

EIR Science & Technology

Soviet pseudo-science could cause World War III

The most dangerous side of Gorbachov's thinking is seen in academician Moiseyev's treatment of Vernadsky. An analysis released on Jan. 9 by Lyndon H. LaRouche, Jr.

In the medium term, the question, whether a more durable war-avoidance can be negotiated with Moscow, depends on whether Moscow perceives a certain freemasonic crowd in London, or a different combination in Washington as its principal long-range discussion-partner in the West. The irony is, that despite the fact that the Londoners of the Anglo-Soviet "Trust" are the most shameless appeasers of Moscow during the very near term, it is the policies of that same London crowd which are most likely to provoke Moscow to general war during the slightly longer period.

In that light, M.S. Gorbachov's December 1988 appearance in New York, while presenting a very dangerous Soviet policy in the main, is also being examined for a second, possibly contradictory signal. The neo-malthusian globalism of Gorbachov's U.N.O. General Assembly address, presents the worst option.

The reasoning on the possibly contradictory signal goes like this: Not only Soviet-occupied Eastern Europe and Yugoslavia, but the Soviet economy itself, are in a terrible crisis, with the situation deteriorating rapidly in the direction of a physical breakdown of the Soviet and Comecon economies. These economic developments, interacting with the unsettling effects of *glasnost* and *perestroika*, have unleashed a spiraling array of social and political instabilities throughout the region.

This is very dangerous for the world as a whole. Here, we have the Soviet empire, arming in preparation for possible post-1991 first-strike military actions against Western Europe and the United States. Although Soviet war readiness is not expected earlier than 1991, Moscow has already a com-

manding margin of advantage in military offensive potential. Although extremely powerful outwardly, this same Soviet empire is at the verge of internal economic collapse and deepening and spreading social crisis. One is reminded of Nikita Khrushchov's wild adventurism of the early 1960s; the pressures on Gorbachov now are far worse than those on Khrushchov then.

If the internal crisis becomes unbearable, will that set Moscow into wildly adventurous "flight forward" actions?

The idea that Moscow represents "peace-loving Soviet peoples," is nonsense that only silly Quakers might believe. For the Soviet rulers, a state of actual peace between Moscow and the West is unthinkable. For Moscow, the choice is simply a matter of deciding whether or not to have a war; "peace," as most in the West define the term, does not exist in their dictionaries. The only practical question at any given point in time, is whether Moscow were more likely to choose war, or prefer a temporary state of non-war.

On the issues of war, Moscow is the nation of the abacus. Under anything but the most desperate conditions, the choice between war and non-war is a matter of calculation in the crudest sense of the term. However, that is not true under all circumstances. What if Moscow "goes ape"? What then?

Two conditions are likely to send Moscow "ape": either, the perception of imminent attack on *Rodina*, or an insoluble internal crisis threatening the very existence of the Soviet empire. Thus, the presently worsening Soviet economic crisis becomes the principal source of threat of world war during the years immediately ahead.

If Moscow chooses the neo-malthusian globalism fea-

tured in Gorbachov's December U.N. O. address, the early physical breakdown of the Soviet economy is now pre-assured. In that variant, a general world war, or something equally awful, is virtually assured for some time in the 1990s, perhaps on the early side of the coming decade.

Moscow's choice of neo-malthusian globalism indicates the freemasonic London friends of Armand Hammer as Moscow's preferred discussion partner in the West.

The alternative for Moscow, is a switch, away from neo-malthusianism, to what used to be termed "American methods": until the U.S.'s neo-malthusian "cultural paradigm-shift" of 20-odd years ago. Unless Moscow makes that switch, general war becomes the likely variant of the 1990s. If it switches away from neo-malthusian "globalism," Moscow's preferred discussion-partners in the West are Washington, Paris-Bonn, and Tokyo.

It is in that context, that we examine a rather important Soviet item, dredged out of *EIR*'s files from a year ago. The piece was featured in the February 1988 issue (No. 7) of Moscow's *New Times*. Its title is "Science and Ethics." Its author was the same Nikita Moiseyev of the Soviet Academy of Sciences who co-authored the pseudo-scientific Soviet "Nuclear Winter" hoax peddled to the credulous inside the U.S.A. Moiseyev is also tied to one of the nastier of the globalist brainwashing operations, the Brundtland World Commission on Environment and Development.

Moiseyev, like the influential Moscow malthusian Ivan Frolov, typifies the most dangerous side of Gorbachov's current thinking. If his view prevails in Moscow, as Gorbachov's referenced U.N.O. address strongly suggests will be the case, then this world is headed toward general war during the 1990s.

The remainder of this report examines several exemplary features of that *New Times* piece, including some interesting, contradictory features included. These points are addressed both to show what awfully anti-scientific gibberish the Soviet globalists are putting forward as proposed policy, but also to identify the great potential value of some of the topics of research which Moiseyev mistreats so abominably.

