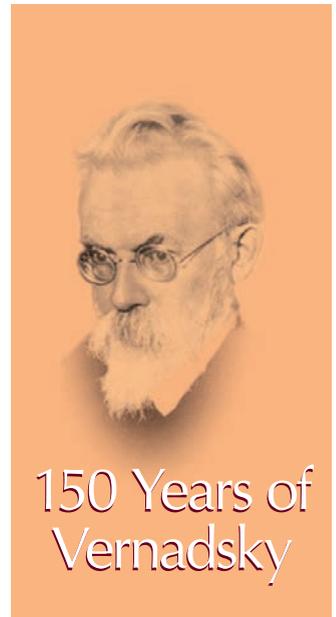


# The Vernadsky Strategy

by Alexander A. Ignatenko



*Vernadsky in his office in Moscow in 1940.*



*All the woes people experience stem not so much from not doing the right things, as from doing the wrong things.*

—L.N. Tolstoy

The year 2013 truly deserves to be called the Vernadsky Year. This jubilee, the 150th anniversary of the birth of Vladimir Ivanovich Vernadsky, was heralded in 2012 by the 90th birthday of the contemporary continuer of his work, the well-known American scholar and public figure Lyndon LaRouche.

LaRouche discovered a beautiful metaphor, which underscores the urgency of bringing Vernadsky's ideas to life: the Vernadsky Strategy. He gave this title to a 2001 article.<sup>1</sup> I borrowed it as the title of a collection of essays, published in 2003. Thus "the Vernadsky Strategy" exists as a topic. Under this topic come Vernadsky's thoughts about the federalization of cooperative labor, the social state (in the sense of a state dedicated to the general welfare), and relationships among labor, capital, and creativity. We

1. Lyndon H. LaRouche, Jr., "Current Strategic Studies: The Vernadsky Strategy," EIR, May 4, 2001.



*Col. (ret.) Alexander A. Ignatenko is the senior scientist at the Regional Museum of Kremenchuk, Poltava Region, Ukraine, where he lives. A graduate of the (Soviet) National Air Defense Forces Military-Technical School and the Military Academy for Artillery, he served 33 years as an electrical engineer in the Soviet missile corps. His civilian career has included work at the Poltava Museum of Aviation and Space Exploration and as a dean at the Komsomolsk-on-Dniepr Polytechnical College. He has published extensively on major figures in space exploration and on the life and work of Academician V.I. Vernadsky. In 1996 he organized the first-ever monument in Ukraine to the space visionary Yu.V. Kondratyuk (1897-1942; real name A.I. Shargey), a native of the Poltava Region whose 1929 pamphlet *The Conquest of Interplanetary Space* proposed the "gravitational slingshot" approach, later used in flights to the Moon. He has organized numerous scientific conferences on Vernadsky in Kremenchuk, where Vernadsky did his early research on soil science.*

honor Vernadsky: preserving his memory, we study and promote his legacy.

It was here in our Poltava Region of Ukraine, on a research expedition with his teacher Vasily Dokuchayev in 1890, that Vernadsky expressed his *intuition* of the idea of *living matter*, that central concept of his teachings on *the biosphere*, and *his eyes were opened to the idea of the noösphere*, that is, the place and role of the mind in historical and cosmic processes. He proposed to evaluate any historical epoch by the intensity of activity of the mind, as the regulator of changes in these processes and the creator of harmony amid global chaos.

Viewing applied science and organized labor as factors in society's development, he laid out the task of developing a universal unit for the quantitative expression of the natural productive forces, something which is of particular urgency when necessity arises to move forward *in haste* ("On the Tasks and Organization of the Applied Scientific Work of the Academy of Sciences of the USSR," 1928). This effort was subsequently advanced by Pobisk G. Kuznetsov (1924-2000) and by LaRouche (in the concept of continental development corridors).

