## **Science**

# In What Sense Do You Mean Immortality?

by Cody Jones, Sky Shields, and Michelle Lerner

At the end of the current century, as space-faring man breaks through the upper regions of our atmosphere, he or she will be able to look back on Earth, as a whole, to see the noëtic fossils of the now developing NAWAPA concept, to be reminded of the great paradigm shift in man's identity, which made his voyage possible. It shall have constituted a break from an imperially imposed identity, according to which, one's existence and identity are located as contained in his or her experiences of sense impressions, as a priori truth and reality. To this effect there must be a realization of the full implications of the conception—discovered by Vladimir Vernadsky—of the three-fold character of the universe, as a dynamic relationship among the hierarchy of phasespaces of noëtic, biotic, and abiotic distinction, unified in one, anti-entropic process of development. A relationship that science in the main, up to this point, has denied to exist, instead viewing life and human creativity as "emergent" properties of an otherwise entropic, probabilistic universe.

This hierarchical quality of the anti-entropic relationship among the three Vernadskian phase-spaces is exemplified by NAWAPA's1 overcoming—on a grand scale, through the application of advanced technology and infrastructural design—"natural" barriers to pro-

Of course, it must be understood that it is the highest of the three phase-spaces, that which is characterized by the creative human soul, the Noösphere, which is willfully determining and driving the process as a whole, through the application of discovered principles. And, that, in a self-reflexive way, man gains increased clarity of humanity's role in the universe, as the implications of such a project's effects become manifest. In fact, it is only from this top-down orientation, and evermore self-consciously so, that such lawful changes can, as they must, occur.

This brings into focus those fundamental questions about the true nature of the human individual, in particular, the relationship between what we would call the

cesses, such as, for example, water flow and water cycling, actions which are typically restricted by geologically determined water basins, and climate patterns. Or, of similar nature, NAWAPA's creating of conditions for a more efficient usage of solar radiation on the part of the biosphere, achieved by supplanting deserts with irrigated green agriculture and forests, thus resulting in changes in climate and weather systems, to the effect of making the surface of the Earth ever-more productive and habitable for man.2

<sup>1.</sup> The North American Water and Power Alliance. See https:// www.youtube.com/watch?v=W5lkW7EAT4U

<sup>2.</sup> Sky Shields, Oyang Teng, Michelle Lerner, Cody Jones, and Ben Deniston, "NAWAPA from the Standpoint of Biospheric Development," EIR, Aug. 13, 2010.



Ludwig von Beethoven (portrait by Joseph Karl Stieler, 1820) wrote some of his greatest music, such as the 9th Symphony, after he became deaf. "Ask yourself: Could you do this? Deprived of the senses considered most dear to you, could you create and express new thoughts in that domain of sense, for which you no longer have the organs?"

"soul," and its biological and extended sensorium. The sensorium being that which plays a mediating role between the creative individual and the discoverable principles of universal creation, in much the same way that infrastructure acts as an interface between man and his environment. It is through understanding this relationship that we achieve the insight into how man is capable of changing the world around him to effect changes in the increasing potential for continued creative work.

In other words, we might ask: "Who really is man in the universe, that the universe changes favorably in response to his creative action?"

#### The Case of Beethoven

To gain a foretaste of the type of identity which must emerge as the human standard, in order for mankind to escape the doom presaged by our present time, we will be well served to look to the example of the great Beethoven, not as a simple case study of a "man of music," but as an example of a universal personality, one whose sense of identity transcends those naive notions of body, space, and time, to be located in that immortal domain whence we gain the vision of mankind traversing the stars.

Now, most people readily admit that Beethoven was a musical genius. But in what way do we intend that statement to be understood? Surely, it could not have depended on his hearing, for he had lost that by the time of his greatest compositions. At the time of the composition of his 9th Symphony, recognized the world over, to this day, as, perhaps, one of the most beautiful pieces ever written, he was unable to hear how it sounded. But, you might object, since he had lost his hearing, he must have retained this sense in memory and could "hear" it in his mind. Indeed, it is here that we see the truth of his genius.