Making up facts as he speaks

The piece opens with the following atrocity:

Sometimes I envy the ancient Greeks, who believed that they lived in an integral world, and did not seek to control it.

as if the colonization of Magna Graecia, the Delian League, and the Academy of Athens's preplanning Alexander the Great's conquest of the Persian Empire had not occurred. The paragraph continues with more such myth-making:

Their world was ruled by beautiful gods, who were well disposed toward mortal man and often mixed with them on equal terms.

Those gods of Olympus were the most murderous and degenerate collection of arrogant scoundrels of Europe, until the later orgies of the Roman emperors, or the tradition of rapine and murder which masked Venetians perpetrated upon one another as nocturnal Orphic recreations. The Hell-Fire Clubs of the British upper classes' degenerates also come to mind.

For centuries, well-balanced ancient Greek culture stimulated the progress of civilization and no other mythology meant more to Christianity than that of ancient Greece, which pictures the Earth, cosmos, and man as an integral whole.

Moiseyev has confused "Christianity" with the teachings of the so-called Gnostic bible.

That opening paragraph sets the tone of scholarship pervading what follows. For example:

In the Middle Ages, the rigid formulation of ideas into an established canon of beliefs impeded the development of European culture, which all but fossilized. The Renaissance, the revival of the ideas of antiquity, which seemed to have sunk into oblivion never to return, proved that links with them had never been broken.

Muscovites do not need to study history; they simply make purely imaginary historical "facts" as they speak and write. He continues:

The new philosophy brought with it a breakthrough in science in the age of Newton, Copernicus and Galileo.

Pause to examine that briefly; historically and scientifically, Moiseyev's last statement is pure fraud; but, there is a madness in his method of lying. It is useful to examine this before proceeding to the main portion of his argument.

Contrary to Moiseyev's fiction-writing, the leading intellectual figures of Renaissance mathematical physics are exemplified by Toscanelli, Brunelleschi, Alberti, Nicolaus of Cusa, and Leonardo da Vinci. The work of these fifteenth-century giants of modern science was centered on the starting-point of Plato and Archimedes. Cusa effected a revolution in mathematics, a constructive form of non-Euclidean geometry (without axioms and postulates), in opposition to the deductive methods of those Paris neo-Aristotelians against whose influence Thomas Aquinas had fought.

The direct continuation of this method of Renaissance science is typified by the work of Kepler and England's William Gilbert, and by Kepler, Desargues, Fermat, Pascal, Huygens, and Leibniz on the continent of seventeenth-century Europe. This current in physics was continued into the eighteenth and nineteenth centuries by such as the Bernouillis, Euler, the circles of Gaspard Monge and Lazare Carnot, and into the nineteenth century by the circles of

Alexander von Humboldt and Gauss.

Galileo and Newton are the antithesis of the Renaissance.

At the beginning of the seventeenth century, an anti-Renaissance current arose in physics, typified by such avowed adversaries of Gilbert, Kepler, Desargues, et al., as Francis Bacon, Galileo, Descartes, and Newton. The fierce controversies between the circles of Leibniz and the followers of Descartes, continuing through the bitter battles between Monge and Laplace, and the attacks on German science by Kelvin, Clausius, Helmholtz, and Maxwell, underscore the fundamental opposition between the two factions.

Galileo and Newton do not represent the "new philosophy" of the Renaissance; these figures are prominent in the internal history of science as avowedly, and actually, the direct opposite of the Renaissance on every imaginable issue of philosophy in general and physical science in particular.

Moiseyev's fraudulent historical excursions are leading up to something. He is about to rewrite Soviet history in the following paragraphs, yet once more. First, he has a few more hoaxes on the general history of science to advance:

After Copernicus had worked out his heliocentric system in which the planets revolved around the Sun. . . .

Only a century later did Kepler discover new laws of celestial mechanics.

Moiseyev's misrepresentation of Kepler is intentionally fraudulent. The motives become obvious, once our attention is turned to the core of the *New Times* piece.

The putative theme of that piece is the work of a leading Russian scientist, Professor V.I. Vernadsky (1863-1945). During the middle 1920s, Vernadsky launched the Soviet efforts to develop the nuclear-fission reaction as the future source of power for the economy, headed up Stalin's 1940 "Atom Project," the project which produced the Soviet H-bomb under Kurchatov. Vernadsky is otherwise among the most important twentieth-century scientists, in the development of optical biophysics; his emphasis on the importance of the physics of Bernhard Riemann in biophysics, spilled over in the Soviet use of Riemann's 1859 paper "On the Propagation of Plane Air Waves of Finite Magnitude" as key to the achievement of isentropic compression in the detonation of an H-bomb.

Despite the fact that Vernadsky has been the most impressive figure in the history of Soviet science to date, he was often reduced to almost the status of an official non-person, during extended periods until now. Under Gorbachov, the name of Vernadsky has been brought to the fore again: not the real Vernadsky, the father of the Soviet nuclear bomb, and grandfather of the Soviet H-bomb, but a wild-eyed Gnostic neo-malthusian.

