

# The Revolutionary Life Of Pobisk Kuznetsov

by Jonathan Tennenbaum

Pobisk Georgiyevich Kuznetsov (May 18, 1924-Dec. 4, 2000) was born in the Soviet revolutionary years of Russia, his father a teacher of philosophy, his mother a physics teacher. The unusual first name they gave him showed their spirit: It was an acronym for “Pobeditel Oktyabrya, Borets i Stroitel Kommunizma”—“Victor of October, Fighter and Constructor of Communism.”

Pobisk graduated from a Navy school, and immediately volunteered to be sent to the front in the Great Patriotic War, World War II. His application was not accepted, however, because he was too young. Instead, he entered training for tank warfare, after which he fought in a tank brigade and experienced hand-to-hand combat during the war. He sustained serious wounds, after which he had to retire from combat.

While recovering in hospital, and then in his short student period which followed, Kuznetsov turned his attention to scientific and philosophical studies. He was fascinated by the problem of the emergence of living matter, and of life as a whole. A polemicist by nature, Pobisk decided to launch his own student organization, which soon drew the attention of the KGB. He was accused of anti-Soviet activities and convicted of “terrorism” and counterrevolutionary organizing, and sentenced by a military tribunal to internment in the GULAG, the network of prison camps in the Soviet Union.

## Science In The GULAG

It was during the next ten years, spent in Soviet labor camps, that Pobisk Kuznetsov not only was able to receive an extraordinarily intense and broad scientific education, but also conducted some of his most original scientific work, laying the basis for his future contributions. The reason for this paradoxical circumstance was the peculiar nature of the GULAG system, and the fact that his fellow prisoners included many of Russia’s most brilliant scientists, especially during his long period at the Norilsk mining and metallurgical complex in Siberia, above the Arctic Circle. Among them were: Academician Nikolai Fyodorovsky, founder of the Institute of Applied Mineralogy and a close friend and collaborator of Vladimir Vernadsky; the chemist and former head of the chemistry department of the Red Army, Yakov Fishman; the analytical chemist Pyotr Levin; and many others. At another GULAG camp, Pobisk became acquainted with Academician Vasili Parin, with whom he was later to collaborate in



*The portrait of Kuznetsov on the podium of the Moscow symposium.*

the creation of the life-support systems for the Soviet manned space effort.

Pobisk survived the notoriously dangerous penal colony Kalargon—the most feared at Norilsk—and, thanks to his remarkable abilities, was assigned to the Experimental Metallurgical Plant, where he worked in daily contact with leading chemists and mineralogists.

It was while working at the Experimental Metallurgical Plant that Pobisk Kuznetsov, according to his own account, made a crucial observation that was to shape much of his subsequent scientific work: In the real world—as opposed to the virtual world of mathematical physics as it is usually understood—the existence and maintenance of a difference or gradient in potential (such as a chemical potential) is always associated with a continuous flow of energy and the expenditure of work. This observation later became the basis of Pobisk’s study of the systematic distinction between entropic and anti-entropic systems, and his investigation of the laws of human physical economy.

After being freed from imprisonment, Pobisk worked for some time in geological organizations in Krasnoyarsk and Novosibirsk; he entered and graduated from the Polytechnical Institute.

## Rehabilitation

By the time he came to Moscow, Kuznetsov was already famous as a scientist and philosophical thinker. Among other things, he was invited to write the article on “Life” for the *Great Soviet Encyclopedia*. Starting in 1963, Pobisk became heavily involved in the design of methods of comprehensive planning and direction of high-technology projects, becoming the head of the Laboratory of Management Systems for the Creation of Systems (LASURS) at the Moscow Pedagogical Institute. He was named Chief Designer for the famous SPUTNIK-SKALAR management system, which was utilized in the organization of important military-industrial projects in the Soviet Union.

After moving to Moscow, Kuznetsov became ac-

quainted—through the network of his former Norilsk fellow inmates—with the legendary Italian-Soviet aircraft designer Roberto Oros di Bartini, who had himself worked many years as a “captive genius” under KGB security boss Lavrenti Beria. One of the fruits of their ensuing, close friendship and collaboration, was the discovery of a kind of “periodic table of physical laws,” based on a study of the “dimensionality” of the physical magnitudes related by the laws.

