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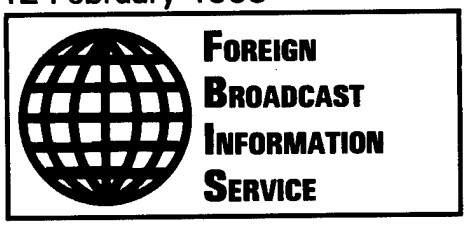

JPRS Report

Science & Technology

Central Eurasia: Science & Technology Policy

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JPRS-UST-93-001 *12 February 1993*

CONTENTS

MISCELLANEOUS

AWARDS, PRIZES

Russian Academy of Sciences President Osipov on Past Year's Problems

937A0071A Moscow ROSSIYSKAYA GAZETA in Russian 29 Dec 92 pp 1, 4

[Article by President of the Russian Academy of Sciences Yuriy Osipov: "The Academy Sustained Losses, But Held Out"]

[Text] The deep crisis in the country was naturally projected on the life of the RAS [Russian Academy of Sciences], creating quite unusual problems for domestic basic science. I should speak about several of them in greater detail.

Fundamental changes occurred in the financing of science, which led to its genuine impoverishment, as well as the impoverishment of the academy. This began back in 1990, but the cave-in has occurred precisely now. The rate of inflation substantially led the increase of earmarked allocations. As a whole the amount of base financing of the RAS from the state budget came together with the regional departments to 12.7 billion rubles [R]. Institutions of the academy received about R4.5 billion more through state scientific and technical programs, from the reserve of the Ministry of Science, the Higher School, and Technical Policy, and from other budget sources. Even by taking the most modest conversion factors and taking into account only the official, centralized increases of the wage, we will find that the amount of financing in comparable prices decreased in 1992 as compared with 1990 by a factor of approximately 2.5.

In 1992 the process of "the brain drain" has been increasing at the academy. The reduction of the number of personnel of the academy came for six months to 9.8 percent. It is a matter of hundreds of young capable people and experienced specialists, who are going abroad or are transferring to commercial structures. Their departure from scientific institutions, particularly of young people, threatens our science with catastrophic consequences.

On the other hand, the influx of young people to scientific institutions of the RAS decreased. During the past year it came to a little more than 1,000 people. The training of scientific personnel along the lines of graduate studies continues to decrease.

Publishing is experiencing a crisis. At the end of 1991 and the beginning of 1992 it was possible to assess the situation here as catastrophic. The Nauka Publishing House and the publishing, printing, and book trade association actually proved to be financial failures. The avalanche decline of the publication of books, as they now put it, occurred, serious interruptions in the publication of journals began. As a whole for the association the publication of scientific literature decreased as compared with 1988 by a factor of 2.5. The academy was faced with the need to seek subsidies in the many millions of rubles to compensate for the losses from the publication of books and journals.

A grave situation formed in the area of international scientific ties. The basic efforts here were aimed under the conditions of the acute budget deficit and the lack of currency financing at preserving foreign ties, at not losing longstanding partners, as well as at mobilizing the international scientific community for the preservation and development of basic science in Russia.

In a number of cases we used new forms of interaction. Within the framework of an agreement with the U.S. National Academy of Sciences 13 priority directions of joint work were singled out. Such forms of cooperation as direct institute ties, the establishment of "twinned" and joint laboratories, and work on the implementation of comprehensive programs on the basis of allocated grants underwent development.

Ties with the academies of sciences of neighboring foreign countries became a new problem for us. With respect to many scientific directions they were actually broken off, while being retained at the level of individual institutes and scientists. And reassuring things have appeared only recently. The draft of agreements among the academies, which regulate their interrelations, has been drawn up. A number of agreements have already been concluded.

President of the Academy of Sciences of Ukraine Academician B.Ye. Paton came out with the initiative to establish the Association of Academies, which is open to the academies of sciences of all the countries of the CIS and the goal of which will be the organization and maintenance of horizontal ties for the purpose of the coordination of activity, the establishment of interstate science centers, and the establishment of a common scientific space. This proposal was supported by the majority of academies of sciences.

As is known, the Edict of the President specified that the RAS is the highest scientific institution of Russia and an all-Russian self-administered organization, which operates on the basis of legislation and its own charter. However, the concept "all-Russian self-administered organization" today is purely declarative. Legislative acts on this question have not yet been passed. Moreover, as it seems to me, a significant portion of the members of the academy are of the opinion that the status of a self-administered state organization, to the complete economic disposal of which all the property, which it now possesses, is turned over, suits it most of all.

The interaction of academic and VUZ science is of exceptional importance for a high level of science in Russia. Institutes and scientific centers of the academy have already gained experience in cooperating with the higher school; it is possible to name the educational scientific associations based on the Ural Department of the RAS and the Ural State University. An educational scientific production complex of a new type is being

organized on the basis of the Pushchino Scientific Center—Pushchino State University. It will be oriented toward the training and advanced training of specialists in the field of molecular biology and biotechnology, systems ecology, and enterprise in the area of science-intensive technologies and a number of other promising directions. The Volga River Region (Samara), West Siberian (Novosibirsk), Buryat, Tomsk, and Nizhniy Novgorod complexes are at the stage of establishment.

