

III. Conference on Vladimir Vernadsky

Conference on V.I. Vernadsky's Heritage Raises the Standard for Civilization

by Janet G. West

Nov. 17—On Nov. 12 the Schiller Institute sponsored an intensive, provocative and refreshing online international symposium titled, “The Physical Economy of the Noösphere: Reviving the Heritage of Vladimir Vernadsky.”

Scientists, engineers, and policymakers from six nations—Egypt, Germany, Italy, Russia, South Africa and the United States—discussed the ideas of Vladimir Ivanovich Vernadsky (1863-1945), the Russian-Ukrainian scientist, to revive his scientific method and mission. The seminar’s aim was to build on those ideas to foster new methods of discovery within the sciences, and to implement the kind of in-depth economic development conceived by the late Lyndon H. LaRouche, Jr., increasing our powers over nature for the betterment of all mankind.

The exchange of scientific ideas was inundated with the enthusiasm of the participants, and the discussion period took up high-level, serious questions concerning evolution, the biosphere, water and climate, and fundamentally, “What is man’s role in the Universe?”

Typical of the level of discussion was the response of Dr. Vladimir Voeikov to a question about evolution:

So, the living things have this intrinsic property of perfection, and this perfection just means that living things are capable to increase—according to Vernadsky—the flow of substances through

them; but also, due to the concentration of energy, they become more and more energetic. And in fact, there are several scientists who demonstrated that, in the course of evolution, from more primitive to more advanced, the quantity of energy which is transformed by representatives of different species or even classes of living things, they increase in evolution.



Vladimir Ivanovich Vernadsky
(1863-1945)

An insight was offered by the founder of the Schiller Institute, **Helga Zepp-LaRouche**, who noted that the symposium as a whole was imbued with the cultural optimism of Lyndon LaRouche and Vladimir Vernadsky, even though the world is seemingly gripped by cultural pessimism and doom. She said that we are now witnessing ideas from LaRouche’s 2005 book, *Earth’s Next 50 Years*—which discussed the economic integration of the Eurasian landmass—being implemented by associations such as the BRICS, the One Belt-One Road initiative, and others,

transforming the Global South.

Zepp-LaRouche emphasized that with the proper economic policies in place, we can expect to see very rapid changes in the production of material goods to fulfill mankind’s needs, and an increased life expectancy; we will have an opportunity where more people can educate themselves spiritually and aesthetically, to uplift their souls and develop the noëtic quality of the

human mind. People can express the true dignity of the human species. And as the rocket scientist Krafft Ehricke asserted, mankind is an *extraterrestrial* species: As mankind becomes more self-consciously noëtic, that creative capacity will increasingly come under mankind's control, elevating the human soul. She characterized LaRouche as being an "agent of the noösphere."

In the context of this development of mankind, Zepp-LaRouche noted that the functions of the brain and of the mind are different:

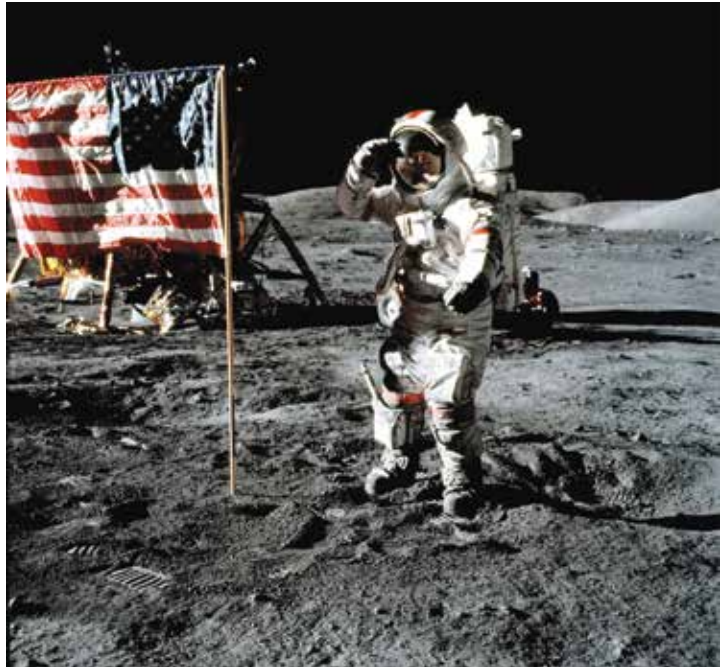
I think the brain is sort of the bodily mechanism for the production of all these functions, but the human mind is, in my view, something bigger. And that leads to the question that one of the absolute areas of study, is the study of creativity *per se*, which obviously is a crucial question in the whole idea of the noösphere. What is it, actually, which makes human beings creative? Creative is not just some arbitrary new thing, but something which is necessarily leading mankind a step further in the lawfulness of the universe. So, I think this question of the study of what is a Classical composition, what is a fundamental discovery, what is required that more and more human beings develop that quality of genius? Because I think genius is, in the final analysis, the only condition of mankind worthy of our species character.