The International Council of Scientific Unions has undertaken a large-scale project, featuring centrally this portrayal of Vernadsky as such a malthusian mystic. In January

1988, a leading observer had the following comment on the background to the Moiseyev *New Times* piece:

The International Council of Scientific Unions, which is a U.N.O. NGO [non-governmental organization] based in Paris, has launched a major new research program, on Global Change, to look at the interrelated bio-chemical processes that govern the earth. The project derives from Vernadsky's writings. Without question, it will be the largest international scientific exercise ever undertaken, in terms of attention from the scientific community, as well as from political circles. It will be discussed at the next Commonwealth meeting, and was even mentioned in the Reagan-Gorbachov final communiqué, as a good opportunity for bilateral cooperation.

The next official event will be in October [1988], in Stockholm, which will really launch the project in a big way, into the 1990s. An international committee has been formed to establish this, and it will meet next month at Harvard, from Feb. 8-11 [1988], to plan the whole thing out. . . .

The number of international research projects being undertaken is unprecedented. Much bigger than the International Geophysical Year of 1959-60, and much bigger than the International Biology Program. It is far larger. It was initiated by several American scientists.

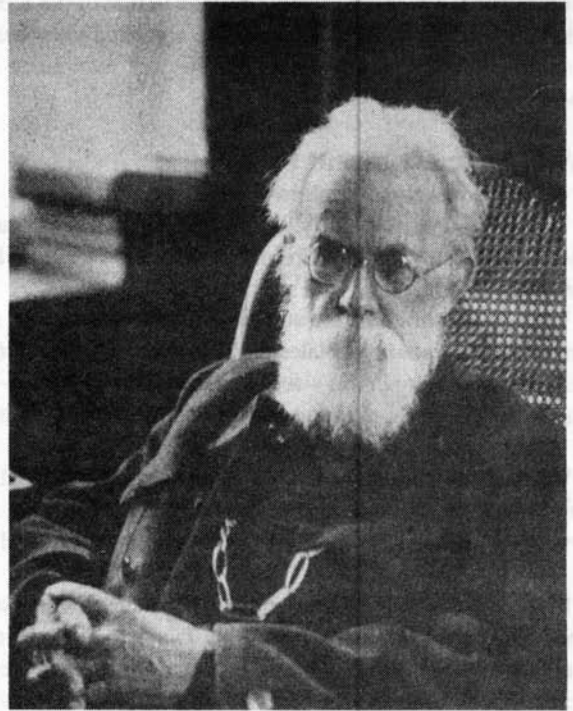
What that observer described is known as the *International Geosphere-Biosphere Project* (IGBP). The project was put into operation in December 1987, at Harvard University, by a meeting of the steering committee of the IGBP. The meeting was headed by William Clark of the Soviet KGB-linked, Laxenberg, Austria, International Institute for Applied Systems Analysis (IIASA), and Thomas Rothwald of the Swedish Academy of Sciences.

Nikita Moiseyev of the Soviet Academy of Sciences, has been a key figure in this project, as well as the fabrication of the "Nuclear Winter" hoax. His featured piece in the February 1988 *New Times* was an official Soviet "signal piece," prefiguring the neo-malthusian "globalist" policies set forth in the referenced Gorbachov address to the U.N.O., and reflected in both the present Jan. 7-11 Paris "chemical weapons" conference, and the U.S. threats to bomb a Libya chemical plant.

To transform Vernadsky from a scientist into a malthusian idiot, it was necessary for the Soviets to make certain "adjustments" to the truth. Moiseyev's fictional representation of the history of science, the treatment of Kepler most notably, is arguably more or less indispensable to represent Vernadsky in the way the ideologues of the IGBP "Vernadsky Project," and Gorbachov's neo-malthusians require.

By aid of such means as Moiseyev's hoax, world wars are prepared. Bit by bit, the "belief structures" of leading

The real tradition of Renaissance science



Contrary to Moiseyev's fiction-writing, Soviet scientist V.I. Vernadsky (far right) drew upon the tradition in science that includes (clockwise, from top left) Johannes Kepler, Louis Pasteur, and Filippo Brunelleschi.

institutions and popular opinion are altered. A hoax popularized here, another hoax popularized there, gradually change what institutions and sundry localized majorities of popular opinion believe. So the monstrous folly called World War I was already being prepared, in terms of shifts of attitudes "about this and that," during the late 1890s and first decade of this century. Then, a succession of slight, gradual adjustments in ideological perception, on sundry, diverse scientific and cultural matters, among others, reshaped attitudes in various parts of Europe and North America. By the time 1912-14 arrived, the beliefs of nations and their governments had been modified to the effect, that once the choice was presented, World War I was the inevitable reaction.

For reasons we have identified above, if neo-malthusian globalism is institutionalized through aid of supragovernmental powers entrusted to the U.N.O. Security Council, as the current Paris conference proposes, that globalist malthusianism will be institutionalized to the degree that it becomes impossible to shift world economic policy in ways needed to arrest the ongoing internal collapse of the Soviet economy. In that case, a spectrum of conditions and issues exists worldwide, intersecting the growing desperation inside the Soviet empire, thus making World War III or some-

thing like it inevitable at some point during the 1990s, perhaps early during the 1990s.