We should change over to fundamentally new forms of interrelations with higher educational institutions, which correspond to the present stage of the integration of science and education.

In speaking about the difficulties experienced by the RAS during the past year, it is impossible not to say that we ourselves often aggravated the situation. We spoke the entire year about the necessity of the reasonable, cautious reform of the academy, understanding and explaining that this necessity is not a new ideological bugbear, that it is dictated by the essence of the matter and by the interests of science itself.

However, extremely few serious steps have been taken on the reorganization of institutes and the revision of their structure. The aspiration to wait through and postpone unpopular and truly very painful "surgical" decisions, though making it possible to prolong the relatively calm, conflict-free life of the administration of institutes and scientific centers, can lead only to the gradual actual discontinuation of research activity and to the spontaneous disintegration of scientific collectives.

Apparently, there is also a need to analyze the entire network of scientific institutions of the RAS, which has formed today, and to consider the advisability of the independent existence of several relatively small organizations, especially among those which were established in the last two to three years. Often the independence of such institutions, which are maintained at the expense of the budget of the academy, is groundlessly expensive due to the high overhead.

The analysis of financing at the academy in 1992 and of the prospects of the development of the economy in the country in the immediate future shows that it is hardly realistic to count fully on budget financing in 1993. And although in matters of the state support of the academy substantial progress has begun to show, it is necessary to be pragmatists and not to sit idle.

First of all the most important directions of basic research have to be determined and priorities have to be clearly formulated. This research should, undoubtedly, be supported from the budget of the academy. For the financing of applied development it is necessary to seek, as a rule, nonbudgetary sources and new forms of organization.

The proposal on the establishment of so-called state science centers is one such idea. It has aroused considerable interest at institutes of the academy. The presidium of the RAS discussed it carefully. The idea has the unquestionable right to implementation, provided the base for the center is correctly chosen. The Central Aerohydrodynamics Institute—a prominent institute, the contribution of which to the development of aviation and the science and technology, which are connected with it, it is impossible to overestimate—could, for example, be such a base. However, when the Ministry of the Aviation Industry, which supplied this institute, disappeared, the Central Aerohydrodynamics Institute was cut off from the life support structure and from ties with related organizations. It is possible to group them together and depending on the tasks posed by the state to determine state support. Then the collective of scientists, who are capable of doing unique work, would be preserved. Thus, it is both possible and necessary to establish science centers on the basis of prominent collectives similar to the Central Aerohydrodynamics Institute or the Institute of Atomic Energy. Though, of course, not en masse, but individually.

The academy should strengthen its role in society and the state. It is a matter not on serving politics, but of giving society an in-depth analysis of the processes taking place and recommendations on practical activity.

Just recently the economics department prepared a large report on the reforms being carried out in the country. It is possible to dispute its content, but as a whole this is the path which the academy should also take further. The difficulties and contradictions, which are connected with the process of conversion, are well known. We need not only practical recommendations, but also a theoretical understanding of the essence of this new problem for our country. And scientists of the academy of sciences can be helpful in this work. The RAS should also play a leading role in the formulation of ecological projects. All in all the theme "Ecology and Society" is so multilevel that tens of our institutes should participate in it, revealing the various aspects of this important national economic, political, and social problem.

Our political science and history institutes can be an important partner of governmental and parliamentary structures in the elaboration of the concept of national interests and national security and in the formulation of foreign policy. Academic science is called upon in these cases to act as an expert who gives alternative suggestions and solutions. And, it seems, there are now reassuring changes in this area.

I think that we should continue the work on the democratization of our academy. To a significant extent the process of democratization is connected with the scientific atmosphere at academic institutes. The scientist, with his right to scientific inquiry and the scientific result, should be the central figure.

The past year could not but be extremely difficult for the RAS. But the academy did not collapse—and this is the main result. It sustained losses, but held out as the highest scientific institution of Russia, as the main source of basic knowledge. The academy—owing to the devotion of scientists to their cause—is retaining a high potential and prestige in the world scientific community. Its contribution to world science remains very significant, in a number of directions it is decisive.

If the state does not take quick and resolute steps to support science, it will lose this strategic resource. The destruction of the scientific potential and its core—basic science—will throw Russia back into the category of third-rate countries. Statesmen should approach with such an understanding of the importance of basic science the question of the role and place of the RAS in Russian society.

But the academy itself is also obliged within the framework of the available resources and assets to seek persistently a solution of priority problems. One of them is to retain scientific collectives and capable young people. We are obliged to support in every possible way people who think in an extraordinary way and freely. I think that an atmosphere of scientific freedom and tolerance and the advancement of new interesting ideas and programs are the best guarantee that the people, who by conviction come to science, will remain at institutes, in spite of the difficulties which together with Russia we are experiencing.

Pokrovskiy Report on RAS 1992 Annual Meeting

937A0068A Moscow PRAVDA in Russian 25 Dec 92 p 2

[Article by Anatoliy Pokrovskiy: "To Whom the Science of Russia Is Dear. Notes From the General Meeting of the RAS"]

[Text] American businessman George Szoros, of course, did not read the report of our Academician Yuriy Osipov. And he probably will not read it. It is no great secret what it could now have been a question of in the report of the president of the RAS [Russian Academy of Sciences] at the general meeting of academicians. Szoros simply proposed to establish an international fund for the support of science on the territory of the former USSR. And he allotted for this neither more nor less than $100 million.

