

railway to Libya—and this project has been in the cards for the last 20 years and has not been implemented so far, because of the political dimension of the Egyptian-Libyan relations. I once wrote a paper on this project in 1991, and I read the archives of *Al Akhram* newspaper, which is our national newspaper, about Egyptian-Libyan relations. And I found that this project has been on the cards at least since the last 20 years. “We are going to do it next year . . .,” but then something happened in the Egyptian-Libyan relations, so the project stopped, and there are no promises so far, that this connection between Egypt and Libya will be established. It will not be a connection, but it will be an extension of the Egyptian railway to Libya, because Libya does not have an elaborated network so far. From there it can be connected with Tunisia, Algeria, and Morocco. And the job here will be easy, because the standard gauge of these four countries is compatible with the Egyptian standard gauge.

There are two problems here for the Egyptian-Sudanese link and the Egyptian-Libyan link: The first problem is a problem of finance. It’s a main problem in the Egyptian-Sudanese case—of course \$19 million is not much, but given the Egyptian and the Sudanese economies, it could be a lot of money. The second problem is a political problem, it’s a problem concerning inter-African relations, which has been the case in Egyptian-Sudanese, or Egyptian-Libyan relations. And in inter-African relations in general, there are various conflicts, and most importantly, in my judgment, is the impact of foreign interventions in Africa—the role of the foreign powers in Africa. As I have said earlier, the Egyptian and Sudanese railway networks were established on different gauges by Britain. So far, in my judgment, the role of foreign powers in preventing the construction of these railway networks has been quite instrumental, especially in the case of Sudan. The foreign intervention in Sudan is tremendous; one of the major factors of the continuation of the Civil War in Sudan is foreign intervention, especially American intervention in the domestic affairs of Sudan.

Today I was listening to CNN, I heard the spokesman of the American State Department, who was astonished, how come the United States was not voted into the UN Human Rights Commission, and Sudan was voted into that commission. I said, my God, this is democracy in international relations! That’s democracy, isn’t it? Sudan did not come to this commission just by chance, it’s democracy in the international relations—that is a democratic decision! But the man was so astonished, so surprised, as if America would put a veto on Sudan, that Sudan should not be in this world.

I think this problem should be dealt with and tackled. The potentialities are tremendous, but we have to deal with the political issues: First, I believe, if these issues are dealt with in a fair way, I think that the idea of establishing the railway network of the Eurasian landmass and linking it with Africa could be one of the major innovations and development ideas of the 21st Century.

Thank you very much.

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Yuri Gromyko

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## Russia Faces Necessity To Define Its Mission

*Prof. Yuri Gromyko represents the Moscow Academy of Culture and Educational Development.*

Dear friends, dear colleagues!  
It is a real honor for me to speak from the podium of this conference, which, according to the program, is devoted in part to these two great names in human world history: Nicolaus of Cusa and Vladimir Vernadsky. It is possible to say, that these two names are sacred names for the Moscow methodological circle that I represent in this hall. This circle is connected with the name of Shchedrovitsky and, more broadly, with the Russian philosopher Ilyenkov and with Pobisk Kuznetsov, the brilliant scholar and initiator of the Russian version of physical economy.<sup>1</sup>



It is cause for happiness, and our real advantage, that Mr. LaRouche is not only an economist, but also a social philosopher of the Socratic-Platonic type, because for rather many people in Russia, it is clear that monodisciplinary economic science—limited to the single discipline of “economics,” as such—is a plague on our existing statecraft. Of course, it is possible to talk about there being a good discipline of economics and a bad one, but, on the other hand, it is clear that the phenomenon of monodisciplinary economic science, by its nature, violates the very possibility of thinking about Russia’s future.