In the kind of bit-by-bit mass-brainwashing exercises we have indicated as leading into World War I, the folly toward which society is being steered were always readily shown to be a great folly by attention to a few relevant lessons from history. Without a great deal of falsification of the account of history, the follies in question were in jeopardy. Hence, certain specific falsifications of history were usually integral features and portents of a coming great war, or kindred great folly.

So, insofar as lunacy on matters of science is part of such mass-brainwashing, the history of science must be falsified. So, Vernadsky is transformed into a malthusian Gnostic for purposes of state and international agreements; since the policies of governments and related institutions demand that such a hoax be inserted into prevailing "belief structures" of institutions and popular majorities, the history of science must be rewritten to the extent a false representation of Vernadsky requires that.

Hence, hoaxster Moiseyev's lunatic rantings on the subject of the history of modern science. Hence, the absurd representation of the work of Kepler in particular. If Vernadsky's leading interests in optical biophysics are viewed

from the vantage point of what Kepler actually and implicitly accomplished, a picture directly opposite to that of the IGBP mass-brainwashing project appears. The corrected view bears in an important way upon the options for avoidance of general war.

'What he really meant to say'

Not infrequently, the following scenario unfolds:

A person—let us identify him as Mr. X—rises to speak, avowing himself the advocate of a very clear opinion. He completes his statement, and sits down.

There is a hubbub in the audience. On this occasion, as on many others, sooner or later in the course of the ensuing discussion, another person—let us identify this as Mr. Y—arises to speak, purportedly to clarify the discussion: "What Mr. X really meant to say, is. . . ."

What Mr. X said, and what Mr. Y purports Mr. X "really meant," have no resemblance to one another, at least not in the views of those who remember exactly what Mr. X did say.

In this case, Mr. Y is Academician Moiseyev, who rises from the pages of February 1988 *New Times* to edify us on the matter of "what Vernadsky really meant to say." Moiseyev proceeds as follows. He begins with this broad observation:

At the end of the last century, there emerged a trend in science known as "Russian Cosmism," which had

a formative influence on many future outstanding Russian scientists, Vernadsky and Tsiolkovsky in particular. Cosmism is a school of thought according to which man and nature are one, and thought is a phenomenon as material as planets, outer space, and life on Earth.

So, "outstanding Russian scientists" are placed in the company of the most lurid adherents of that curious form of Gnostic belief expressed as Russian mystical occultism. What Moiseyev is describing fairly enough, is the worldview of the typical *raskolnik*, a blending of pre-Christian pagan beliefs, under the influence of the form of Gnosticism expressed as monastical hesychasm.

Such Gnostic and related beliefs are the correlative of all of those movements which converge upon malthusian anti-science fanaticism in the history of Western civilization. Gnosticism rejects the injunction of Genesis respecting man's dominion over nature, thus attacking directly the principle of reason which distinguishes Western civilization from barbarism. Thus, with that passage, Moiseyev establishes the mood in which he proposes to situate Vernadsky.

Vernadsky's teaching on the *Noosphere* marked a new step in the development of the scientific vision of the world. By the Noosphere, *he meant* a qualitatively new state of the biosphere, with mankind, equipped with the knowledge of the principles that underlie universal development, creating a new organizational

'Western Christianity to blame for ecology crisis'

The Russian Orthodox Church blames Christianity and the Renaissance for today's ecological crises. That is the theme of an article in the English-language edition of the *Journal of the Moscow Patriarchate* (No. 11, 1988), run under the title, "Modern Ecological Crisis in Light of the Bible and Christian World View."

The Russian church is not truly Christian, but subscribes to a brand of pagan gnosticism centered on the holy soil of Great Mother Russia. However, since the Russian church *claims* to be Christian, the article's contention is that it is not Christianity "as such," but rather the Western interpretation of it, which is to blame for the ecological crisis.

"Why, however, as facts show, have the forces which have caused the ecological crisis risen mainly in the West, which had long ago been enlightened by Christian teaching? . . . The idea of subjugating Nature . . . was closely

bound up with the spread in the West of the utopian notion of getting rid of real difficulties in life by building a 'paradise on Earth' outside of or against God, with the aid of the magical and alchemical teachings of the Renaissance, which claim to give power over the natural world and men.

"The rapid development of natural sciences in the West is explained by the difference in the attitude of Christianity to Nature in the Greek East and in the Latin West. The Byzantines perceived Nature as a system of symbols with the help of which God opened slightly to men His omnipotence and goodness. . . . The over-exaggeration of man's might and the distorted perspective of his position in the world, characteristic of the West, were long ago noticed by European thinkers and condemned by them."