The gesture seems to be a generous one, but it is worth taking a look at the roots of the altruism, which is unexpected for a business person. Millions will rain down not without rhyme or reason, but on a competitive basis: Submit an application, substantiate on what the currency will be spent, and an international commission with the participation of American specialists will decide whether the game is worth the candle. Honestly, one does not regret forking out millions for such deep probing of the potential of our science in general and its individual representatives in particular. For science of the former Soviet state in many respects set the tone for world research.

But what is there now? "The academy did not collapse—and this is the main result," the president believes. And further he tries to show this on the basis of specific facts. But with him this turns out strange, with a sort of sad refrain. For example, in the area of physics he talks about the use of the unique academy RATAN-600 and BTA telescopes in the international program for the study of data on the basic characteristic of the geometry of earth as the greatest achievement. And he adds: "Material difficulties did not make it possible to implement measures on maintaining the potential of the unique instruments at an advanced level."

He proceeds to power engineering and notes that the scientific substantiation of a new generation of steam-gas power plants with the highest efficiency was carried out. It is possible to develop them in two to three years and to ensure a breakthrough in the generation of electric power with the minimum ecological costs. And there follows then and there a "however": "However, the lack of financing is dooming the program to a slow death or to the gradual transfer abroad of everything that has been accumulated."

And so it goes with regard to all the sections. Whether it is a matter of the development and purchase of scientific instruments, the conducting of scientific expeditions, the maintenance of the scientific fleet, or, finally, the pay of scientific workers, which is causing the precipitate "brain drain." While at the end of the report, apparently, having given up the customary pattern "there are achievements, however," he said frankly and without hedging:

"During all of 1992 we worked under the conditions of crisis phenomena in the sphere of science. These phenomena are assuming a scale that is dangerous for the existence of the Russian Academy of Sciences. A 'brain drain' from scientific institutions is occurring, the level of the social protection of scientists is decreasing, their prestige is declining. Science is ceasing to be appealing to young people and young people are not coming to the academy, as was the case even in the recent past. The allocated state budget financing was sufficient only for the most part for a meager wage. Nearly three-fourths of these funds were spent on the payment for services and the leasing of premises. Instruments, materials, and scientific literature are already becoming for us a practically unaffordable luxury. Major scientific experiments, field tests, and expedition work are coming to a standstill. Long established international ties are being severed. The impoverishment of academic science is occurring. Our scientists have acquired the persistent status of paid guests of their western colleagues....

"The new Russia inherited from the USSR world-level science, with which only science of the United States can compete on equal terms. The creative potential of the

Russian Academy of Sciences not only is of enormous value to all mankind, but is also a most important strategic resource of the Russian state.

"If our state does not take quick and resolute steps for the support of science, it will lose this strategic resource.... But the academy itself is also obliged within the available resources and assets to seek the solution of priority problems."

And here another new pain, which is common to our entire country—the aspiration to cut oneself off from the center with ethnic and regional fences—was added. So that the final questions of the general meeting—on the charter of the RAS and on the statute on the departments of the RAS—acquired a far from formal ring. As a result, for example, the transformation of the Bashkir scientific center into the Ufa scientific center, which now, bypassing the Ural department, is directly subordinate to the RAS, was approved at the general meeting.

Scientists, one must presume, will find the strength to cope with the misfortunes which have befallen them. The initiative of Academician B. Paton, president of the Academy of Sciences of Ukraine, especially inspires such hope. He proposed to establish the Association of Academies, which is open to the academies of sciences of all the countries of the CIS. In this way scientists themselves will establish horizontal ties with each other in the name of the coordination of their activity and the establishment of interstate scientific centers and a common scientific space. This proposal was supported by the majority of republic academies, while the academies of sciences of the republics of Central Asia, Kazakhstan, and Azerbaijan have even already organized a council for the solution of regional problems and have invited the RAS to participate in its work.

Say what you like, but there are enough clear heads in academic circles. And one can believe that they will find a way out of the crisis, in which they have found themselves not of their own will.

Russian Academy of Sciences To Give Up Ural Department Institutes

937A0060B Moscow NEZAVISIMAYA GAZETA in Russian 8 Dec 92 p 6

[Interview with Vice President of the Russian Academy of Sciences Academician Nikolay Laverov, by Murat Urmancheyev of the press service of the Russian Academy of Sciences, under the rubric "Science"; place and date not given: "The RAS Will Transfer Institutes of the Ural Department. A Step Toward the Ending of the Conflict of the Academies Has Been Taken"; first two paragraphs are NEZAVISIMAYA GAZETA introduction]

[Text] On the invitation of Murtaza Rakhimov, chairman of the Supreme Soviet of the Republic of Bashkorostan, a delegation of the Russian Academy of Sciences headed by Vice President Academician Nikolay Laverov visited Ufa. Questions of the ownership and status of the scientific institutions of the RAS [Russian Academy of Sciences] in Bashkorostan were discussed at the talks.