Vernadsky's Ideas and LaRouchian Economics

The first panel was titled, "Vernadsky's Revolution in Science and Thought."

Dennis Speed of the Schiller Institute, the moderator of the entire symposium, opened the proceedings with a video clip of a speech by Lyndon LaRouche to a seminar of economists, political activists, and scientists in Germany from May 4, 2001. Speed emphasized:

This conference is carried out as a re-assertion of the practice of independent, free inquiry into science, and a celebration of the human creative process. It's also intended to provoke a discussion for the need for a new world strategic and development architecture at a level far above, and therefore liberated from, the failed, addictive ideological constraints that have launched the world on a path of self-destruction from which we must rapidly retreat.



NASA

The noösphere: Products of creative thought enable human beings to begin living in an environment entirely unlike that in which our species developed. Here, Apollo 17 Commander Eugene Cernan on the Moon in 1972.

Speed outlined how Vernadsky's revolutionary approach to the evolution and development of the biosphere—including man's creative capacity to engage with and transform the biosphere to increasing capabilities for energy throughput—was congruent with LaRouche's approach to physical economy: Both acknowledged the crucial role of mankind's unique creativity to create new resources; both were profoundly anti-Malthusian, asserting that there are *no limits* to growth. This is a world-view steeped in cultural optimism.

LaRouche was aware of Vernadsky's work, and brought his ideas to a whole generation of young people, writing several books, including *The Economics of the Noösphere* and *Earth's Next Fifty Years*, along with numerous articles and conference presentations.

In the 2001 presentation, shown by video, **Lyndon LaRouche** had outlined how the development of the Eurasian land mass wasn't just about building high-speed railroads, or a "new Silk Road"; rather, that these areas would be—

[corridors of development] up to 100 kilometers in width, from the Atlantic to the Pacific, going in various directions. Along these routes, as we did in the United States with the Transcontinen-

tal Railroad, the area on either side of the transportation axis becomes immediately, in and of itself, a sustainable area of economic development. [It is] the greatest single opportunity before all mankind for development. This requires some revolutionary changes in the way we think about things. This means that we would be engaged in the greatest change in the environment in the history of mankind.



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Helga Zepp-LaRouche



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William Jones

LaRouche incorporated Vernadsky’s understanding of biogeochemistry into his own idea of physical economy. Vernadsky defined three principles which define how man interacts with his environment. One is non-living processes, the second the principle of life—living processes which can never be generated by physical processes alone—and the third is the “noösphere”—mankind’s unique capability—

of making discoveries of universal physical principle, discoveries we can validate in known experimental ways. By applying these principles, we increase our power in the universe, in ways that can be measured physically, per capita and per square kilometer. We can measure this in terms of the demographic effect of this kind of action. That is, does the human species improve its life expectancy, its power to exist in the universe, as a result of this?

If it does, that is good. Mankind’s primary mastery of nature has occurred in terms of his mastery and development of the biosphere. So actually, the biosphere—including what we call basic economic infrastructure such as waterways, power systems, transportation systems, the development of good cities—these are natural products of cognition which are reflected as improvements in the biosphere.

Mankind as a Geological Force

Panel 1 was opened by **William Jones** in a [presentation](#) on “Vernadsky’s Promethean Concept of Scientific Thought as a Geological Force.” He began by situating the symposium as taking place within a profound strategic crisis, precipitated by the bankruptcy of a decrepit

world financial system, and bringing the world to the edge of thermonuclear annihilation. It is vital for healing the conflict between Russia and Ukraine, Jones asserted, to restore the appreciation of Vernadsky as a leading Ukrainian-Russian scientist, and to implement his ideas of man’s transformation of nature.

Vernadsky made major contributions to the fields of crystallography, mineralogy, hydrology, and geochemistry, as well as writing extensively about the history of science, and the history of Russian science. Although Vernadsky is known in the West, he has, unfortunately, been labeled as one of the early environmentalists, and lumped in with the insane Malthusians to whom he was fundamentally opposed. It was only in the 1980s and 1990s that Vernadsky’s true contribution to science was promoted and amplified by LaRouche and his co-thinkers:

[It was] in the 1970s that [LaRouche] began to investigate the work of Vernadsky and Vernadsky’s notion of the noösphere, a term Vernadsky used to describe the era in which scientific thought begins to take the dominant role in shaping the biosphere.