Most important in the legacy of Nicolaus of Cusa is his idea of *docta ignorantia* (learned ignorance), the idea of knowledge about non-knowledge, the idea of reflexive knowledge. This suggests a way of shaping programs to con-

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1. Georgi P. Shchedrovskitsky (1949-94) was a Russian philosopher, semioticist, mathematician and teacher, who developed a great number of approaches to the reform of scientific research and practice. His work is continued by many groups, known collectively as “the methodological movement.” The Russian philosopher Evald V. Ilyenkov (1924-79) wrote on dialectics and the structure of thought, as well as his own conception of the ideal. He and his fellow pedagogue Meshcheryakov developed an original method for teaching blind-deaf-mute children. Pobisk G. Kuznetsov (1924-2000), scientist and brilliant industrial management expert, was known as a leading proponent of the ideas of “physical economy” in Russia.

struct, to explore, and to investigate new knowledge, and the possibility, on the basis of already-assimilated knowledge, to elaborate new visions and to form new knowledge. The most important and the most interesting, intriguing thing, is to understand how it is possible to develop programs for the elaboration of new knowledge.

For many people, it is not evident that the lack of sound policies in Russia is linked with the absence of knowledge, and the necessity of elaborating knowledge. For example, so far we have no concrete vision of Russia's mission in a new, changing world, nor, of course, of ways of acting in accord with such a mission.

The reason for this, is not only that we lack finances or that we don't understand the investment process correctly; we ourselves have a good understanding, but there are some people who don't understand it correctly. For them, it is possible to say that one need simply change the members of the government, and that it is a question of political will. I don't think so. We lack the most important knowledge right now, and we lack the projects, without which policy-making is simply social maneuvering. To change even only the investment process, it is necessary to have new, very concrete projects, which can become the motive force for an innovative economy of a very different type, on a grass-roots level. These must be long-term projects, by means of which we can stabilize the consciousness of the population, because when such long-term goals are set, there will be strategic forms of employment for the population.

### **From Post-Industrial to Neo-Industrial**

What is not clear just at this moment, and what is very important to investigate, is what the new structure of a new, industrial, post-Soviet system in Russia, with strategic forms of employment, should be, and what will be the new structure of the full-fledged, full-scale productive forces, including educational systems, with all their possibilities, and scientific research institutions with new instrumentalities. Some ideas about these full-fledged, full-scale productive forces, from the economic and technological side, are elaborated in the works of Mark Dvortsin and his group.<sup>2</sup>

In order to elaborate a new vision of a "neo-industrial" system (I have introduced this term, as distinct from the so-called "post-industrial"), it must be seen to differ both from our contemporary, destroyed productive system, and from the Soviet system.

In this situation, people take different positions, for there is a specific positional geometry involved. The first position, is the position of the old and new liberals (who are the same people): namely, that only through monetary manipulation is

it possible to do something in Russia. They recognize that we are currently experiencing huge losses — losses of population, and of institutions in education, scientific research, and industry. This is exactly what Sergei Glazyev called "Genocide," in his book, but they — the authors of the genocidal policy — assert that these losses are inevitable events during a transition. For all patriots of Russia, however, it is clear that continuing these reforms is a kind of cannibalism.

The second position is connected with the elaboration of new programs, which oppose the liberal reforms, but fail to answer the very concrete question of how future post-Soviet industrial systems must be organized. For us, this position is a purely ideological one. Its main motto is: We understand, in general, what is to be done, but it is necessary to have real political power, the wheels of political power in our hands in order to implement these ideas and programs. The representatives of this position don't notice that what they want, at best, is to return to the Soviet industrial system, which was already dilapidated and technologically obsolete in the Soviet period, and to have only islets of high-level technological organization. Moreover, that industrial system doesn't even exist any more. They don't notice, that in our situation, the Russian population needs a more specific, and simultaneously more general, understanding of what Russia's mission can be, and of what might be the specific forms of work in new industrial systems, interlinked with educational and scientific research institutions.

The third position is technological in outlook. It is represented by the economic works of Mark Dvortsin and his group. It consists in the idea that the modern industrial complex, interconnected with the two other systems — education, and scientific research — cannot be arbitrarily changed. That complex is the result of a historical, technological evolution and of the mutual penetration of different sectors of industry, with their respective technological and managerial standards, educational and training technologies, and different types of know-how. The very existence of such an industrial-educational-scientific research complex is determined by the interconnections, agreements, and the "fit" between the huge number of intermediate products and components, produced by different manufacturing sectors, with their various standards, know-how, and patterns of doing things that are specific to a given sector.