Later, the author comments that Western development is characterized by "the growth of population, urbanization, the rise in living standards, the increase in requirements, and the liberalization of society. Consequently, the ecological crisis can be observed everywhere that the Western style of life has become rooted, with its stimulated consumption, social organization and production, science, and technology, aimed at subjugating Nature."

social structure scientifically correlated with the laws of evolution and social progress [emphasis added].

So, we have what Mr. Y—Moiseyev—purports that Mr. X—Vernadsky—really “meant” to say.

What Moiseyev says is very *delphic*. He parodies phrases which seem to correspond to what Vernadsky actually represented, but in such a way that what comes out as the final result of the statement, is something which Vernadsky opposed.

The aspect of Vernadsky’s actual work which corresponds to Moiseyev’s purported reading of it, was by no means original to Vernadsky, nor in any way specifically a Russian “cosmist” view. The positive features of Vernadsky’s work on living processes were given their original currency by, specifically, Cardinal Nicolaus of Cusa. These conceptions, first discovered and presented in an intelligible sort of scientific representation by Cusa, prompted the definitions of the quantizable distinctions between living and non-living processes later elaborated by Leonardo da Vinci and his circles. The combined work of Cusa and Leonardo and his circle on this subject, was the principal influence upon the work of Kepler, and forms the central feature of Kepler’s work.

This aspect of Kepler’s work was developed further, most significantly, as a central feature of the work of Leibniz. The generalization of this appeared in the work of Bernhard Riemann. Vernadsky’s scientific contributions have debatable features, but none of those are less than interesting, and most are either valid or at least more or less fruitfully provocative. For this, Vernadsky was indebted chiefly to two sources, his education by the institutions of Louis Pasteur, and his study of the work of Riemann.

There is an historical aspect to Vernadsky’s work which is more less distinctively Russian.

By the time Vernadsky returned to Bolshevik Russia, from France, the Versailles Treaty was in force. Specifically, German science was being suppressed, more or less as French science was being suppressed after the 1815 Treaty of Vienna, then by such creatures as Laplace and Cauchy. This circumstance coincided with the rise of a form of molecular biology opposite to the methods of Louis Pasteur’s emphasis upon optical activity of living processes. Vernadsky arrived so in a Bolshevik nation, whose economy was a shambles, and in which qualified scientists were such a rarity, that for a time the Soviet state did everything to encourage the work of the few promising scientific workers on hand.

So, the young Soviet state represented a most anomalous setting for scientific work. On the one side, it was most poorly equipped, and Soviet ideologues tended to demand of the scientists that everything done be construed as vindication of the absurd notions of Friedrich Engels. Yet, Bolsheviks such as Lenin and others, and even Stalin on occasion, understood that if Moscow wished to have the advantages of science, it must allow a certain “ideological”

latitude to its scientists, at least in their work as scientists.

In this circumstance, Vernadsky had the relatively widest latitude meagre resources allowed during the mid-1920s, and whenever he was back in favor at later points. He was without doubt a gifted, well-educated, energetic, and prolific scientific personality; however, his apparent originality in certain matters is easily exaggerated. Under the anomalous circumstances for scientific work in the Soviet Union of the 1920s and 1930s, he had a latitude for pursuing certain lines of inquiry which had been all but cut off in most Western nations.

The direct line of continuity from Cusa through Kepler and Leibniz into the nineteenth-century achievements of Riemann and Pasteur, is the resource which Vernadsky carried with him, back into his work in Soviet Russia of the 1920s through 1940s. On this account, Moiseyev’s falsification of Kepler’s sources and pivotal position in the history of physics is a crucial, and delphic misrepresentation of Vernadsky.

The crucial points

Immediately following the passage last referenced above, the *New Times* piece lists a series of points which are either accurate as statements of fact, or near enough to truth that the mistakes would earn Moiseyev no worse than a passing grade.

- 1) Today, astrophysics and physics have accumulated a sufficient body of knowledge about the development of the universe for us to be able to conclude that we inhabit a colossal system which is never in equilibrium, but is continuously evolving . . .

That far, a fair statement, which is greatly spoiled by the appended:

- by virtue of a constant exchange of energy and matter between its constituents.
- 2) From all the processes described here, nevertheless we know that matter always tends toward greater complexity.

That observation is crucial, and a fair, if crude description of an extremely important point.

- 3) If we work on the assumption that life is a cosmic phase of the development of nature, then life on Earth emerged as a result of the increasing complexity of . . .

So far so good, but the appended conclusion of that statement:

molecular structure.

is flatly wrong. True, the emergence of higher forms of life is associated with an increasing complexity of molecular structure, but this increase is the result of, not the cause of the process by which such increasing molecular complexity is effected. He turns next to:

Moscow's heroes: the antithesis of Renaissance science



To transform Vernadsky from a scientist into a malthusian idiot, it was necessary for the Soviets to make certain "adjustments" to the truth. Moiseyev falsely locates Vernadsky's historical tradition in such figures as (left to right) René Descartes, Immanuel Kant, Galileo Galilei, and Isaac Newton.

4) The phenomenon of living matter's optical activity, discovered simultaneously by Louis Pasteur and Pierre Curie, consists in living matter polarizing light.