As is known, the Supreme Soviet of Bashkorostan in October of this year adopted a decree on the nationalization of all 12 institutes of the RAS in the republic and on their transfer to the jurisdiction of the recently organized Academy of Sciences of Bashkorostan, as well as on the dismissal of all the directors of the institutes. Was it possible during the official visit to resolve the conflict which had arisen in connection with this?

[Laverov] There was no decision on the nationalization of the property of the Russian Academy of Sciences, Academician Laverov stated. In one of the points of the decree it is noted that it is necessary to settle the questions, which are connected with the status of academic institutions and their management, jointly with the Russian Academy of Sciences and on the basis of the prevailing laws of the Republic of Bashkorostan and the laws of Russia.

During our meeting with Mr. Rakhimov an understanding on the transfer of the institutes of the Bashkir Scientific Center of the Ural Department of the RAS to the jurisdiction of the Russian Academy of Sciences was reached. Murtaza Rakhimov promised to give the institutes of the RAS financial support on the condition of the organization of cooperation of the two academies on the basis of the corresponding agreement. We supported this idea.

[Urmancheyev] Thus, are there no problems?

[Laverov] Not entirely. Whereas at the level of the leadership of the RAS and the Supreme Soviet of Bashkorostan there is an understanding of how it is necessary to act, serious conflict exists between Prof. Oskar Kaybyshev, president of the Academy of Sciences of Bashkorostan, and Academician Genrikh Tolstikov, chairman of the presidium of the Bashkir Scientific Center of the Ural Department (UrO) of the RAS. The representatives of the two academies behaved tactlessly with respect to each other. At first Professor Kaybyshev issued an order on the transfer of the institutes of the RAS to the Academy of Sciences of Bashkorostan, in turn Academician Tolstikov in conformity with the prevailing laws of the Russian Federation and the charter of the RAS prohibited anything to be transferred.

We proposed together with the Academy of Sciences of Bashkorostan and its organizations in Ufa also to have institutes of the Russian Academy. But the center, which unites them, should be called not the Bashkir, but the Ufa Scientific Center of the RAS. If in December 1992 the general meeting of the RAS approves this proposal, which, incidentally, was adopted by the presidium of the RAS on 10 November 1992, one part of the conflict will thereby be resolved.

The second question is how to coordinate scientific work in Bashkorostan. In my opinion, an agreement between the Russian Academy and the Academy of Sciences of Bashkorostan is needed, otherwise the conflict will continue. It is necessary to specify precisely the types of the work which institutes of the Russian Academy of Sciences, on the one hand, and the Academy of Sciences of Bashkorostan, on the other, will perform.

If the confrontation continues, it may reach the point that a center of the Russian Academy of Sciences will not be left in Bashkiria, the estrangement of scientists of Bashkorostan and Russia will result.

[Urmancheyev] Does the atmosphere of your talks testify that the matter is coming to reconciliation?

[Laverov] The first step has been taken. It is also important that during the meetings with the members of the presidium and with the directors of the institutes of the Bashkir Scientific Center everyone spoke in unison for direct contacts with the Moscow department. No one expressed the desire to keep the institutes in the Ural Department of the RAS. I hope that the general meeting of the RAS will make a wise decision and will transform the Bashkir Scientific Center of the Ural Department of the RAS into the Ufa Scientific Center of the RAS. Especially as the Kazan Scientific Center, which goes directly to the Russian Academy, is operating normally in Tatarstan, which is adjacent to Bashkiria. In Tataria they retained for Russia what is assigned as a whole to federal jurisdiction and singled out what is directly connected with the republic. It is also possible to cite the following example: In the capital of independent sovereign Kyrgyzstan—Bishkek—a special design bureau of the Institute of Space Research of the RAS and a department of the Institute of High Temperatures of the RAS are operating normally. Why is a similar thing impossible in Bashkorostan?

[Urmancheyev] Thus, will there be no more talks before the general meeting of the RAS?

[Laverov] The general meeting should play a decisive role in the resolution of the conflict. And then it is necessary to take the next step—to prepare an agreement with the Academy of Sciences of Bashkorostan on cooperation. And if the charters of the two academies are similar, it is also necessary to consider the suggestion of the leadership of Bashkorostan that the RAS take upon itself the scientific methods supervision of this academy. Earlier the USSR Academy of Sciences carried out such supervision of the academies of the former union republics. I consider such an arrangement within the Federation to be correct.

Third-World Orientation for Russian Science Advocated

937A0061A Moscow MOSCOW NEWS in English 15-22 Nov 92 p 9

[Interview with Yevgeny Golovlyov, Director of the Pushchino Scientific Centre of Biological Research, Russian Academy of Sciences, by Leonard Nikishin, MOSCOW NEWS correspondent]

[Text] **MN: Do you agree that the present-day situation in Russian science is utterly unprecedented? Scientists have turned overnight from being an elite into outcasts. The brain drain has been gaining momentum with each passing day. The nation's intellectual might is visibly melting away.**

Ye.G.: Judging by the tenor of your question, you are waiting for objections. But matters are not better, but even worse than you think. The West is eager to receive representatives primarily from the fundamental science. These are theoreticians, quite often of a very high level, dealing with theoretical research. For instance, the whole body of researchers from a laboratory at the Institute of Biological Physics in Pushchino has emigrated—they were busy studying the theory of oscillations and autowave processes.