As a composer, Beethoven's corpus of work is often described as a series of revolutions, each introducing elements which had never even been thought before, let alone heard. This is not a matter of simple memory. Ask yourself: Could you do this? Deprived of the senses considered most dear to you, could you create and express new thoughts in that domain of sense, for which you no longer have the organs? Certainly, this was not obvious for Beethoven. Knowing that his sense of identity, his reason for living, was in his creative drive for surpassing the existing limits of musical composition, we might imagine that this blow, the loss of his hearing, would have seemed to him to be the equivalent of losing his life. And, in fact, he almost did end his life himself during a period of intense frustration and creative agony, as his hearing increasingly waned. And yet, he did not. What was this change of mind?

Beethoven went on to compose some of the most passionate music ever created. What new sense organ could substitute for the old? Here is where we come to see the shadows of what we call "the soul." It was not for his own ears that Beethoven wrote. Perhaps, not even for those around him. The story is told that a quartet of string players working through the last compositions of Beethoven, in his presence, came to a stop part way through a piece, and when the now deaf composer looked up from conducting, and saw that they had stopped, they told him that they could not continue, for they did not understand what they were playing. He responded, "It is no matter, keep playing, for I composed these pieces not for the present, but for a future age."

To what sense of space and time must such a passion of Beethoven's be attached? And, the question stands before us: What are those things that we hold on to arbitrarily, confusing them for who we really are, despite the fact that they may be the very things which keep us from finding ourselves?

To restate the point thus far: When we begin to think about the "soul" devoid of our sensorium, as the case of Beethoven indicates, we can begin to understand infrastructure and the ramifications of NAWAPA. The sensorium, though neither the "self" nor the world outside of the "self," is the interface, the biological infrastructure, evolved over millions of years. As evidenced by the joy of the experience of beautiful music, the interface exists not for its own sake, but becomes more and more essential to the development of the individual, and even more for society.

#### What Is the Sensorium?

In looking at our Solar System, we find that our Sun has a signature distribution curve of radiation, for a particular temperature (**Figure 1**). For our Sun, with a temperature of about 5,000° K at its surface, there results a distribution curve for which about 45-50% of the radiation emitted falls within what we call the visible range, tapering off more gradually towards the infrared and radio direction, and more sharply in the other direction towards UV and higher.

This, along with other cosmic influences, defines a certain "radiation

space" for our immediate region of the cosmos in which life on Earth evolved. Hence, it is reasonable that life on Earth would evolve in a way that reflected the harmonics of the system, and to most efficiently use that particular distribution of solar emanation. (For other stars, of different quality and temperature than our Sun, the

FIGURE 1
Solar Radiation Spectrum

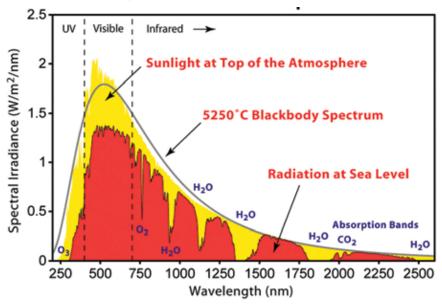
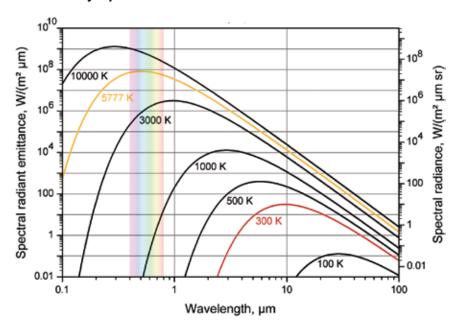
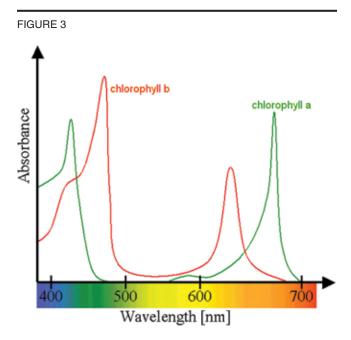


FIGURE 2
Black-Body Spectrum



distribution curve of radiation is shifted towards the UV or infrared ranges.)