There are various flaws of fact and representation included in that statement, but the emphasis on optical activity as characteristic of living processes as living processes, is of crucial importance, and bears most significantly on the best related work of Vernadsky and Gurvich.

Skip to a passage a slight space beyond the last cited. There is much speciousness in Moiseyev's argument here, but the subject he addresses is a very important one:

5) Vernadsky's hypothesis comes down to the assumption that the transition to the age of the Noosphere will be a switch to an entirely new terrestrial state, with the Earth's further development determined by collective reason and joint efforts by society.

That portion of the statement is problematic, and rife with New Age mystical occultism, but it is important because it is introduced as a setting for the appended observation:

Unless this happens, mankind will degenerate. We must make such a leap, otherwise society will cease to develop.

On the subject of the five points just identified, Moscow is reacting very strongly, and plainly to the influence of one Lyndon H. LaRouche, Jr.; the view of the context of Vernadsky's work offered by Moiseyev on these points is a Soviet sort of delphic version of "vintage LaRouche." Inference from circumstantial evidence would be superfluous; during the late 1970s, the Soviet Academy of Science undertook a special study of the relevant work of LaRouche, including review of LaRouche's emphasis on the importance of reexamining the work of Vernadsky.

There were two specific topics of LaRouche's work taken under study by the Soviet Academy of Sciences: the LaRouche-Riemann Method in physical economy, and the outgrowths of a 1973-74 study of aspects of the application of the LaRouche-Riemann method to mapping of the processes of the biosphere. The Academy and related Soviet channels also received a pleading that the contributions of Vernadsky be reexamined for possible new benefits, in the light of the work of LaRouche and his associates.

Since the LaRouche-Riemann method's application to matters of physical economy can not be separated in principle from the application of the same method to matters of the biosphere, the points under consideration, in connection with the Moiseyev treatment of Vernadsky can not be separated

from the question of the ongoing physical breakdown of the Soviet economy, or from the global nightmare which a continuing such breakdown must tend to prompt. The linkage will be treated in the conclusion of this report. Prior to that point, the examination of the Vernadsky matter as such should be read with a view to the implicit bearing on the economic-strategic matters addressed directly in the conclusion.

There are certain "ID" features among the five points from Moiseyev's piece just referenced, which coincide with matters received for study by the Soviet Academy. We restate those features of the five points in terms of their LaRouche form.

1) The view of the universe, as ruled by a principle of universal entropy ("Second Law of Thermodynamics"), is false. Kepler implicitly proved, that the characteristic curvature of physical space-time defines a universe which is governed solely by a universal principle of *negentropy*.

The LaRouche definition of *negentropy* is: those processes whose development and resulting morphology of function are defined by harmonic orderings congruent with the Golden Section. As Leonardo da Vinci and his circle were first to prove, all living processes are characterized by such harmonics, whereas non-living processes (between the extremes of scale of astrophysics and microphysics) are not. This principle is the central feature of Kepler's physics, to such effect that Gauss's crucial proof of Kepler's claims also proves that the universe as a whole is *negentropic*, by this definition, rather than *entropic*.

2) The better representation of the increase of apparent complexity in emergence of higher forms of existence, is made available, relatively uniquely, by the constructive geometrical representation of the Gauss-Riemann complex domain. The implications of the Riemann Surface Function typify the proper definition of the kind of increasing complexity of higher states of organization of processes.

In short, "greater complexity" in Moiseyev's cited feature, should be read in the language of Georg Cantor's transfinite orderings: the harmonically ordered increase of density of singularities per chosen interval of physical least action. This is a characteristic feature of a Riemann Surface Function, to such effect that that Function is a relatively adequate representation of *negentropy*, whereas the statistical definition of Boltzmann and the modern "information theorists" is intrinsically false to physics, and otherwise never better than accidentally a useful one.

This means that we must discard entirely the notion of "potential" associated with Laplace's functions and their derivatives. Potential must be measured, in first approximation, as an increase of density of singularities per interval

of action, in an appropriately defined phase-space representation. A properly defined "potential surface" is simply the locus of equal density of singularities per interval of physical least action (and least time) in an appropriately defined representation of phase-space.

3-4) The attempt to represent living processes as living processes from the standpoint of molecular biology, is impossible and absurd. Axiomatically, molecular biology can represent only those features of living processes which are, in and of themselves, the province of the pathologist.

The characteristic of those aspects of biological processes deserving of identification as substantives corresponding uniquely to the verb "to live," are, by definition, *elementarily nonlinear, negentropic* processes. This locates the corresponding experimental phenomena within the domain of *optical activity* of both living and non-living processes compared.

By *optical* we must signify *electromagnetic*, as this subject is represented by the relevant work of Riemann and Beltrami, rather than Maxwell et al. We must isolate those nonlinear forms of electromagnetic processes which correspond to a Riemann-Beltrami notion of a Riemann Surface Function, as the study of the phenomena of *nonlinear spectroscopy* illustrate the point.