### **Innovation in Science and Technology**

All of these elements, melded together in real practice, form interconnections (or, the lack of appropriate such interconnections), which are precisely what determine the level of technological organization in an industrial system. It is impossible to tear one fragment out of this complex, and begin a technological upgrade of this component. There is only one thing to be done with such a complex, and that is to organize its evolutionary process as a single unit, as a whole.

The fourth position is connected with the idea of organiz-

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2. The economist Mark Dvortsin was Deputy Minister of Industry in the first Yeltsin government, until his dismissal at the instigation of Yegor Gaidar and Anatoli Chubais. He has developed the school of "technodynamics," and currently heads a department at the Plekhanov Economics Academy.

ing the real process of innovation in science, education, and industry. Here, we need simultaneously to upgrade the level of technological organization of industrial processes, in order to answer the question of what is the new substance of industrial labor in Russia at this time, just what is the new industrialism, and how this labor can be organized; and, to reproduce the structure of full-fledged productive forces, as the totality of interconnections among the neo-industrial, educational, and scientific research institutions.

This is precisely the problem of an innovation economy and of innovation in industry. For it is incorrect, to think that an “innovation economy” means simply high-tech, or computers. After it has been demonstrated that “the information society” is a fraud, it is clear what the challenge is before us. The real challenge is: How is it possible to connect information technology with machine tools, and other new kinds of machinery? This is precisely the problem of organizing advanced manufacturing systems. It is a real challenge, to understand how these things can be put together. On the other hand, it is also clear that innovative technology is not merely the implementation and realization of new, fundamental scientific ideas; rather, it is extremely necessary to change the technological forms of organization of industrial complexes, with corresponding changes in the structure of labor—what professions are required. To organize this requires having very concrete technological projects for the new kind of industrial organization.

### **Mutual Development of Industry**

We must have three different types of projects.

1) The first type of project is connected with the idea of organizing, on the basis of traditional industries (say, the lumber industry, or the cultivation of flax), locomotives of development. Such locomotives stimulate certain effects, when a specific branch of industry, as a result of its progress through certain phases of development, can transform other industries. The lumber industry, for example, can transform the specialized machinery sector, or the specialized machinery industry can transform the machine-tool sector and instrument-making, and so on. The same goes for the production of flax, the development of which presumes the improvement of flax-processing machinery, the development of special machine-tools for this purpose, the development of the textile industry, the development of machine-building for the textile industry, and the development of clothing and footwear design. All of these connections are well known, but the problem is how to organize them in practice.

2) It is envisioned that the second type of project, should be connected with the possibility of creating new types of industry, which do not now exist, or are only coming into existence: for example, the optoelectronics, laser, or crystal-growing industries. These new sectors all exist in implicit, embryonic form, as fragments of technologies in laboratories or experimental shops.

3) Also, it is good and important to have a project for meta-industry, which is a special structure for organizing the very process of transformation and transition from the old structure of industry to the new. This meta-industry must be connected with the cycles of innovation. It subsumes such special organizations as, for example, units for accelerated prototype development, corporate universities, and so on. The main idea of meta-industry, is to identify and differentiate the various layers within the Soviet complex industrial system and to prepare a large number of points and elements within it,

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*The most intensive forms of technological and social-cultural evolution can be organized under extreme conditions of life, such as in the Arctic north. At the present time, when we have a real flight of the population from Russia's northern territories, which is forced by the genocidal economic reforms, it is very important to prepare new programs for mastering and developing life in these barren, extreme northern territories.*

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to become the sites from which actual comprehensive, multi-level technological innovation will take off.

It is very important to organize an industry that can produce a vast array of instruments, equipment, and specific technological methods, which can be used to transform the existing industrial-technological institutions. The main purpose of such a meta-industry is not merely to replace obsolete technologies and instruments, as such, with new ones, but to organize the evolution of technology and to increase the level of technological organization in industry. It involves, first and foremost, the problem of technologies from the humanities—having to do with thinking, understanding, education, organization, and so forth. It addresses the pivotal point of differentiating, or dividing into layers, the old industrial system—using only the criteria of physical economy, to determine the potential points where energy flux-density and the density of product-flows through the industrial system may be increased.