Thus, we find that photosynthetic plant life evolved to maximize that region of the electromagnetic (EM) spectrum most abundant to it (green plants capture two primary peaks in the visible EM region), in order to



drive the process of transformative action that it endeavors to carry out. And correspondingly, life has engineered structures, such as the atmosphere (e.g., ozone), to block those elements of the spectrum which now were found to be detrimental to its evolved morphology. All this reflecting an overall anti-entropic dynamic system.

The case is similar for the development of our biological instrumentation, most emphatically that which corresponds to the sense of vision and heat sensation (which is sensitive to the abundant near-infrared region). In other words, our instrumentation, to a large degree, has developed to be tuned to that region of the electromagnetic spectrum which most greatly impinges on our planet. This, in turn, through the interaction of the visible portion of the electromagnetic spectrum with sensed objects, gives rise to those impressions of color, shadow, depth, spatial relations, etc. (in the case of vision), and, consequently, to the notions of what we consider to be the boundaries and continuity of objects.

Those aspects of the EM spectrum to which we are less attuned (or of which we are merely less conscious) are largely ignored by the majority of people. They are not objects of our conscious consideration, and this fact gives rise to certain naive notions about temporal-spatial relations, leading us to believe that those regions, where most people believe they have no conscious impressions, must be "empty."

In other words, we have been accustomed to ac-

knowledge only those regions of the spectrum that we are most obviously connected to. The question then emerges: Would the morphological functions of life, including those of sense, that develop on planetary systems around stars that are different from our Sun (and therefore have a different radiation distribution curve), develop a different base of sensory apparatuses that would, in turn, optimize the utilization of that star's particular radiation density range, and hence perceive a different quality of impressions of the phenomena in its environment? What would be the means of communication between those different intelligent life forms that come from different star systems? Would there be in general a utilization of different EM ranges than those that we on Earth utilize most, to communicate from one being to another? Would we be able to communicate with those intelligent beings?

In other words, is there an invariant for communication, between intelligent life in the universe, that lies beyond the impressions of sense? Are we ourselves something other than our five senses? And, if so, where ought we locate our sense of self?

To get at the first and simplest level of the questions posed consider the following: We have evidence that certain birds are able to navigate using the magnetic field of the Earth, when it is "illuminated" by blue-green light, but are blind to the magnetic field when in an environment of exclusively red light. And that bees perceive emissions from objects, such as flowers, in the UV range. So, are there sense ranges for human beings, beyond our five common senses, that we are blinded to, due to willful neglect or, worse, an imperially imposed opinion about what our senses are and what they tell us?

We get hints of what lies just beyond our current level of consciousness in reports of people "hearing" the aurorae (northern lights). Or, at a more profound level, in the type of "mass-strike" political phenomenon currently gripping the U.S. population, as this quality of paradigm was enunciated by Percy Shelley in his "A Defence of Poetry," where he writes: "At such periods there is an accumulation of the power of communicating and receiving intense and impassioned conceptions respecting man and nature. The person in whom this power resides, may often, as far as regards many portions of their nature, have little apparent correspondence with that spirit of good of which they are the ministers."

In this spirit, one is left to contemplate the scene of a deaf and blind Helen Keller, being brought to tears of

### 'Miss Keller "Hears" Tenor'

Helen Keller the world's most famous blind and deaf woman, placed her fingers on the lips and throat of Enrico Caruso, the Metropolitan Tenor, in his rooms in the Georgian Terrace Hotel today and "heard" him sing the lament of Sampson from Saint-Saens's opera, *Samson et Delila*. Through the medium of her marvelously sensitive fingers the matchless voice of the great tenor was transmitted to her soul, and as she sat and "listened," her lips apart, her sightless eyes

wet with tears, she whispered over and over again: "Wonderful, wonderful." Caruso sang the aria in the first scene of the last act of the opera and sang with power that brought tears to the eyes of other Metropolitan singers who were in the room. And as he sang his voice grew husky with the pathos of the song.