MN: Whole laboratories are leaving, that's how it is.... But when there is a need to choose between abandoning scientific activity altogether or emigrating, who will throw a stone at whoever opts for the latter? However, the following is what is interesting: these research projects are not relevant for our society today, but why do they need them over there? Don't they find an application for their money?

Ye.G.: They estimate the game many moves ahead. To explain my point, let me tell you of a specific case from my own practice. When still a young researcher, I was given the honour of addressing a prestigious seminar in the USA, this was at the University of Wisconsin. Well, of course, I proudly told them of an important result of our research: how a definite microbe was turning a definite hydrocarbon into a monomer from which a heat-resistant polymer was then obtained. The audience included scientists of world renown and they were obviously bored as they listened to me. I was taken aback, of course, and only later did I come to understand that they were not a bit interested in what a remarkable polymer I found. When I finished my statement, there was a question, what do you think, why does the microbe need this? This is what preoccupied them: what is a microbe in general? What was the dynamic system of chemical reactions? The cybernetic system? From a reply to this seemingly abstract question there might emerge fundamentally new methods of control over microbiological processes. And "they" value our brains precisely for this abstract theoretical knowledge.

Today we are losing the scientific potential capable of posing precisely such questions and finding answers to them. This potential is unique, and I cannot in general understand how it could have arisen in our not-very-developed country. Previously the state shouldered the burden for developing this potential, but what environment, what infrastructure should these concerns be inscribed into today? The tragedy of our academic science is that it is not consistent with the society in which it has existed until now: in effect this was the now anecdotical "satisfaction of curiosity at the state's expense." Today, however, we shall have to "inscribe"

academic science into the new society—one which is only being moulded. And we must necessarily contrive to do this, because it is pointless to try and launch some reforms in the structure of the Academy of Sciences. There is a need for the kind of environment which will dictate to science the laws of its existence from without. Certain "gravitational fields" must be created outside research institutes.

MN: Don't you think that the best thing to do would be, without further ado, to accept the Western system of organizing fundamental research? Why shouldn't scientists be concentrated at universities?

Ye.G.: In principle this is correct. You take a poverty-ridden university, join to it the laboratory possibilities of the Pushchino Centre—and you get a normal Oxford. How do matters stand in the West? Over there an extra-class researcher heads a university chair and has two or three staffers under him. On getting a grant for research he hires about 20 supernumerary members of the staff. Moreover, he must lecture during the process.

MN: And at the Pushchino Centre, are there any reforms along these lines in the offing?

Ye.G.: We are ready to set up a higher educational establishment fitting the Centre's profile. And we have been working on this project for a long time.

MN: But all this calls for long and painstaking work. This will not stop the "brain drain": many will simply refuse to wait.

Ye.G.: We have thus again returned to the theme of the "brain drain." But is it bad or, conversely, good? If we are going to join the community of developed nations then, excuse me, what kind of drain is it? This is a contribution to the common treasure trove, to world reason. And we don't need our "own" science. But don't you feel that the West is not indifferent to how the process will unfold further on? Because even if we do not have our own SDI, our own KGB, even our own army in the final analysis, but have our own science—we shall also have our own advanced technology. And in today's world this decides everything. Our independence will be guaranteed. Our peasants, industrialists and business people will not depend on a market where the "tune is called" by someone else. Here is a simple example for you. Why produce our own medicines if they can be manufactured by the Hoechst and Sandoz transnational companies? There remains, it is true, one small question: will our wages be enough for aspirin from Hoechst? So that the question about our own science, as one classic of the era of totalitarianism used to say, is a political question. I am saying this on the basis of regularly reading the reports of the World Resources Institute. I know that the planet's resources will not be enough for everyone to live as they do in Switzerland. There will be a need to conserve, save and have our own aspirin, not one from Hoechst.

There is another negative aspect to the problem. Today the scientists going West one by one are being assimilated and dissolved into the world community. Many of them have been lost to our science for good. Why, in this context, shouldn't we think about concluding contracts with other countries by which whole bodies of researchers may go to work abroad? The USA will certainly take exception to this, yet many Third World countries might be interested in this. Someone, let's say, will want to escape the influence of another country, someone else will need "brain support" in the field of fundamental sciences or in the practical solution of intricate problems.

It could be possible to think of organizing jointly with Third World countries technology pools or research centres. In this case our scientists would go to other countries and work there for two or three years, not losing their citizenship, not being dissolved in an alien environment and speaking Russian most of the time. And most importantly, they would deal with research in line with their own pursuits. But what do we see now? In the overwhelming majority of cases, those who go to the West on contracts enjoy a much lower social status there than what they deserve according to their scientific rating (or else they totally abandon scientific activity). And we sometimes receive sad letters from there: I am working at a form, I am getting paid three times less than my colleagues holding the same positions. Moreover, I am being told that this is only fair—you can't enjoy in full measure the benefits of a civilization which you haven't created. It is not accepted to discuss the problems that arise with colleagues, in general I feel like missing the "tea parties" at our laboratory....