During the same period, Bartini developed a variety of revolutionary designs for transport vehicles, including amphibious craft utilizing the “screening” or “ground-effect” for additional lift, and a long-range nuclear-powered supersonic plane. From this time dates Pobisk’s strong interest in the analysis and projection of transport systems, using new parameters derived from the Kuznetsov-Bartini table.

Another important direction of Pobisk’s work, during the 1960s and afterwards, was the study and applications of the role of resonant photon (light) interactions in living and non-living matter. In 1964, he published a groundbreaking paper together with Vlail Kaznacheyev and M.Ya. Subbotin, on the significance of the “biophoton” emission of living tissue, following up earlier work of the great biologist Alexander Gurwitsch. In the 1990s Kuznetsov synthesized his work on the resonant triggering of chemical reactions and biological processes, founding what he regarded as a new scientific discipline: “Fotonika.”

Starting no later than 1965, Pobisk Kuznetsov was deeply involved in the development of life-support systems, both for manned space travel and in the extended sense, emphasized especially by Kuznetsov himself, of building an economic-technological basis to support an increasing population-den-

sity on the Earth. This led into his studies of economics, inspired in part by the work of Sergei Podolinsky and Vladimir Vernadsky, as well as his own work on the distinction between entropic and anti-entropic systems.

### Father Of Soviet ‘Physical Economy’

In the meantime, Kuznetsov, a staunch patriot of the Soviet Union, who regarded himself as a “scientific Marxist” (although completely at odds with the official Communist Party hacks!), became once again a victim of political oppression. In 1970, his LASURS unit was suddenly shut down by the KGB, under the pretext of “violation of financial discipline.” He was first investigated for criminal activity, and then, after no evidence was found, placed in a mental institution for examination, where he was held for two years!

Kuznetsov was never to return to his former level of official prominence, but continued an extremely active life of research, teaching, and publishing, acting as a key figure in various “closed” projects, including the development of a kind of Soviet counterpart to LaRouche’s concept of “physical economy.” In this context, he elaborated a series of “laws” of physical-economic development, in some respects similar to, but also different from Lyndon LaRouche’s work. These include:

- “the law of economy of time,” or the tendency for reduction of the socially necessary time for production of unit quantities of any given good;
- the law of the growth of productivity of labor;
- the law of rising demand of consumption, connected with “the creation of the comprehensively developed creative personality.”

## Kuznetsov On ‘The LaRouche’ Unit Of Measure

In the December 1994 issue of the Moscow journal *Rossiya 2010*, Pobisk Kuznetsov explained his introduction of a new unit of account, “the larouche.”

“Let us introduce the physical magnitude of ‘a larouche,’ designated by La,” he wrote, “which gives the number of persons who can be fed from 1 square kilometer, or 100 hectares, during one year.”

Thinking in terms of this new unit might look like this, Kuznetsov writes: “Our base magnitude of area is 1 square kilometer or 100 hectares. This base value of area is necessary, in order to bring all existing world food statistics to a single basis. The figures cited above for Belgium . . . correspond to ‘potential relative population density,’ introduced by LaRouche. We have introduced the new unit of measurement, the larouche, which is the quantity of

persons able to be fed from a certain magnitude of area, taken as the unit value in this system. Our unit is equal to 100 hectares. . . . The example of Belgium gives an agricultural productivity for Belgium equal to 500 larouches, or 500 persons per 100 hectares. We share LaRouche’s view that the magnitude of potential relative population density can serve as an indicator of ‘intellectual culture,’ but taking into account the quite diverse values for farv (photochemically active radiation per vegetative period), we shall compare not simply 100 hectares, but 100 hectares for a given local farv value. . . .

“In 1980 I was able to estimate the possibility of creating a system for feeding 300 million people, by means of hydroponics set up in the deserts of Central Asia, in the U.S.S.R. I calculated that it would be necessary to have an area of land measuring 100 by 150 kilometers, or 15,000 square kilometers. Since this anticipated a complete system for feeding 300 million people, it corresponds to 20,000 larouches, or 40 times greater than the known productivity of Belgium.”

While linking these laws to the measurement of economic growth by physical parameters (particularly the characteristics of energy flows in the economy), Kuznetsov emphasized that the production of “new creative ideas” is the driving force of economic growth, resulting “both in the increase in material well-being, and of an increase in the intellectual power of the human species.”