"Though I cannot see your face, I can feel the pathos of your song," said Miss Keller. And Caruso said, with his lips against her hands: "In your fingers I can feel your soul. In your blue eyes your soul is shining." Miss Keller almost collapsed, so powerfully had the voice of the tenor stirred her.

—New York Times, April 24, 1916

joy, upon witnessing a private concert of the legendary tenor, Enrico Caruso.

#### **The Extended Sensorium**

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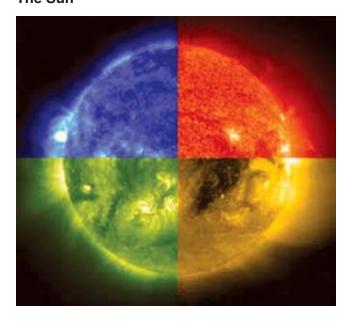
Science

These questions take on an even greater existential quality as we move to realize our extraterrestrial imperative. We are already beginning to realize, that in order to survive and act beyond the protective womb of Earth, we have to become masters of phenomena, whose powerful effects range across the whole of the EM spectrum, and that we must develop new forms of extended instrumentation (e.g., the electron scanning microscope and various advanced telescopes), which enable us to make these phenomena objects of conscious mentation and willful manipulation, to the potential effect that our inborn simple sense faculties, as currently understood, lose more and more of their functional significance. For example, in "looking" at our Sun or a nebula like the Crab, in different ranges of the EM spectrum, we get very different impressions of what their actual structures are (Figures 4 and 5).

So using different instrumentation to capture different parts of the EM spectrum emitted by an object (e.g., radio frequency, infrared, gamma radiation), we get a

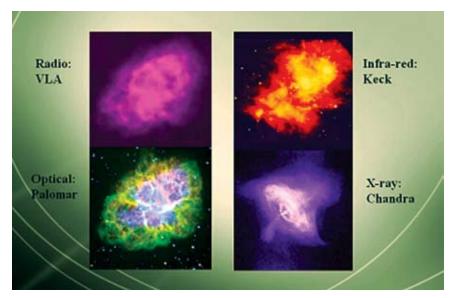
different sense of what the object is. We are beginning to sense different projections of reality, beyond that which is typically accessible to the average person.

FIGURE 4
The Sun



EIR September 24, 2010

# FIGURE 5 The Crab Nebula



Still, though we are able to "visualize" these phenomena as interpreted in the form of our current accustomed mode of perception, such as a visual translation or representation of the instrument readings, our interpretation of what we see—the clarity, structure, boundaries, etc.—is largely conditioned by our current brain morphology and cultural interpretation. Already this ability to access an extended range of the EM spectrum and phenomena associated with it implies that a creative universe, in all its manifestations, is accessible to the extended reaches of the likewise creative human mind.

The next step will be to move to the point where we are able to directly read and act upon those other ranges of the EM spectrum, bypassing the translation of those phenomena to the current language of the five popular senses. Also, as we know from the case of Kepler—as in his discovery of universal gravitation from the orbital characteristics of the planets of our solar system—it is the paradoxical juxtaposition of different sense readings of a given phenomenon—in Kepler's case vision and harmony—which leads to insight into the actual principle which has generated the various quality of shadows.

So we ask: What new enhanced potential for discovery will be created by extending the range of different types of juxtaposable readings of a given phenomenon, through the extension of the senses, into new ranges of the electromagnetic spectrum, as well as at different scales, the immeasurably small and large?

Here the study of brain plasticity takes on a curi-

ous significance.