It may be that the establishment of Russian "scientific diasporas" abroad amounts to the only acceptable way in the existing situation....

Our scientific integration with the Third World may prove to be of overriding importance in developing a new concept for the rational use of resources on a global scale. It is useless to develop this concept jointly with developed nations.

MN: I would like to know why....

Ye.G.: Because, however sad it is, we present an interest to the Western world primarily as a source of raw materials. There is no point in deceiving ourselves and harbouring an illusion that in a few years we shall become their full-fledged partner in the civilized market. For still a long time to come we shall live by means of actively selling our resources, whereas they will shove to us ecologically not very clean average-level technologies. And this is their normal logic, you must understand it. The architects of the philosophy of liberal democracy proclaimed: man is free in his actions in relation to anybody. The only regulation is on the authorities' part alone, who place him in conditions where he does no harm to others. It is not worth counting on their Platonic love for us. In the pursuit of practical policy, we must not

give our resources for a song (this is exactly what is happening today) and not permit the ruination of the environment. Developed communities must pay a fair price for resources. The Third World is now tending to unite to secure this end. But who shall we be with? Shall we throw a "ring buoy"—our cheap raw materials—to the West? Or shall we join hands with the Third World, so that West-East contention will give way to North-South contention? The truth is that the West cannot be interested in global control over resources.

MN: Yes, perhaps you are right. The USA's refusal to become a party to the International Convention on Biological Diversity, which was signed in Rio de Janeiro, has shown this clearly enough....

Ukraine Devises State Policy for S&T Development

937A0048A Kiev PRAVDA UKRAINY in Russian 12 Nov 92 p 2

[Interview with Candidate of Technical Sciences Vyacheslav Pavlovich Solovyev, deputy director of the Center for Studies of the Scientific and Technical Potential and the History of Science imeni G. Dobrov of the Academy of Sciences of Ukraine, by Olesya Ignatenko, under the rubric "Science"; place and date not given: "Survival or Transformation?"—first four paragraphs are PRAVDA UKRAINY introduction]

[Text] That is how the question stands with respect to the scientific and technical potential of Ukraine, which, as in any other country, determines the efficiency of its economy.

Our "transition to a market" has been rather chaotic and, unfortunately, has been taken into too little account the scientific and technical factor. At the same time one should be reminded that a social organism, which is not capable of changing technologically, is doomed.

On the basis of this, the Academy of Sciences of Ukraine jointly with the State Committee for Science and Technologies drew up a draft of "The Concept of State Science and Technology Policy of Ukraine at the Stage of the Transition to a Market (1993-1995)." Our theorists of science came out it at the recently held 14th International Symposium Devoted to the Interrelationship and Interdependence of Scientific and Technical Progress and the Socioeconomic Development of Society.

The subject of our interview is a participant in this symposium, Candidate of Technical Sciences Vyacheslav Pavlovich Solovyev, deputy director of the Center for Studies of the Scientific and Technical Potential and the History of Science imeni G. Dobrov of the Academy of Sciences of Ukraine.

[Ignatenko] Today the world community is going through a genuine technological revolution, in which scientists and high-class specialists are playing a decisive role. How is it possible to evaluate the scientific potential of Ukraine from this standpoint?

[Solovyev] Unfortunately, it is necessary to admit that the possibilities of its influence on the economy and the social development of the republic are very limited.

In the number of scientific personnel Ukraine is on the same level as Germany, France, and England. But if we talk about the overall evaluation of the level of technological development, we lag behind them by a factor of approximately three to five.

The tendency for both quantitative and qualitative characteristics to worsen continues to intensify. The intensive departure of young people for other spheres of activity is occurring. The "brain drain" abroad is increasing. And the very prestige of scientific labor is now not that great, in connection with the sharp decrease of both material and moral stimuli. While the capital-worker ratio of science, which does not satisfy the real needs, is impeding its development. According to our estimates, now in Ukraine only 6,000-7,000 scientific workers with respect to the opportunities afforded them and with respect to their professional qualities can work for the achievement of the goals of scientific and technical modernization. This is very few.

Back in the 1970s in Ukraine the influence of scientific and technical progress of the increase of the efficiency of social production stopped. Technological backwardness and low labor productivity, a high resource-and power-output ratio of the gross national product were a consequence of this.

[Ignatenko] What is it necessary to do so that science, having consolidated its positions, would help to accomplish the economic breakthrough that is so necessary for Ukraine?

[Solovyev] First of all, a scientific and technical policy of the state, which has been thought out in detail, is necessary. At the transition stage it should be oriented toward the priority support of the scientific directions that are of primary importance for the solution of the problems of the socioeconomic development of the country. Today the reproduction process is still aimed at the resuscitation of what is old and has long been obsolete. That is, a repair type of economy, typical of which are: negligible expenditures at the stage of development, large expenditures at the stage of production, and even larger expenditures in the process of operation, predominates.

As world experience testifies, the expenditures on science should be comparable to production expenditures. So far in our country they are substantially lower as compared with industrially developed countries. The minimum amount of the budget allocations for science should come to not less than 5-6 percent of the national income. Moreover, the financing of basic, noncommercial science is the concern of the state. While it is time for the sphere of production to deal with the financing of

applied research and development. The state, by creating for both large and small enterprises favorable legal and economic conditions, can obtain one and a half-fold to twofold more assets for innovation activity.