In 1975, Soviet Deputy Prime Ministers L. Smirnov and V. Kirillin formed a Scientific Council on “Problems of Modelling Large-Scale Systems in Physically Measurable Magnitudes.” Under the aegis of this council, a secret scientific research project called “Effektivnost” was launched, focusing on methods of measurement and projection of economy, developed by Kuznetsov and his collaborators. “Effektivnost” was described as a design for “management of the country during a special period,” an indirect way of saying that it dealt with contingencies for national survival under possible global nuclear warfare. The first chairman of the council was Academician Viktor Mikhailovich Glushkov (a major figure in Soviet economic policy), and then, after his death, Academician Vladimir Sergeyevich Semenikhin, as well as Revoli Mikhailovich Suslov (son of the famous Soviet official Mikhail Suslov), who headed the Central Scientific Research Institute for Radioelectronic Systems. The latter used his authority to protect the project against attack from the side of Communist Party ideologues.

### **Fellow Political Prisoner LaRouche**

Although LaRouche’s work had been closely followed in some Soviet circles, and was certainly well-known to some of the participants in the project, the direct contact between Pobisk Kuznetsov and LaRouche’s movement began in the early 1990s, when the late Prof. Taras Muranivsky began to organize around LaRouche’s ideas in Russia. With his characteristic excitement and energy, Kuznetsov immediately seized on the Russian translations of LaRouche’s writings (he did not read English), and began discussing LaRouche — then himself a political prisoner in the United States! — in his network of friends and collaborators.

In 1994, the year he celebrated his 70th birthday, Kuznetsov addressed two letters to U.S. President Clinton, demanding an end to the political persecution of LaRouche and his movement, and calling for international collaboration to develop a new global “life-support system” for humanity. He named this initiative “President.” Around the same time, Kuznetsov issued a call to the leaders of all religious confessions, to join with him in ending the “rule of money over the spirit” and supporting the “President” project.

In April 1994, Kuznetsov hosted LaRouche for his first visit to Russia, and an extraordinary scientific dialogue took place among LaRouche, Kuznetsov and some other leading participants in the “Effektivnost” project (see *EIR*, June 10, 1994). He subsequently proposed a new unit for the measurement of physical economic development, naming it after LaRouche: the “La.”

Kuznetsov continued to write and publish until the end of his life, among other things co-authoring two technical books, *The Engineering-Economic Analysis of Transport Systems* and *The Mathematical Method of Management*, published in 1996, and a broad work, *Space and Time in the Evolution of the Global System “Nature-Society-Man,”* published posthumously in 2001.

Pobisk Kuznetsov is survived by his wife, Alma, and their young daughter. In a postscript to his last book, his co-authors wrote: “Pobisk Georgiyevich’s last words were, ‘I love all of you.’ We take these words as a symbol of faith and hope that we all, the people who knew and loved Pobisk, shall unite around the idea of Creativity in the name of preserving the development of life not only on Earth, but in the Cosmos.”

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Lyndon LaRouche

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## **Give Politicians A New Conception Of Economy**

*“The Global Economic And Financial Crisis And The Strategic Role Of Russia” was the topic of the Dec. 15 seminar hosted by Academician and government economics adviser Dmitri Lvov, at the Central Mathematical Economics Institute (CEMI) of the Russian Academy of Sciences. It featured this presentation on the global economic and strategic crisis by Lyndon LaRouche, introduced by Academician Lvov; the discussion was later joined by Dr. Sergei Glazyev, chairman of the Economics Committee of the State Duma (lower house of Parliament). Subheads have been added.*

**Academician Dr. Dmitri Lvov:** Dear friends: I have the great honor today to welcome one of the leading political figures and scholars in the world, Lyndon LaRouche, who is simultaneously the founder of a leading tendency of economic thought, which has come to be called physical economy. He is Editor-in-Chief of a journal, in which Mr. LaRouche’s articles are constantly published. It is also a very important feature of LaRouche’s scientific work, that he constantly ties it in to the pressing practical problems of our world today.

A striking example of this was the event in our State Duma, where LaRouche spoke [June 29, 2001], which had a great resonance. We are expecting Dr. Sergei Glazyev, the chairman of the [Economics] committee of the Duma, to be here today. We have snowy weather today, and he called me to say that he is sitting in traffic in the snow.

Therefore, I would like to invite Mr. LaRouche to share with us his views on the current world crisis, the economic crisis, which has afflicted the entire world.