Though brain plasticity is considered a relatively new discovery, its conceptual foundation was already laid by Bernhard Riemann, as presented in his posthumously published "Philosophical Fragments," and following in that Riemannian tradition, the founder of gestalt psychology, Wolfgang Köhler. Instead of trying to study the brain, and apply silly analogies to it, drawn from completely unrelated areas such as computer science, or the reductionist and largely useless studies of the behaviorists, Köhler began by asking the question: What does the mind do? Only if the nature of the creative mind could be explored could the question of the true function of the brain become a

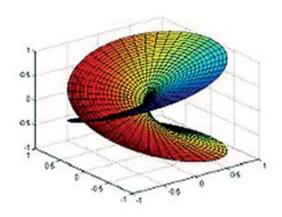
possible investigation. The brain is that which allows the mind to express its control over the biological, and thereby, the physical universe, and the character of its physical organization must reflect the character of the human mind. This similarity in character across the domains is what Köhler called "isomorphism" (from "iso" meaning "same," and "morph" meaning "form").

The implications of this recognition for the physical and biological universe are enormous. For instance: The mind operates primarily with what Köhler called gestalts. An idea coherent with Riemann's conception of Abelian functions and Dirichlet's Principle, as they evolved to supersede his earlier conception of *Geistesmassen* (thought objects).

The character of these ideas, called gestalts, is that the whole is always more—or better put, entirely different—than the sum of its parts. This gestalt character then, in order to find expression in the human organism, must be reflected in the physiology of the human brain. (It is emphatically not expressed in any way by digital computing systems, making clear the ridiculous nature of the project of attempting to compare the brain to any digital/logical system. Digital systems do not contain gestalts, only separate parts which require, and will always require, a human mind to unify them in their significance.)

If it is again recognized that, in order for the brain to manifest these gestalt characteristics, it is also necessary for the biological and physical substrate of the brain to reflect this gestalt quality in potential, the implications

# FIGURE 6 Riemann's Surface



Riemann's surface is based on his insight into the significance of Abelian functions and Dirichlet's Principle. It is a surface of continuity, whose internal characteristics and boundary conditions change, in a transfinite way, as a function of the introduction of increasingly higher-order singularities.

for physics are profound. The existence of independent "particles" in the world becomes an untenable philosophical model, and we must instead begin to treat what are now called particles as being rather singularities in some other continuous process. And it is to these continuous processes, these gestalts, which we must attribute reality, while the physical elements which seem to express them must be considered as mere shadows.

In this way the relationship among the three Vernadskian phase spaces takes on a very real significance, as does physicist Max Planck's remark, that only in Köhler's ideas could the paradoxes of the quantum be resolved: because only Köhler's ideas of the mind demand the necessary existence of such paradoxes, even before their discovery. In this we come full circle back to the whole of what was, and continues to be, Riemann's life's work.

Today, brain plasticity, as commonly discussed, refers to the ability of the relations and functions of the brain to change in response to either "damage," or changes in behavior and thought activity. For example, studies have been done in cases where certain sense faculties, such as vision or hearing, are lost in an individual, and the cortical area which is typically associated with that faculty is taken up to be utilized by a remaining sense, usually at an enhanced level. For example, an individual who has lost his hearing will gain an enhanced peripheral vision, utilizing the part of the cortex previously employed for hearing.

On the flip side, a capability that is lost, such as motor skills in a stroke victim who has suffered severe brain damage to those areas of the brain associated with motor action, regains those abilities by way of undamaged parts of the brain taking up that function. In the most extreme cases, individuals who have been born with only half a brain, and therefore, were missing whole areas of the brain typically designated for entire brain functions, nevertheless, developed into fully functional individuals, through the brain's reorganizing of itself to meet the demands of the mind.

While all of these phenomena came as a shock to the behaviorists and other philosophical reductionists, those of us who have understood the work of Köhler can see in this the necessary character of the relationship of brain to mind. The mind is not a thing composed of parts, and the brain, whose sole responsibility is to function as the mind's intermediary, must, at least in potential, be able to reflect that fact, if with difficulty.