### The Biosphere Becomes the Noösphere

Seeking to bring new ideas to mankind, Vernadsky formulated the idea of the conversion of the biosphere into the noösphere. The circumstances of his communicating the idea of the noösphere to the public were defined by his goal of drawing conclusions of a social nature from the discoveries of science, since culture, which embraces the entire surface of the Earth's crust, is a product of scientific thought and scientific creativity ( $\Psi$ , 1938). He linked this idea with victory in the War and the arrival of a new era, if we were to draw the proper conclusions from what was happening. He set forth the idea in a short article titled "Some Words about the Noösphere"<sup>2</sup> (1944), which he sent to his son in the USA:

"In our century there is a completely new understanding of the biosphere. It is emerging as a planetary phenomenon that is cosmic in nature.... One cannot with impunity oppose the principle of the unity of all men as a law of nature.... The historical process is being radically changed before our very eyes.... Mankind, taken as a whole, is becoming a mighty geological force. And mankind, its thought and labor, are faced with the challenge of reconstructing the biosphere in the interests of free-thinking humanity as a single totality. This new state of the biosphere, which we are approaching without being aware of it, is the 'noösphere.' ... Now we are experiencing a new geological evolutionary change in the biosphere."

He was not understood in either the USSR or the USA

at that time. But are he and his optimism comprehended, even now? Or is Schopenhauer correct, in viewing optimism as a foolish, irresponsible outlook—a bitter mockery of the inexpressible sufferings of humanity?

For Vernadsky, "Human civilization is caused by a spontaneous planetary process, the laws of which are accessible for study, and we are approaching an understanding of them. Civilization cannot be halted, nor can it change its direction. Unconsciously, mankind, in creating its history, is producing a phenomenon of great power. When people talk about a return to the epoch of barbarism, they are forgetting this side of human existence: the nonrandom and inexorable nature and direction of collective human work" (letter to I.I. Petrunkevich, Nov. 2, 1923).

The reconstruction of the biosphere into the noösphere must be accomplished by people who are guided by reason. He associated the future of mankind, as a social organization of living matter, with a biologically new form of man, who would no longer be *Homo sapiens*, and would not depend on other organisms for his existence. "To solve this social problem requires addressing the very foundations of human power: it requires changing the form of alimentation and the sources of energy employed by man" ("Human Autotrophy," 1925).

This was for the future. In the meantime, he associated (*Diaries*, 1944) the affirmation of these findings, in human life, with the changes made by the state in the organization of life, and changes in the nature of the state itself, which had been initiated by his country. After Victory over fascism, this would emerge as the direct and necessary growth of the scientific worldview, representing the profoundest and most powerful form, in all history, of the influence of scientific thought on the course of society. Scientific thought had defined the phenomenon of "the social state for all people on the planet."

The United Nations declared this idea as a Millennium policy goal (1992), and many nations have incorporated it into their constitutions. Vernadsky located the principled basis of such a policy in the search for solutions to "the fundamental events of our planet as a whole, expressed in the elimination of wars, on the one hand, and, on the other, in directing the social system toward the scientific quest as the main task of life" (letter to his son, January 24, 1944).

In accordance with the laws of dissymmetry, the new world order of neoliberalism, under the name of "the information society," arose and spread across the planet as a reaction against any such deliberate, scientifically grounded affirmation of the social state. Within 25 years, the rejection of a social policy on the part of the state, in favor of the absolute rule of the free market, brought about a *civilizational* crisis of humanity. Once again people began to talk about class stratification, the threat of totalitarianism, and the degeneration of democracy, and neofascism reared its head. Enantiomorphism is at hand! The

2. V.I. Vernadsky, "Some Words About the Noösphere," *21st Century Science & Technology*, Vol. 18, No. 1, Spring 2005.



N.T. Anisimov (Kremenchuk, Poltava Region, Ukraine), "V.I. Vernadsky on the Banks of the Dniepr River," oil on canvas, 2003. Collection of the Kremenchuk Regional Museum.

"affinity of the liberals' democratic radicalism and caesarist absolutism," as S.L. Frank paraphrased Pushkin's essay "On the Nobility," must now be understood from the standpoint of the physical algorithms of evolution.