This will make it possible to replace the extremely harmful concept of survival, which leads to the regress of society and is based on the remainder principle of expenditures on science, with the fundamentally new concept of the qualitative transformation of the scientific and technical potential and the development on its basis of a highly efficient economy.

[Ignatenko] Then will market relations also probably begin to stimulate the development of science itself?

[Solovyev] Indeed, given a civilized market mechanism the steps of the state, which are aimed against the increase of prices, as a rule, promote the search by producers for possibilities of reducing the product cost. Here science itself will also become more flexible on the thematic level and will adapt rapidly to changing conditions.

[Ignatenko] Today various models of the subsequent scientific and technical development of Ukraine are being proposed....

[Solovyev] In order to become a developed European state, we will have to replace the nature-exploiting and militarized model of development with a socially oriented science-intensive and technological model. But the market in this case is just one of the most important means of the restructuring of the economy, not an end in itself.

If we direct attention to the model of the CIS, its idea is for the governments of the independent states to move toward the strengthening of contacts between scientists and specialists of these countries. Since the historically established multilevel ties in the majority of cases are advantageous, it is in the interests of everyone to preserve them.

Another possible model, "World Cooperation," is aimed at the active participation of Ukraine in the international division of labor and in the extensive exchange of the latest scientific results and technologies. This, beyond a doubt, will require the radical increase of the quality of our entire scientific potential.

As a whole state policy should be based not on one or two models, but on many mutually complementary models.

The trouble is that the type of market relations, which is being introduced in Ukraine, is antagonistic to science. It is necessary to create such conditions, under which producers would fight for survival on the market, not for the rate of return, as is now being done. Tough competition should dictate higher demands on the properties of the goods being offered. And all this can be ensured only when the economy and market relations have been combined with scientific and technological progress.

Moscow S&T Committee To Encourage 'Technology Parks'

937A0065A Moscow RADIKAL in Russian No 44 (101), Nov 92 p 15

[Article by Nikolay Figurovskiy, correspondent of the press service of the Moscow City Soviet, under the rubric "New Structures": "The Future Is With Incubators of the Innovation Business"]

[Text] On 17 November the question of maintaining the scientific and technical potential of the capital was discussed at a meeting of the Permanent Commission of the Moscow City Soviet for Science and Technology.

The budget financing of research lags considerably behind present requirements. The reduction of staffs is under way. Today it is on the order of 50 percent for academic institutes and 30 percent for the higher school.

The Commission for Science and Technology in recent times has been actively studying means of getting out of the formed situation—at any rate in the capital of Russia. Both traditional versions of activity (the coming out with a legislative initiative on the preferential taxation of scientific institutions and so forth) and nontraditional ones are being considered.

Commission chairman Dmitriy Yagodin pointed out the necessity of changing the system of the financing of science. In his opinion, the state financing of the basic sciences, as well as experimental design work, which is aimed directly at defense purposes, should be completely retained. At the same time the multiple increase of the wage of specialists of these sectors should be carried out.

On the other hand, the all-round commercialization of applied research and experimental design work, which are not directly connected with military products, and their changeover primarily to credit financing are necessary.

Moreover, technology parks, technopolises, and "incubators" of innovations are a very effective form of the organization of applied science, which has given an excellent account of itself in not only developed, but also developing countries. Their strength lies precisely in the fact that they operate on a commercial basis.

An incubator is an organization, of which assistance in the formation of innovation firms constitutes the goal of activity. Schematically it is possible to name the following types of operations which are performed at an incubator:

—the examination of innovation projects, which includes a scientific and technical examination, which determines the novelty and reliability of the proposed project, as well as an ecological examination and a commercial examination (a business analysis, an evaluation of the future market of a new commodity, and the anticipated profit);

—the search for investors and, if necessary, the offering of guarantees;

—the making available on preferential terms of premises, equipment, and pilot production;

—the rendering on preferential terms of legal, advertising, information, and other services.

Technology parks and especially technopolises also offer social services. Here it is important to note that an incubator does not require budget expenditures: Cost recovery is ensured by its sharing in one form or another in the future profits of innovation firms.

The development of incubators of the innovation business as the basis and nucleus of future technology parks and technopolises seems to be the optimum tactical step. Their appearance alongside defense complexes, academic institutes, and higher educational institution (or directly within them) would make it possible to provide a significant number of specialists with creative and high-paid work, without facing them with the necessity of quitting and (what is particularly topical for small cities) departing for other population centers or even leaving the country.

The Permanent Commission of the Moscow City Soviet for Science and Technology will continue the work on the concept of maintaining the scientific and technical potential of the capital. Evidently, in the immediate future its proposals will be submitted for the approval of the Small Soviet.