In addition, we are now moving into an era where science is developing instrumentation which allows for lost sense capabilities to be replaced by created instrumentation that allows one sense organ to relay information about the environment to the brain, which is usually the role of that lost sense in the individual. As in the case of "tongue vision," where an individual who is without sight uses a device connected to the tongue, described as like a piece of chewing gum, which receives electrical impulses, from a sort of small video camera mounted on the head or worn like sunglasses, using electrical impulses to draw an image of the surrounding environment on the surface of the tongue, allowing the individual to not only read written numbers and letters, but also gain spatial orientation, to which they can respond with precision, as if to "see" with the tongue.

One is reminded of the quote from Kepler's *Mysterium Cosmographicum*, where he writes, that if the mind had not eyes to see, it would demand their creation. The point being, that the brain and the sensorium are not conveyors of truth in and of themselves, but are merely tools, enslaved to the mind. That is: It is the mind's intention to act in the universe which determines what role the sensorium must play.

Thus, as we begin to be more and more reliant on an increasing array of instrumentation, no longer "seeing" and sensing in the way we now think of such operations, how might our brain change morphologically to meet the mind's demand for greater clarity of the impressions received from this new and ever changing instrumenta-

tion. As our sense of self, as connected to our biological sense instrumentation, begins to fade, and any sense of reality, as a simple derivation or interpretation of those impressions, is called into question, how must we begin to locate what, or where our identity actually lies? What truly bounds our existence, if not our biological mortality? And, are not those simple conceptions of space and time, as derived from simple sense impressions, also called into question? Given the potential for continuous change of sense instrumentation and the plasticity of brain functions associated with it, driven by our intention to further expand the scope of exploration and development of the universe, what remains invariant or, better said, immortal?—Especially now that scientific knowledge already implies that man is not fated to be bound in existence by what would be cataclysmic changes in our inhabited environment.—Let us now ask: How much of our sense of space and time is determined by a limited sense of reality; and to what extent is our identity shaped by that limited view?

#### **Beyond the Sensorium**

If you read something written by someone whose personality you know well, you will also hear their voice along with it (provided that their written prose is, in some way, reflective of their speech). Besides that, your personal knowledge of the writer conjures up vague echoes of impressions in other senses: a rough idea of how the person looks, a familiar rhythm to their gait, or perhaps an unclear gestalt (in the sense of Köhler, above) of some familiar location with which you closely associate them. Oftentimes, the actual connection between the latter gestalt, and the person who provokes its appearance, is unclear even to you. The gestalt itself may be too dim and unclear to even put into words. This does not, however, affect its specificity. It is exactly what it is, as you remember it, and everything relevant to that memory is contained in that very gestalt, vague as it appears when compared to seemingly more concrete impressions.

Leibniz's principle of the identity of indiscernibles states that, if any two objects were so alike, that exchanging one for the other would result in no change at all in the physical universe, there could be no possible reason for one arrangement versus the other. That is, if object A and object B were completely alike in every way, but located in different situations, having arrived there with different histories, there could be no reason given which were sufficient for one object to have its

particular history and situation, rather than that of the other. That is, they would violate the principle of *sufficient* reason, which states simply, that in order for things to exist in some way and not otherwise, there must be a sufficient reason for things to exist in that way and not otherwise. If this latter principle were not true, the universe would be irrational, and unknowable to man or God—in short, it would not be able to exist.

What then does it mean to have a specific gestalt "in mind," when that same gestalt is responsible for phenomena which we are tempted to say exist "outside" of that same mind? To the extent that they are the same, the principle of sufficient reason does not allow these two things—the image and the object—to actually exist as separate things. Every point at which an idea is effective, must also be a point at which that idea actually exists.

