an emotional level. He said: You might be able, retrospectively, after scientific discoveries have been made, Mach, to come and lay out your categories of what these discoveries have in common. You know, Mach was a big fan of "economy," whatever the simplest description is.

Well, Planck, in a letter to him, had said, or in an article, had said: What steals the researcher in his most difficult moments of demanding thought? It's not the hope of finding a principle of economy! It's the passion to discover

the cause of things. So, there's an emotional problem here, with this—he addressed the emotional problem that was represented by Mach's dead outlook.

LaRouche: And then came Bertrand Russell, after that: The worst!

Ross: Yes! It's passion. You know, kind of like "monetary economics" is a silly term, so should "evil genius" be. You know, that really doesn't exist.

LaRouche: Well, in addition to what I think on this question of music, which is actually crucial, because there's nothing which is comparable with Classical musical composition, there's no other medium that has exactly that same quality. It doesn't exist. But we can learn from this process, we can learn this question, that the driver of it is passion. That's what makes it work!

But this idea, creativity, the experience of creativity, of creating something new, and being a participant in causing people to go through a new experience.

Ross: And it's a very direct kind of participation, it can't be at arm's length. To really hypothesize, you yourself are in it, you can't do it at arm's length.



Société Wilhelm Furtwängler



Société Wilhelm Furtwängler

Furtwängler's parents (right) had a great influence on his development: His father Adolf was a famous archeologist; his mother Adelheid was a Classicist, and a painter; her father was a philologist who translated the Greek Classics into German. Left: Wilhelm, as a boy, at the piano.

LaRouche: No. You can't educate people *at*. You can't *at*-educate people!

Ross: No!

LaRouche: You have to inspire them! And that's the way it's done. You get the child *fascinated* with a problem, but bring the problem within the child's reach, give the child help to make that reach, but don't suppress them, don't tell them, "This is what you're going to learn." Tease them, provoke them, evoke in them the sense of a desire to solve the problem, and just drop a few hints here and there, which might help them solve the problem. Then they will have the benefit of the learning experience, the actual learning experience.

Ogden: Even on that subject, it's very much worth the exercise of going through and looking at the young Wilhelm Furtwängler. The development of him, the education of him, where did this genius come from? And constructing some of this context of him, it's fascinating! His father was a very famous archeologist, who worked with Heinrich Schliemann, the man who discovered the true existence of Homer's Troy.

His mother was also a Classicist, and a painter; her father was a philologist who spent his entire life translating the works of the great Greek dramatists into German. And in fact, he was a close friend of Johannes Brahms, and dedicated one of his books of translations of Sophocles' plays to Brahms! And similarly, his father was also a very close friend of Mendelssohn.

So, this is the family. And then, Furtwängler's teachers, significantly, one of the main teachers that he had as a child, was a man named Joseph Rheinberger, who also happened to be the composition teacher of Max Planck, and lived in Munich. So these two geniuses had a teacher in common.

And the way that Rheinberger would teach counterpoint, was not according to deductive, dry, blab school rules. The way he would teach the young Furtwängler counterpoint, is he said, "Here's a copy of Beethoven's Late String Quartets. I want you to study it, and discover the secrets of Beethoven. And so, Furtwängler—you can imagine this young child, walking around the ruins of Athens with his father—his father took him to Athens to do these archeological digs with him—and in one of his back pockets, he would have a mini-score of Beethoven's string quartets, which he was intensely studying, and committed all of them to memory! He was famous for actually being able to sit down and play on the piano, note perfect, Beethoven's Late String Quartets, all four voices, without the score. And then, in the other pocket, his passion was not only for the tragedies of ancient Greece, but also of Shakespeare. And he said that his favorite play was *King Lear*.

So, this is the kind of childhood development of a *great* genius such as Furtwängler. And if you compare that, to what most people are *robbed* of today, then that very sense of injustice, should serve as motivation to win the kind of political fight that we're waging right now.

You Have To Know Mankind

LaRouche: Very good. What do you think?

Ben Deniston: This is the fundamental fight. This is what politics is, on the most fundamental level. That's always so unique about the work you've done, is actually taking it to the political crisis, the economic crisis, this is what defines the entire thing. So, actually looking at where we're at right now, and taking it to the most fundamental level of what actually defines mankind's ability to go forward, is this exact discussion right here.

LaRouche: Yes, this is what's important about it, which is why I thought it was important to push it at this point. Because we have to get a sense of the integration of the human mind, and avoid the dangers of specialization, in the sense of this compartmentalization. Unless you can see the active relations among things which are ironically juxtaposed, and see that this juxtaposition is necessary, and that if you don't have Classical artistic composition, you don't have mathematics, you don't have physics, in the same kind of consideration. You have to know *mankind*, and to know mankind, you have to take all, except the garbage. You have to take mankind as a whole, and take the aspects of what goes into mankind, in terms of human knowledge, human behavior, human experience. And make it an integrated experience! How everything affects everything.

Deniston: Because it's one subject.

LaRouche: Yes. Knowledge is one subject: And I think, the useful thing in having this thing taken up at this point, was to get to exactly that thing. And the way you do it, is you take Classical musical composition, and take the best example of it: And in this case, he is the best example of it, Furtwängler. The best way to get an immediate, broad, all-absorbing kind of conception. And then look at the other aspects of the departments of knowledge, so-called, and see how the principle which characterizes the goodness of these departments, all converges upon a *single result*. And the single result is: The human mind, dealing with the challenge of reality, and all these different facets which you experience, now, and your ability to bring them together, and to see their interconnection, defines you as a human being.

And therefore, when you get to physical science, you have to look at it in this way, you have to have all these characteristics; you can't fragment this thing, into isolated departments. You have to have a conception, of *mankind*, and what it takes for mankind *to move things*

forward. And in order to move things forward, to discover what the problems are you have to overcome!

And music, this music, Classical music, and *only* Classical music—because what's happened is, with the degeneration of Classical music since the death of Brahms, in particular, just to get a point on this thing, we've had a destruction of the quality of *mind* of the population! And you find, if you know Classical composition, if you know artistic composition, if you know these things, then these are familiar to you. But if you don't have these things, if you're just a johnny-one-note, so to speak, in some specialty, you are actually dead most of the time! You may know one thing, but you don't know anything else. And when you leave that one subject, you go plunging into something, from which you will never return.

And this is what's crucial, is to get this total view of what *being human means*. And what it means in terms of challenges before us. And that makes the rest of it work.

Ogden: And just to put the point on the present moment in history, it's exactly what you just expressed: this oneness of humanity itself, this is, in this series of articles in the Russian publication *Terra America*,⁶ the final point, is that it's precisely *this*, about Lyndon LaRouche's world outlook, which makes this the *only* valid outlook which will carry nations through this crisis now. Replacing all of the failed systems of the last 50 years.

LaRouche: Yes. That's what the point is! That's the intention. And now, the question is, carrying out the intention, if you like to put a note on this.

Deniston: It sounds like a good opening salvo: You said this is going to be a series of discussions, so.

LaRouche: Yeah.

Deniston: I think we definitely shocked people a little bit.

LaRouche: Yes, necessarily. And also to get this broader view, take what you can from Furtwängler's is ideal for this purpose. The broader view, take this as the central point, then bring everything else in, together with it, and see how these things interrelate. And the question of interrelationship gives you a sense of wholeness of yourself, as opposed to being a johnny-one-note, or something. So that's it.

6. See *EIR* April 20, 2012, and May 25, 2012.