### Building the Present from the Future

The United Nations has invoked the conception of sustainable development. The Rio+20 summit came and went almost without notice in June 2012, and without significant result: behind the pretty title of its declaration, "The Future We Want," alarming resolutions were adopted on a need to change the existing paradigm and reconsider the goals of development, for which purpose new development indicators should be determined. Are preparations under way to revise the Millennium goals, formulated earlier, or is this an acknowledgment of the pressing necessity of a change away from the existing inertial strategy of development—an acknowledgment dictated by a shift from one historical cultural epoch to the next one, in which the present must be built from the standpoint of the future, rather than being planned as a continuation of a present, which is retreating into the past? In other words, is this an attempt to understand the answer to the question of where time comes from, whether it is a challenge or a summons, and if we should go in step with it or resist it?

Vernadsky's answer is that the goal of life is man's development. He creates it himself, and constructs its meaning by approaching, scientifically, ever nearer to the truth!

At present, this reasoned interpretation of the coevolutionary situation requires that codetermination consciously be taken into account in formulating a concept of our stage of evolution, as being defined by the purpose and meaning of human life within it: the directional orientation of the hierarchically superior spontaneous process that subsumes the movement of society as such, interacting with it in the virtual state, demands that we make this purpose conscious, as a response to its action! The current view of the  $\Psi$  function in quantum mechanics (the wave function characterizing the *state* of an object), which couples together the dissymmetrization that creates a phenomenon, with the virtual state, makes the latter into a multivariant future which is directly connected with the recent past. This provides an explanation in physics, of Édouard Leroy's rational stratum of life (1927), Kirill Florensky's imaginary knowledge and pneumatosphere

(1929), and the discoveries made by psychologists who have identified the ability of our mind to reflect external reality in advance—the creation of a model of the needed future in the zone of proximate action, or *the possibility, in principle, for us to construct our own future.*

### The Social Economy

It is an indisputable fact that order in society, and its development, need to be guided by some generally valid goal, which is consistent with the essential qualities of man, his nature and evolution, which qualities may nonetheless be deformable, and are actually deformed, by his existence. Consistent with the social state is the *social economy*, providing those indivisible, shared-use social benefits that are not subject to competitive consumption; it affirms *consciousness of the human equality of people* (Tolstoy). The social economy requires guidance, in order to multiply its values and expand the area in which they are utilized. The most vital of these values are the environment and the universal culture of mankind.

The social economy does not mean a socially-oriented market economy that fulfills quasihumanistic objectives, such as defending players in the competition who have lost their combat qualities; rather, it is "social" in the sense of being truly human. It requires that the state establish and maintain order in society, and endows the state with the main function of governance and organization. Frictions between the old and the new, including resistance to the

institution of what is new, even if it is demonstrably reasonable, may define either a cause for civil war, or a mission of growth: “We risk losing all that we have, / If we leave that which is, as it is,” wrote Goethe.

The social economy takes as its point of departure the recognition that the market economy is limited, because the basic principle of the latter—consumption, which entails the destruction of products and their removal from economic exchange—is unable to provide for the general welfare. The commercial impulse hinders it from doing so.

The scientific alternative to a monetary economy is *physical economy*. From the standpoint of anthropocosmism and the noösphere, it is possible to forecast the future historical pathway of the development of humanity as a whole.

Physical economy is based on neither moral philosophy nor political economy, but on physical and mathematical knowledge. It was developed by the author of the term *physical economy*, LaRouche, who promotes it through his political movement and locates its true meaning with reference to the phenomenon of the creative mind of man, who has “the power of introducing a higher state of organization, by the human will” *through historical credit*, which is not a monetary contribution to the future, but “human creativity, from generation to generation”: by “incurring a debt which spans generations,” for large-scale megaprojects (including in space), to ensure “the continuation of the activity of a life, through the transmission of an effort, an intended effort, to a second life, and a life beyond that” (webcast of September 30, 2011). This succession of generations is the imperative of truly sustained development!