Now, let us ask ourselves again: What do we say is a human being? The human being is most obviously not the human body, nor is it the human brain, as we have seen above. Whatever the principle is that we call mind, represents an organizing principle that exists above the specific biological substrate which expresses it. Even what most people consider to be their human personality is something which is subject to change and development, under the influence of some higher principle of organization. Nicholas of Cusa describes this as the relationship among sense perception, the reason which finds unity in seemingly contradictory sense impressions, and the intellect, where seeming paradoxical oppositions of reason are brought into a unity. Phenomena which are contradictory from the standpoint of sense perception, the image of the front and back of a person's head, for instance, are unified from the standpoint of human reason. Computers, for instance, are unable to apply facial recognition technology in cases where even the most underdeveloped human mind has no problem, such as viewing the subject at extreme angles.

This is also the principle behind techniques such as CAPTCHA tests. The single idea of a face, captured by a human mind, contains an infinity of possible sense perceptions within it. Or, better put, the idea of the face is infinite from the standpoint of sense perception. In the same way, the idea of a scientific principle transcends all of its possible manifestations in the physical universe. For this reason, Cusa called reason infinite with respect to sense perception.

But beyond human reason, there is another level, often difficult to reflect on directly. This is the level which gives the mind its ability to reflect upon its own

operation. The naive mind has difficulty imagining itself undergoing radical changes of belief, habits, and traditions. The developed, creative mind however, sees itself as a sequence of such structures, evolving willfully to ever higher and higher levels, throwing away old beliefs at every stage of the process. The identity is seen to lie in a higher state, which encompasses the entire infinity of that process of development. This higher self, the intellect, Cusa calls infinite, relative to the lower self, which he identifies as reason.

This latter, the intellect, represents the self—the "I"—which Lyndon LaRouche identifies as being responsible for the hypothesis of the higher hypothesis: the recognition that the human mind is capable of passing self-consciously and willfully through an ordered series of higher and higher states of organization, by recognizing the paradoxes of its own present assumptions. This "I," in fact, is a gestalt, of the same sort (though of a higher order) as those which the human mind recognizes as representing universal physical principles. Therefore, these are the same gestalts with which the human mind deals in the process of cognition described above, in reading the writing of another personality, or coming to know them in any other way.

Thus, a possible further elaboration of Leibniz's identity of indiscernibles would say that—if identity were equality—conceptual similarity were a sort of proximity in that same phase space (in this case, the phase space of which the space of sense perception is only a distorted projection). Thus, the extent to which a conception ceases to diverge from the thing conceived is exactly the extent to which the conceiver and the thing conceived are drawn into proximity with one another. The image of the mind, in the mind—to the extent that it is actually identical with the mind conceived—is the intellect of the mind under consideration. The two minds at that moment are in perfect proximity, and any action is therefore a reciprocal one, though not necessarily equally conscious for both parties. It may function in many cases rather like lightly touching the shoulder of someone whose attention is held rapt by something else entirely. Even if they react, it will not be clear to them exactly what it is that they have reacted to.

The question might arise: To what extent is the other person aware of this light touch? It would seem, to the extent that this gestalt were inaccurately conceived, that there would be no touch at all. In fact, you would be touching something else entirely. However, to the extent that such a conceptualization of the individual were a

correct one, would they feel it? And what would we mean by "feel"?

Let's take an extreme example, to make the more general case. Everything that we have said so far applies equally well to a personality, living or dead. In the case of the deceased person, there is no sense perception unified by reason to mediate the interaction with the intellect. Instead, this role is taken up by the other means in which this personality is expressed—in their contribution to the organized social dynamic of human society. We can again take the example of a written contribution. The interaction mediated in this case must be one directly with the intellect. It is only there that the interaction may be "felt."

The mediation of the transmission of impressions from sense perception, to reason, to the intellect, and back, takes many different forms. Again: the naive mind attributes the first layer of this process to a simple set of five senses, but in reality man is sensitive to many more. In fact, the phenomenon of neuroplasticity indicates that the brain, functioning as a sort of interface between the two lowest levels of that pyramid, may be capable of receiving an infinite variety of types of such sense impressions, and that the five which come "in the box" with the human form can already be recognized as relatively inefficient, when compared with the phenomena with which man needs contend in the course of his eventual progress outside of the confines of this planet.