Jones elaborated on Vernadsky’s discoveries, first with the principle of living processes, and later the principle of the noösphere:

Through technological progress, based on the creative processes of the mind, [mankind] had transformed the world around him, increasing the flux of energy in the biosphere, making it more productive.

In this way, Vernadsky’s understanding of the noö-

sphere completely dovetailed with LaRouche's economics. Jones:

For LaRouche, continued economic development was wholly contingent on these discoveries, allowing man to leapfrog as it were to higher stages of development. Over the many thousands of years of human development, this was characterized in energy, by ever more dense forms of energy used, from sunlight to fire to coal and oil, and to nuclear power. Increasing "energy-flux density" as LaRouche called it, was a fundamental characteristic of the progress of man and the strongest argument against the modern-day Malthusians and their "limits to growth."

Jones urged these ideas as the foundation of new peaceful cooperation among sovereign nations for the common good of mankind.

No Life Without Water

Prof. Vladimir Voeikov, Doctor of Biological Sciences, M.V. Lomonosov Moscow State University, spoke on "Vernadsky's Concept of Living Substance, with Emphasis on the Fundamental Role of Water in its Existence and Development." Dr. Voeikov related his awareness that nearly all of biological science ignored Vernadsky's ideas about the biosphere, and about the role of water: the living substance, the engine of the universe. About 20 years ago, Voeikov conceived of water as the foundation for living matter, the support of life ("living substances"), and began studying its role in-depth.

In the 1920s, he said, Vernadsky wrote a pamphlet entitled, *The Beginning and Eternity of Life*, in which he contrasted the hypotheses of the day (that life comes from both inorganic matter and living things), and put forward a new idea, that of "biogenesis"—that all "living beings come from other living beings." Vernadsky emphasized the unique and exceptional role of water in the phenomena of life; at least two-thirds by weight of all living matter on the planet consists of water.

Water isn't in equilibrium with the environment unless affected by an outside force; it's in a state of "stable non-equilibrium," capable of self-organization, and may serve as the source of high-density energy, for



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example within the atmosphere, in such forms as tornadoes and lightning.

Voeikov referenced studies done recently, led by Gerald H. Pollack (a speaker on Panel 2 of this conference), which observed anomalies in the properties of water, such as functioning as a liquid crystal having a negative charge. This provocative hypothesis proposes that water can function in a non-entropic fashion.

Radioactivity's Effects on Weather and Seismic Activity

Prof. Sergey Pulinets, Principal Research Scientist, Space Research Institute, Russian Academy of Sciences, Moscow, followed Dr. Voeikov with his presentation, "A Journey Through Vernadsky's Universe." This was a high-level overview, which began with the description of Vernadsky as so multi-faceted that describing his work would be like trying to describe the Universe.

Pulinets emphasized that part of Vernadsky's legacy was the founding and development of the science of biogeochemistry, and his fundamental discoveries, which were further developed by Lyndon LaRouche. He pointed out that seismic forces have transformed Earth's crust for eons; then, life has transformed the entirety of Earth, and mankind has not only implemented structural changes of Earth's landscape, but also the very composition of Earth's crust. He said that now we must begin to carefully consider the interaction between non-living, living and noëtic processes, and radioactivity—both Earth-based and galaxy-based.

In 1911, Vernadsky argued that radioactivity was vital for living processes, and that harnessing the power of uranium would provide a secure future for mankind.

Natural radioactivity occurs on Earth in the form of the element radon, a radioactive gas that forms natu-



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rally when uranium, thorium, or radium (which are radioactive metals) breaks down in rocks, soil and groundwater. Studies carried out in 1995 measured the correlation between the release of radon and the incidence of seismic activity in Japan. More recently, a correlation has been found between the release of radon, thermal anomalies in the atmosphere, and subsequent seismic activity over broad geographical regions.

Professor Pulinets emphasized that one must consider the combination and interactions of a variety of forces—galactic cosmic rays; the heliosphere; coronal mass ejections; and Earth’s magnetosphere, atmosphere, and the oceanic-atmosphere convection cycle—in order truly to understand our climate.

‘Let Scientists Determine Science Policy’

The next presentation, “Climate Change and the Galaxy,” consisted of excerpts from a live broadcast on Radio Roma TV network, with two Italian scientists discussing a book (currently only in Italian) by 16 scientists, *Dialogue on Climate: Between Emergency and Knowledge*. The excerpts from the broadcast were of **Prof. Alberto Prestininzi**, Professor, Sapienza University, Rome, and Director of the Center for Earthquake Research and Information (CERI); and **Prof. Franco Prodi**, who is a professor of atmospheric physics at the University of Ferrara, and is also on the Cloud Physics Commission of the International Association of Meteorology and Atmospheric Physics.