**“Creativity Permeates Economic Life”**

Also important is Vernadsky’s idea of the triune consubstantiality, with respect to their energetic character, of *labor, capital, and creativity* (*Pages from the Autobiography of V.I. Vernadsky*, 1916; published in 1981): “Value is created not only by capital and labor. Creativity is equally necessary for making an object of value. In purest form, the capitalist is the proprietor of accumulated value — of energy that is available in a form convenient for its conversion into practically-applied energy. The worker himself represents a form of energy, which may be directed into some enterprise. Neither the capitalist nor the worker, however, can accumulate active energy without the direct or indirect participation of the creative person. If capital achieves constant expansion, while the worker’s



A.A. Kotlyar (sculptor), N.T. Anisimov (artist) (Kremenchuk, Poltava Region, Ukraine), memorial plaque to V.I. Vernadsky and V.V. Dokuchayev, on the building which was the hotel where they stayed during their scientific expedition in 1890. Granite and bronze, 2001.

labor constantly creates capital, still they are acting according to forms which have come into being through creativity. This conscious or unconscious creativity permeates all of economic life, which without it would be condemned to perdition, just as surely as it would be if it lacked capital or labor.”

Vernadsky was not the first to perceive the triunity of labor, capital, and creativity. Charles Fourier stated this triunity indirectly, with respect not to production, but to distribution in compensation for the multiplication of social wealth.

The concept of fractality (B. Mandelbrot, 1975) helps in understanding this: the world and its phenomena have structural and functional scalar invariance, and hence are comprehensible to a mind *possessing the same character*. The logic of triunity as a fundamental characteristic of the structure of the universe, which has been sensed since time immemorial and appeared in primary form in religion, in the image of a consubstantial, uncommingled and indivisible Trinity, has been proven (B.V. Raushenbakh, “On the Logic of Triunity,” 1990). The nature of the relations between the external and internal worlds (external: the spatio-temporal universe of the vortex attractor, expanding out of itself; internal: the self-perfecting mind-vector, with unit vectors of spirit-truth, rhythm-beauty, and connectedness-conscience), relations which correspond to these principles, makes it possible to *realize* this triunity in the socioeconomic domain of our life.

Earlier, as seen in a letter to his wife dated August 20, 1888, workers’ strikes had made Vernadsky “ponder seriously the forms of local governance, which might and ought to be provided, for the sake of a better life in our

country.” And he pointed to a principle for organizing the relations between labor and capital, which today may be directly connected with the objectives of regional reforms: that the failure to recognize the equal worth of labor and capital would make it impossible to carry out such reforms: “Does not, then, the very question of organizing so-called labor-capital relations follow from the question of better organization of local self-governance, and a better way of federalizing potentially free collectives?”

Many thinkers have touched on federalization, and now it can be understood in its physical function of autonomy (the preservation of coherence) at all levels of policy: privatization,<sup>3</sup> regionalization on a planetary scale as well as within countries, and the sustainable development of a multipolar world—the simultaneous development of autonomy, rather than confrontational competition between poles of power.

When millions of people are starving to death, while so much is being spent on luxury and the raging stupidity of consumerism, which is no testament to development, but is—let us agree with the moral maximalism of Tolstoy (*What, Then, Should We Do?*, 1882)—“a crime committed not just once, but constantly,” such that one who enjoys luxury “not only abets, but directly participates in murder, the worst sin in the world,” or “absolute evil,” then it is time to place on the agenda of our lives the denunciation of liberal ideas of law, in order to correct the *deformation* of property relations that has been uncovered by the course of history and the logic of production.

The conflict between manager and owner may thus end in the latter’s yielding to the professional competence of the former, as the owner is confronted with whether his ownership represents merely his private possession, or the entrustment to him of the responsibility to use it in fulfillment of a public mission. Property is always *public*, and its effective function (interaction with a division of labor by profession, a form of social labor) requires only that it, too, be divided up; historically, however, it has been subject to *illegitimate acquisition* after its creation by labor, and thus has been considered theft since ancient times: from Pythagoras (“Property is theft”) through Pascal (“What is property? Theft that has been forgotten”) to Proudhon and Marx! Something private may be legitimized, so as not to be theft, only by becoming part of its owner’s *public mission to use it effectively in the public interest*.

Capital, which purchases and exploits labor, and creativity are of equal worth, by virtue of this *natural, con-*

3. The author refers here to the need for partial replacement of an overbloomed state sector of an economy by responsible private ownership of companies, rather than to the swindles imposed under the name of “privatization” in the post-Soviet area in the 1990s, when state property was carved up by a new, criminalized economic oligarchy and the new financial relations hitched these countries’ economies to international speculative and criminal money flows.