5) The collapse of adequate emphasis on use of capital-intensive modes of scientific and technological progress, is lowering the potential population-density of this planet significantly below the actual population-density. The looting of agriculture and the looting of, and failure to develop adequately basic economic infrastructure, is a leading feature of this. We are at the verge of a catastrophic collapse of human population levels, and also a related collapse of the biosphere to a lower state of existence. Unless we resume capital-intensive scientific and technological progress on a global scale, by aid of eradicating the policy influence of the malthusians, the human species is virtually doomed to a biological holocaust of incalculable awfulness and incalculable implications.

This latter correction of the fifth point excerpted from Moiseyev's feature, exposes implicitly the axiomatic fallacies of the neo-malthusian Global Ecosphere Biosphere Project as a whole. The proposed remedy is effectively designed to do nothing different than to kill a patient who is merely ill. This touches upon the crisis of the Soviet economy, and thus the cited strategic issue.

If Moiseyev writing as a member of the Soviet Academy of Sciences, is representative of the views of that institution, then that Academy has adopted some aspects of the "vintage LaRouche" material it received for study, but has so far failed to master the most essential points.

Potential population-density

In the internal history of its development, the LaRouche-Riemann Method is derived from the influence of Leibniz, and is, more immediately, the application of a conclusive disproof of Kant's theses to disproof of the absurdities of the Wiener-Shannon Boltzmannian dogma of "information theory." It is also a devastating refutation of the work of John von Neumann and related developments in the attempt to represent what are actually intrinsically nonlinear processes by methods of systems of simultaneous linear inequalities. It was developed, from those fundamental points of reference, as a re-elaboration of Leibniz's science of physical economy.

The implications bearing directly and implicitly upon Moiseyev's treatment of Vernadsky, are as follows.

In a conjectural "simple hunting and gathering society," attributed to the condition of late Cenozoic wilderness, the sustaining of an average individual human in a wretched condition with minimal life-expectancy would require an estimate average of ten square kilometers of the planet's land-area. This can be stated otherwise: The upper limit of the living human population of this planet, would be approximately 10 million persons. The former expresses *potential population-density*, and the latter *potential population*.

By 1970, the state of the art of technology available for generalized use then, implied a potential population of this planet of between 15 and 25 million persons. This assumes the generalized application of that level of technology, and in the appropriate degree of capital-intensity. That implies a global living-standard comparable to no less than the best average in any industrialized nations of approximately 1970. That represents an increase of the potential population-density of more than three decimal orders of magnitude.

The history of growth, physical productivity, and level of technology of the human population during the recent five to six thousand years is variously known, or inferable with reasonable accuracy. This evidence shows conclusively, that, from the standpoint of physical economy, the essential quality which sets mankind apart from, and above the beasts, is the ability of the individual human mind to generate and to assimilate efficiently scientific and technological progress.

Kant argued, from a radically deductive standpoint, that the creative processes of the individual mind, responsible for such progress, could not be supplied an intelligible representation. For Kant, the verb "to create" had no intelligible referent. "Information theory" adopts Kant's axiomatic absurdity. For reasons supplied in published locations, these creative processes are susceptible of intelligible representation, and that in ways suggested by Riemann's treatment of the problem of representation of what is seemingly a purely arbitrary function (on condition that the function represents a real process). This representation is exclusively a nonlinear one, to such effect that no deductive mathematical physics is susceptible of representing it, although this is feasible by aid of elaboration of the Gauss-Riemann manifold to an adequate

degree of development.

From this same standpoint, *technology*, as Leibniz defined this term, is intrinsically susceptible of measurement. This is done by quantizing a physical continuum in terms of its specific physical space-time curvature, using a true non-Euclidean (constructive) approach, rather than the nonsense definition of "curvature" of the sort arising in a "neo-Euclidean" geometry, such as Herman Minkowski's, falsely termed often "non-Euclidean." Thus, a causal correlation among technology, power density, and physical productivity of labor is implicitly represented; this correlation is subsumed in terms of a generalized function for increase of potential population-density.

Given an adequate cultural development of the labor force, the principal constraints acting upon the attempt to realize technological progress in agriculture and industry, are the level of power-density and the correlated level of development of basic economic infrastructure. Without adequate power-density, and without adequate development of basic economic infrastructure, efforts to realize technological progress in agriculture and industry must fail in net effect. Both are crucial features of the internal crisis of the Soviet sector.

Globally, the possibilities for improving power-density are limited until we realize a second generation of commercial state of the art in fusion power technology. That achievement would increase the scale of output of power plants from units of gigawatts to terawatts, a result implicitly achievable during the coming 40-odd years. Beyond that, we can improve upon the potential (power/fuel-weight) of fusion generation by several orders of magnitude, through mastery of matter/anti-matter reactions.

Fortunately, we need not worry about possibilities beyond the matter/anti-matter reaction. Power in terawatt concentrations defines the feasibility of large-scale colonization of nearby solar space (e.g., of Mars). Matter/anti-matter reactions open up the regions beyond the Solar System to human exploration. Under such conditions the potential population-density of Earth is no longer a constraint for the human species as a whole.