Professor Prestininzi opened his discussion by pointing out that over the last 10 years, the discussion of “climate change” has sunk to the level of talk shows, which has nothing to do with science. He underscored that so-called climate models *cannot* simulate outcomes that correlate with real data, and emphasized that political

agendas should not dictate scientific research. From pre-historic times, mankind has made discoveries which changed his environment; this capacity is a fundamental part of humanity. Scientists deal in the realm of hypotheses, but if something is to be called “scientific truth,” it must be based on facts, not hypothesis. And, so far, “man-made climate change” is a hypothesis.

Professor Prodi addressed atmospheric dynamics, and pointed out that clouds are central to the interaction between solar radiation to the Earth, radiation from the Earth, galactic cosmic rays, and climate. Clouds contain water droplets and sometimes crystalline structures; these all scatter the radiation in a variety of ways, and this affects the climate. The shape, height and global coverage of clouds also affect the scattering.

It’s currently a challenge for scientists to be able to measure and factor in the interactions between the off-gassing from Earth, heat radiation from Earth, CO₂ concentrations in the atmosphere, and water vapor in the atmosphere—all of which affect the scattering of radiation and the climate. Carbon dioxide is not the only “greenhouse gas”—and water vapor is the *biggest* greenhouse gas! Prodi asked pointedly: How is it possible that this hoax of “global warming is caused by man” has been perpetrated, when there’s all this scientific complexity involved? From the 1970s to the present, there has been no definitive conclusion arrived at by the scientists themselves. Instead there’s been a “confluence of opinion” as orchestrated by the media and political agendas. A group of journalists in a meeting is *not* a “scientific conference.”

It’s About Time

The final speaker on the panel was **Jason Ross**, Executive Director, The LaRouche Organization. His pre-

sentation was titled, “Vernadsky’s Economic Space and Time: The Anti-Entropy of the Noösphere.” He noted that there is complete coherence between Vernadsky’s understanding of the noösphere and LaRouchian economics, according to which the capacity of the human mind to make fundamental discoveries of principle is the real basis for economics, and the measure of mankind’s success is not only the increase in population, but also its *potential relative population density*, or the capacity to support increasing numbers of people per a given area at higher standards of living.

The phase-space of each state—abiotic, biological, and cognitive—has its own principles, but the abiotic is not defined simply by physics, nor is biology defined by chemistry, nor the human mind by logic—just as music is conveyed through notes, but it’s not *in* the notes. Thinking occurs in our biological brain, but the chemical and other processes are not the mind. Because the human mind is able to hypothesize from disparate elements, AI (artificial intelligence) could never replicate human creativity, because human thought isn’t logical or binary.

Ross turned to the question of time—why does time flow only in one direction? How does the perception of

time influence our thinking? Thermodynamic “time” will lead from order to disorder (entropy); but if we look at evolutionary time—eons—then we can see that life becomes increasingly differentiated, with an increase in energy throughput of the biosphere. Human beings bring new environments into being, which are economic platforms for further development, as discussed by LaRouche. This is how he saw economic infrastructure—a direction for development, where new economic processes are possible.

With human thought, which includes both cognition and free will—determination to change the future—we create these new processes in a virtual “twinkling of the eye” through fundamental discoveries, forming a new aspect of time that would have taken eons to accomplish (if ever) in biological time.

It is this process of change that is the fundamental *substance* of the Universe; we create more energy and more resources; we are the only known form of noetic life—life capable of cognition. And through creating a more just and productive economy, we give meaning to the lives of those in past time—most especially Lyndon LaRouche and Vladimir Vernadsky—and a future to those billions yet to be born.

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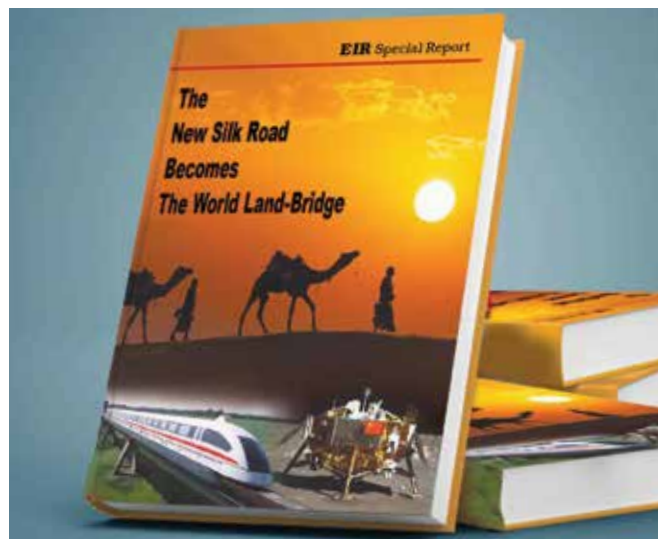
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