*substantial energetic triunity*, which resolves the problem of their relations. The problem lies in the state’s *social level of development*, for private property can exist only within the state; it does not exist in nature.

### The Noösphere Is Our Standard

Comprehending this makes Vernadsky’s noösphere the standard for morally responsible, rational thinking, for which a global perspective is mandatory in the consideration of problems. This perspective requires understanding the use of synergistic co-determination: circular, or reciprocal, causality. It requires that laws adduced through Vernadsky’s “empirical generalization of empirical facts,” which are then used through deduction to distill an understanding of a new situation with the singularity of a new empirical fact, be changed and supplemented by new laws. This may be accomplished by overcoming the abstract formalism of the Aristotelian-Hegelian dialectic, superseding it with a trialectic, which takes into account the outcome of the dialectical movement—an Event, being a response of the environment to our action upon it. This Event changes the structure of the medium in which localization<sup>4</sup> originates and lives, moved by the dialectical transformation of *opposites*, which social psychology initially treated, perversely, as *contradictions battling one another and precluding any genuine dialogue of the opposing sides*: the Event, with which localization ends its life, creates a new structure of the medium and a new perceptual-conceptual situation for humans, the comprehension of which represents the resolution of an “ontological paradox,” as demonstrated by Plato (L. LaRouche).<sup>5</sup> It (the comprehension) reveals a *new lawfulness* of motion: indeed, the Bartini-Kuznetsov LT-system of measurement<sup>6</sup> was discovered, elevating the dialectic to the trialectic.

4. The term “localization” is employed in the sense in which it is used in the synergetics school of Hermann Haken, referring to the origination of order and organization within chaos. In the present context, it denotes a structuring (organization) of some portion of the medium, which synergetics describes as self-origination and subsequent self-development until the moment of its destruction. —Author’s note.

5. “The Science of Physical Economy as the Platonic Epistemological Basis for All Branches of Human Knowledge,” Section 2.1, *EIR*, Feb. 25, 1994. Discussing the “hereditary principle” in formal systems, such as the economic systems of Adam Smith, Karl Marx, and John Von Neumann, which claimed to be “logically consistent formal systems,” LaRouche noted challenges to such claims, such as the challenges contained in the work of Georg Cantor and Kurt Gödel. He then wrote, “As Plato demonstrated this famous ontological paradox by his Parmenides dialogue: that unifying conception of change which, as a generating principle, subsumes and thus bounds all of the members of a collection, cannot be itself a member of that collections.” This essay was published in Russian as a book titled *Fizicheskaya ekonomika* (Physical Economy), Moscow: Nauchnaya Kniga, 1997.

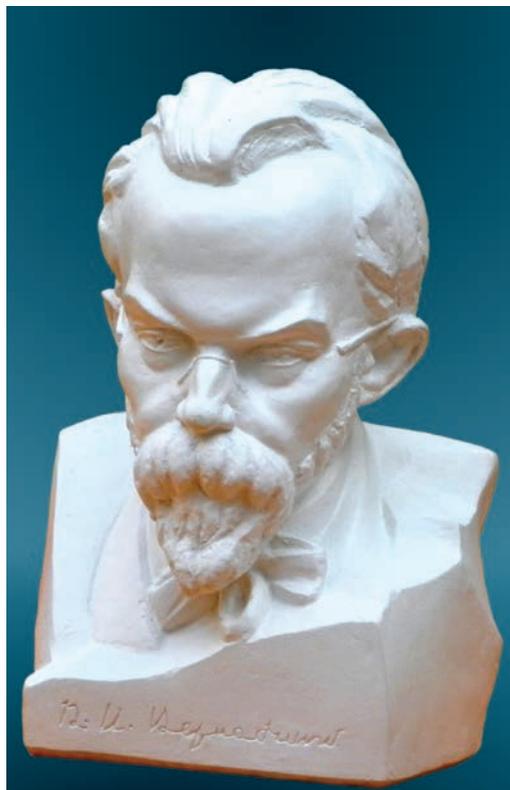
6. The LT table of physical magnitudes and relationships (L stands for “length” and T for “time”) was invented by Roberto Oros di Bartini (1897-1974), a famously innovative Italian-born Soviet aircraft designer. His Russian collaborator Pobisk Kuznetsov further developed the method during his work at the Scientific Council on Planning Large-Scale Systems on the Basis of Physically Measurable Magnitudes.