### **Breakthroughs under Extreme Conditions**

Returning to Nicolaus of Cusa, it is high time to ask once again: What kind of knowledge do we need? In my opinion, we do not so much need the abstract mathematical knowledge

of forecasting through a mathematical extrapolation procedure, which automatically prescribes what is to be done, as we need knowledge that is connected with a live vision of the future possibilities to achieve new results. This is the knowledge of foresight, obtained by positioning yourself in a real process of change. It is always connected with the real positions that we occupy in particular situations. And such knowledge has to be the anticipatory knowledge of a project-designer, which provides orientation for the development of an entire system, and which can be obtained only through taking up a position for real action.

It is also my opinion, that the most intensive forms of technological and social-cultural evolution, can be organized under extreme conditions of life, such as in the Arctic north. At the present time, when we have a situation of mass out-migration, a real flight of the population from Russia's northern territories, which is forced by the genocidal economic reforms, it is very important to prepare new programs for mastering and developing life in these barren, extreme northern territories.

In this area, we can see the connection between space flight, and life under very difficult, even terrible conditions; and, how both are oriented against monetarist policies. Pobisk Kuznetsov recalled how, when he was working at a classified company on the project "Functioning of the Supreme Commander-in-Chief's Headquarters in the Event of a Third World War," he explained to members of the Politburo of the CC CPSU, that it is not necessary to take paper money with you on a space flight; paper money has no life-support function on a space flight. Pobisk Kuznetsov, that brilliant Russian scientist, named the work in this area, "Designing Life-Support Systems."

Russia deserves to be characterized as a northern civilization. So, it is impossible even to imagine Russia without a new program to cultivate and promote life under conditions of the Far North. A very important feature of such cultivation and promotion of life above the Arctic Circle, is the idea of development corridors, elaborated by LaRouche and his group, as well as the ideas of "technopolis" and "technopedia-polis" (a technology-oriented city with an emphasis on teaching and training). Under such conditions, it is very important to act on the main idea of Vernadsky about the construction of new materials and new types of energy exchange, in order to provide population density in such territories. The very possibility of increasing the density of habitation in such territories, and of organizing modern settlements in certain delimited areas there, demonstrates the expanding scale, on which the space of our planet may be reorganized.

At present, the Center for Strategic Projects and Analysis, in the Northwest district among the seven national districts (each with its Presidential representative), is organizing the preparation of a new program for redeveloping and mastering the territories above the Arctic Circle. It goes without saying, that Vernadsky's distinction between living and non-living

systems is most intriguing in this context, as it relates not only to the fate of living matter in the universe, but also to the problems of artificially created entities and their naturalization, as well as the naturalization of artificial quasi-living products, created by sophisticated human efforts.

The main problem of our political life in Russia, at present, is where, and exactly how, it will be possible to organize real change through action. In my opinion, we have only one such possibility. We can do this on the level of the regions, the seven districts established under the plenipotentiary representatives of the President. At the level of federal policy, we have a continuation of Yeltsinism and a total deadlock, because all of our important policies have been totally destroyed. We have no industrial policy, no policy for the development of fundamental research, and no education policy. One might say that, on this level, too, we have the problem of distinguishing between living and non-living systems, which was so important for Vernadsky—but, in a different sense, in the sense of the Christ's words, "Let the dead bury the dead."

The elaboration of concrete projects is currently possible only at the regional district level. Precisely here, there is a possibility to have live contact with the country as a whole, and with its territories, and not to be encapsulated in the ivory tower of federal policy. On the district level, it is very important to find the social and cultural, and simultaneously the technological answer to the question of how the country as a whole will and should develop.

There have been some interesting and inspiring initiatives. For example, in the Volga District a commission has been organized for the development of the entire space of this region, and this commission was explicitly modelled on the legacy of Vernadsky's commission, which worked on the siting of productive forces in the whole country. On the federal level, so far, we have done nothing but destroy the country's political and information space.

In order to bring these programs and projects to life, we need a new, different kind of education and a new, different professional structure. The real challenge here, is to bring about a professional revolution—a transition from the pseudo-industrial type of employment, which was partially the heritage of the Gulag, to an innovative type of employment. Thus means developing not a narrow specialist with his "one-track mind," but a broadly-oriented, multidirectional mind and personality. In order to achieve this, we must restore and develop the education of engineers, medical personnel, teachers, and scientific researchers. The pivot of a professional revolution will be to design a paradigm of thinking and project-making, which incorporates the ability to work with the future. In order to organize such a professional revolution in education, it is very important to answer an old question, which is also a new one: What should be the strategic forms of employment for new undertakings in Russia, especially for young people, wherein the term of each project is not less than 25 years?