As it stands, such senses are constantly reworked in the course of scientific investigation; phenomena which would otherwise be invisible are projected onto the senses by means of various aids, physical—such as the microscope, telescope, devices capable of recording subtle vibrations of air, and incredibly rapid motions, etc.—as well as conceptual, such as the various symbolic and mathematical devices represented by language, poetry, Leibniz's calculus, Riemann's tensor, etc., which likewise help to bring otherwise invisible domains within the purview of the human mind. In this way man finds a way to give his reason access, via these extended senses, to invisible realms such as those of the very large and the very small. At some point in the distant future, the relative uselessness of our "out of the box" senses might cause humanity of that time to regard them rather like we today puzzle at our tailbones: a relatively useless relic of an earlier state of development which, when we do notice its existence, is typically due to its role as a distracting nuisance.

If this "sensorium"—this aggregation of all sources

of sensory impression—is to be correctly understood as the process of mediating the human soul's ability to act on and understand the physical universe, it must be understood that this process necessarily includes the entirety of human society. That is, the action of the human individual is mediated through society as a whole, and the action of that society on the universe is mediated through the physical economy-infrastructure. This entire formation forms the interface between the human individual and the universe in which he lives.

Dynamics in society: The interaction among living human beings occurs on levels which are much higher than the relatively more "noisy" sense perceptual interaction. The effect of this is often felt as "the spirit of an age," or the sensation (if not also the comprehension) of a "revolutionary moment."

The interaction on this level is not limited, even in the main, to interaction among those still living.

As Socrates describes it in the *Phaedo*, the philosopher does not fear death. In fact, he pursues it. When Simmias and Cebes, his students, accuse Socrates of advocating suicide with this statement, Socrates makes clear that this is in no way what he means. Rather, the philosopher longs for the recognition of the "I" as residing not in sense perception, or even in human reason in the simple sense, but in the intellect. But this, as we said earlier, is exactly the state attained by creative human individuals who have died. Socrates describes this as the reason the truly human personality fights to free itself from the shackles of sense perception.<sup>3</sup>

That this is neither a narrow asceticism, nor a simple



We are not limited to the five senses that came "in the box" with the human form, as even the familiar microscope demonstrates, by extending our senses "beyond the box." Yet, these are already relatively inefficient, when compared with what is needed by man to break out of the confines of our planet, into the Solar System, and the universe beyond. Shown: A lab technician employs a UV microscope to identify microorganisms invisible to the human eye.

philosophical dualism, only becomes truly clear when the entirety of the preceding discussion is brought back again to the question of man's eximperative. traterrestrial Human evolution into space requires a greater and greater independence from the usual set of senses upon which man tends to rely. In this way, it represents the convergence upon a point where the difference between the individual's sense of self, before and after death, is at its minimum-it necessitates the recognition of human immortality as something which does not occur "after death."

#### **Looking Back**

Thus, as man of that future period looks back at the period of today, and views mankind's first forays out of the womb of Earth, he will remember NAWAPA as an important point in that evolution. A point when, for the first time, the majority of the

human population began to find their identity in goals which would not be achieved in the course of their physical life. Man will look back and see a great leap in the ability of mankind to act as a true Noösphere, in the form of human society mediated through the reorganization of physical space-time that we call basic economic infrastructure, and to bring an idea into existence on a massive scale. Many more similar projects, each exceeding the other in vision and scope, will have followed this one, facilitating mankind's birth into the larger sense of self, dictated by his extraterrestrial mission, but those first steps will hold a precious spot in our combined cultural memory.

Thus, man brings, into ever increasing realized potentiality, that vision of the eternal, which the greatest of philosophic, artistic, and scientific minds have used as a guide star. Creating a true "Heaven on Earth," or better, Earth in the heavens.

<sup>3.</sup> For the relevant excerpt from the *Phaedo*, see the Appendix to this report at http://www.larouchepac.com/node/15672