Thus the following task arises: to make use of a fact known to philosophy, and now scientifically confirmed, namely, that our mind, possessing an anticipatory function in creating a model of the future we need, while reflecting the outside world, also creates it. The problem comes down to whether this is done in a deliberate and reasoned way, or, rather, as the kind of subjectively advantageous creation seen in the *biased opinions* of that financial alchemist George Soros (*The Crisis of World Capitalism: Open Society in Danger*, 1998). Insofar as entrepreneurs use something like this in methods based on a targeted end-result, we would be able to create our future through reason, since the algorithms of self-organization have already been established in first approximation!

Vernadsky was right, when he wrote to his wife from Vernadovka: "There is one fact about the Earth's development, and that is the ever stronger power of the conscious mind" (June 29, 1893).

His ideas involve this principle of the sustainable development of society: coherent continuity across time, as a result of our consciously following Kuznetsov's law of historical development, which is based on Vernadsky's notion that life is a universal physical principle of the Universe. Pobisk Kuznetsov stated this law in terms of *the preservation of a nondecreasing rate of growth of the utilization of free energy*. It requires continuity in the succession of generations: the cultural dialogue of fathers and children must become relevant for overcoming the trap of cyclicity in history. Disjunctive synthesis (without the identity of opposites), which was the preceding form, prior to this dialogue, of realization of the actually *constructive* character of relations in the dichotomy of position-opposition, produces the coherent succession over time.

Hitherto, in the generational changeovers by which Vernadsky proposed to measure *historical time*, we have had not continuity, but rather a maelstrom of negation: struggle with one's past, instead of *preserving the vector of development of society and improvement of its social organization*, the essence of which is *justice*. For a start, justice could be in the form of equal access to resources, instead of the current struggle for them and attempts to legitimize that, using lies about the recent past. Mere



V.I. Volkova (Kremenchuk, Poltava Region, Ukraine), bust of V.I. Vernadsky. Plaster, 2005. Gift of A.I. Ignatenko to Lyndon LaRouche, 2009.

compromise and social partnership have run their course.

As for how to relinquish the past and envision the future, no better idea has yet been found than that of a "renaissance," in the sense of a restoration of the past: the long ago deciphered phenomenon of an unconscious objective construction of the future, involving a conscious, subjective attempt to resurrect the distant past. The character of evolution is determined by its entire past, while its velocity is a function of stored-up mass and accumulated energy, but *irreversible* time demands that the future *be constructed from the recent past*. Sustainable development demands the exploration, in order to change it, of the nature of the *inequality* that comprises the tragedy of life, an inequality which has been justified on the grounds of an inevitable internal hierarchy, the "harmonically correct distribution of objects" (Tolstoy), in development and life, through *subordination*, or a *relative, subjective ordering of values*.

In a letter to I.I. Petrunkevich (held in the Bakhmetev Archive at Columbia University in the USA), Vernadsky wrote in the early 20th century: "There must be some kind of ordering of life, under which this inequality would be accepted as something that goes without saying, and would not be recognized as such." The example here is an organism.

Can we accomplish this? Is the answer connected with self-identification? That means the self-consciousness of all agents of vanguard and equifinal cycles of the evolutionary process, but especially of their wave front. Who will this be? One who leads a morally responsible vanguard of the intelligentsia into the future, or the smug and parasitical elite of the Golden Billion,<sup>7</sup> attempting to consolidate the past?

*Translated from Russian by Rachel Douglas. Subheads were added and notes supplied by the translator and editors, except where otherwise indicated.*

7. The term "golden billion" is used to denote the portion of the world's population, living primarily in so-called advanced-sector nations, who are better off than the remainder of people on the planet.