Terawatt-unit power output increases potential per capita productivity and standards of living on this planet into the range of a decimal order of magnitude or more greater than today's standard-market-basket calculations. Under rational conditions, we must expect that level to be reached globally by the middle of the coming century. Matter/anti-matter reactions imply more than an additional decimal order of magnitude during the early part of the twenty-second century.

The factor of lag, of gains in productivity and potential population-density, behind the increases in power-density, represents tribute which mankind must pay to nature on two general accounts: the requirement to conduct basic production at much higher energy-flux-density levels, as the price for greater efficiency; and, the great increases in development

of basic economic infrastructure required to render the Earth efficiently habitable for such scale of increases of productivity and population-density.

The aspect of production which has the greatest direct impact upon the biosphere is the improvement of basic economic infrastructure—or, the lack of adequate such development. By “basic economic infrastructure,” we signify usually water management and related land-management improvements, production and distribution of primary sources of power, general transportation, general communications, and urban residential-industrial infrastructure. We must also include the development of land, and maintenance of that development by agriculture.

For example, as we approach terawatt-unit-scale of fusion generation, there are no more deserts on this planet. The density and associated vitality of healthy biomass development must be increased by human intervention. The old notions of improvement of land for increased fertility, must be extrapolated as new advances in technology, and requirements imply. This requires advances in biology; it requires great increases in the power-density per hectare investment in land improvements and related basic economic infrastructure. This represents not only investment in improvements; it represents a higher scale of cost of life and production, in terms of power allotted to such investments and their maintenance.

Compare the energy consumptions, per hectare and per capita, among the United States, the Federal Republic of Germany, and Japan, for approximately the year 1970. We see that power-density per per-capita unit of population-density correlates with levels of technology employed and productivities obtained.

Then, compare these results with the cases of mainland China and India. Without massive increases in power-density, and related development of basic economic infrastructure, these nations can never hope to rise much above their present average levels of impoverishment.

Thus, the failure to develop and apply advances in scientific and technological progress on a truly global scale, combined with the failure to increase per capita and per hectare power-output and consumption, and the failure to recognize in efficient practice the imperative of general development of basic economic infrastructure to adequate levels, are central features of the post-1970 collapse of potential population-density to present levels below actual, sustainable population-density.

Implicitly, including man’s activity as the dominant determinant of the vitality of the biosphere, what happens if we reduce power-density and basic economic infrastructure such that we lower the potential of the biosphere as a whole, as we have done over the recent 20-odd years globally—largely through the influence of the “environmentalist” malthusians? In crude terms of reference, we establish a lowered state of “metastatic equilibrium” for the biosphere as a whole.

We know happy facts about the upward evolution of the biosphere. This conforms, to all intents and purposes, to the harmonically ordered changes in state characteristic of healthy living processes. A lowered potential population-density, does not signify retracing the upward path of development backwards. Devolution, which is entropic, has a different characteristic space-time curvature than negentropic development; it has the harmonic characteristics of non-living processes, except that this devolutionary pressure is being applied to a whole process, the biosphere, which is living, and hence negentropic.

What happens then? How does life destroy its higher forms, to bring the whole biosphere to a lower state of metastatic equilibrium? The emergence of new kinds of lower forms of life, and so on, consumes the higher forms of organization of life, to bring the biosphere into metastatic equilibrium at a lower general state. In short, biological holocaust.

What the GEBP proposes as remedy, and as Moiseyev and Gorbachov have echoed this, is like attempting to eradicate an infectious agent from a human body with doses of cyanide or a universal toxic agent of similar consequences. The best way to defend this planet’s biosphere, is to rid it of the malthusian globalists.

The Soviet crisis

The internal economic crises of the Soviet sector and mainland China are mammoth. Added to the massive inputs required now to establish some improvement as well as equilibrium in the developing sector generally, the means do not exist on this planet, presently, to solve these problems. Under a continuation of neo-malthusian policies, the means will shrink, and the problems become but worse.

What is wanted, to make solutions politically possible, is to scrap malthusian impulses, and to do more than merely return to the emphasis on capital-intensive modes of scientific and technological progress of 20-odd years ago. We must generalize the efficient realization of such progress on a planetary scale, taking into account the massive increased costs which must be allowed for improvement and maintenance of basic economic infrastructure.

Rather than the idiocy, of reducing the scale and intensity of production, which ensures the collapse of the biosphere, we must allot an increased cost-outlay, from production, for the development of the biosphere, per capita and per hectare. We must turn to the direct opposite of what the malthusians propose.

If we resolve to raise the level of output so, no sane statesman will hesitate to do what is necessary to prevent any nation from being driven to the condition of internal desperation that it embarks on mad adventures deadly to the planet generally. Solutions for the Soviet crisis, in particular, exist; but this is true in practice, as well as scientific principle, only if we commit ourselves to produce the means such solutions require.