## 'New Deal' for Russia

In Russian, this idea of “*novoye delo*”—a new cause, new enterprise, or new mission—expressly resonates with Roosevelt’s “New Deal” (the linguistic root is the same). It must be determined collectively, what Russia’s own, national new cause is to be, and it is very important to characterize such an undertaking, by identifying its seven most important facets.

- The mission, seen through the prism of the efforts expended and capabilities developed; in other words, *experience*.
- The mission, seen through the prism of personal development, education, and training; this means a *profession*.
- The mission, seen through the prism of others’ utilization of the results and products, accomplished by an individual person; this is *labor*.
- The mission, seen through the prism of resources, methods, approaches, instruments, and technologies; or, *activity*.
- The mission, seen through the prism of project-drafting, conceptualization and planning of the future (future actions); this is *thought*.
- The mission, seen through the prism of a person’s confidence that tomorrow will come, and that he will enjoy social protection; that means *employment*.
- The mission, seen through the prism of trade, commerce, and exchange; or, *business*.

There are very important political changes taking place in post-Yeltsin Russia. It is now clear to a rather large number of people, that Russia cannot adopt or borrow ways of life from outside. Russia cannot imitate or replicate another country’s pattern of action; there is no such pattern. Therefore, the people of Russia must set their own goals, and determine the mission of Russia. It is impossible to formally deduce these goals and aims. The mission of Russia consists in launching a new civilization, together with the other countries of Eurasia. Perhaps one should say “a multicivilization,” because Eurasia itself is an eternal dialogue between different civilizations.

The main idea of this new multicivilization lies in the cultivation of new ways of life, and in mastering space and time across the vast territories of Eurasia. The northern territories, the ocean floor, marine resources, geological prospecting by satellite, resource- and energy-saving technologies, new kinds of nutrition and food, new kinds of engines, new types of transportation, new energy sources, new technologies in education, and a new style of life—all these things can become reality, within an innovative economy in the center of Eurasia. There is a huge demand for all of these things in Eurasia, and they all exist in embryo, in the not-yet-developed innovation economy. As of yet, however, we have not officially declared the mission of Russia. Real goals, not just for how, are lacking. Thus, I can say that it is very difficult to do something with Russia, if it is viewed only as if it were a bureaucratic corporation.

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Ramtanu Maitra

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## Central Asia’s Role In the Land-Bridge

*Ramtanu Maitra is an Indian engineer who headed EIR’s bureau in New Delhi during the 1990s, and currently writes on Asian economics and politics for EIR from the United States. His detailed discussion of the problem of water management in the Central Asian Republics, is excerpted here.*

The Second Eurasian Land-Bridge, which starts off from the east coast of China and connects Europe through Iran and Turkey, passes through the volatile and impoverished nations of Central Asia. The Land-Bridge, at this point nothing more than a long railroad carrying passengers and goods from point to point, passes through Central Asia without making any significant contribution to its economy. But in the future, Central Asia could become a developmental hub. The region’s advantages are its natural reserves, toward which the entire developed and semi-developed world is looking with great expectation. With the oilmen in charge of Washington now, Central Asia will be very much in focus for oil and gas—the energy sources to which the world still remains very much attached.

While sparsely populated Central Asia, with about 30 million people, is a prime candidate for development and future prosperity, it is also a dangerous territory, and is becoming more so every day. Exploited by the erstwhile Soviet Union for decades for its resources and fertile, though small, agricultural land to raise cotton, the area has remained impoverished. Its water resources have been damaged almost beyond repair; land has been eroded; and, manpower remains virtually unskilled. While the area produces an enormous amount of poppies and water-thirsty cotton, it produces much less food grain than its population needs. . . .

### What Ails Central Asia

The Central Asian nations have problems which are unlike those of many African nations with which they are often grouped as so-called newly independent states. Only a little more than a decade ago, the area was under the now-defunct Soviet Union. The rivers belonged to one entity. With its