Russian Government Decree on Basic Research Foundation

937A0068B Moscow RADIKAL in Russian No 45 (102), Nov 92 p 10

[Decree No. 845 of the Government of the Russian Federation of 3 November 1992, "On the Russian Basic Research Foundation," and the Charter of the Russian Basic Research Foundation]

[Text] **The Government of the Russian Federation**

Decree No. 845 of 3 November 1992

Moscow

On the Russian Basic Research Foundation

For the purposes of the development of basic scientific research in the Russian Federation and to execute Edict No. 426 of the President of the Russian Federation of 27 April 1992, "On Urgent Steps on the Preservation of the Scientific and Technical Potential of the Russian Federation" the Government of the Russian Federation resolves:

1. To approve the appended charter of the Russian Basic Research Foundation.

The chairman of the foundation within a month is to submit for approval to the Government of the Russian Federation the personnel of the council of the foundation.

2. To establish that the financing of the pay of the staff of the Russian Basic Research Foundation is carried out by means of the assets of this foundation.

3. The Ministry of Labor of the Russian Federation in consultation with the Ministry of Finance of the Russian Federation within two months is to specify the terms of the remuneration of the labor of the personnel of the staff of the foundation, the procedure and the amounts of the remuneration of the labor of nonstaff experts who are enlisted for the conducting of examinations.

4. The State Committee of the Russian Federation for the Management of State Property jointly with the government of Moscow is to allot to the Russian Basic Research Foundation office premises in Moscow with an area of 2,000 square meters for the accommodation of the services of the foundation.

5. The Ministry of Communications of the Russian Federation and the Federal Agency of Governmental Communications and Information under the President of the Russian Federation are to provide the Russian Basic Research Foundation with the telex, telefax, and long-distance, city, and governmental telephone service which is necessary for its activity.

6. To establish that the personnel of the staff of the Russian Basic Research Foundation enjoy the services of the Medical Center attached to the Government of the Russian Federation in conformity with the procedure and on the terms, which are in effect for ministries and departments of the Russian Federation.

[Signed] Ye. Gaydar

Approved by Decree No. 845 of the Government of the Russian Federation of 3 November 1992

The Charter of the Russian Basic Research Foundation

I. General Provisions

1. The Russian Basic Research Foundation (hereinafter called the foundation) is a self-administered state organization, which was established by Edict No. 426 of the President of the Russian Federation of 27 April 1992, "On Urgent Measures on the Preservation of the Scientific and Technical Potential of the Russian Federation."

The support of enterprising scientific projects is the basic goal of the foundation.

2. The foundation conducts its activity in conformity with the legislation of the Russian Federation and this charter, adhering to the principles of the freedom of basic research and the necessity of improving the working conditions of scientists.

The foundation is a noncommercial organization and does not pursue the goal of deriving a profit.

3. The foundation is a legal person and has an independent balance sheet, a settlement account, a budget (current) account, a currency account, and other accounts at institutions of banks.

The foundation has a seal with a picture of the State Emblem of the Russian Federation and with its own name.

The official name of the foundation is the Russian Basic Research Foundation.

4. The location of the foundation is Moscow.

II. The Basic Tasks and Functions of the Foundation

5. The basic tasks of the foundation are:

the promotion of the development of basic scientific research;

the promotion of the increase of the scientific skills of scientists;

the promotion of the establishment of scientific contacts and the dissemination of information in the area of basic scientific research in the Russian Federation and abroad;

the support of international scientific cooperation in the area of basic scientific research.

6. For the accomplishment of the tasks assigned to it the foundation performs the following functions:

drafts and approves standard documents, which specify the procedure of the consideration of basic scientific research projects, which are being submitted for competition, and the procedure of the conducting of an examination of projects and proposals, as well as other documents which are necessary for its activity;

organizes the examination and the competitive selection of basic scientific research projects;

carries out the financing of the selected projects and monitors the use of the assets allocated for them;

establishes affiliates, branches, and representations, performing with respect to them the functions of a superior body;

carries out in accordance with established procedure publishing and printing activity, the issuing and dissemination of publications and audio-visual products, information and other materials;

places the assets of the foundation in deposits of banking institutions, opens in accordance with established procedure current and settlement accounts at institutions of banks, including foreign banks;

carries out other activity not prohibited by legislation of the Russian Federation, which contributes to the fulfillment of its prescribed tasks.

7. The standard documents of the foundation, as well as the decisions of the foundation on the financing of the selected basic scientific research projects and other proposals are published in the press.

8. The foundation can have its own organ of the press.

III. The Procedure of the Formation and Use of the Assets of the Foundation

9. The assets of the foundation are formed by means of:

state allocations, which are made in accordance with established procedure in the amount of 3 percent of the assets which are envisaged for the financing of science in the republic budget of the Russian Federation;

the voluntary contributions of enterprises, institutions, organizations, and citizens, including foreign legal and natural persons;

other sources of monetary assets.

The assets of the foundation are formed in rubles and in foreign currency.

10. The assets of the foundation are used for:

subsidies (grants) for the financing of enterprising basic scientific research projects, which are being carried out by small scientific collectives and individual scientists;

grants to scientific research organizations and higher educational institutions for the purpose of developing their material and technical base;

stipends and allowances, which are paid to persons for instruction in graduate and doctoral studies, the obtaining of practical training at scientific centers, and participation in scientific measures (congresses, conferences, and so forth) in the Russian Federation and abroad, including for the payment for travel to the sites of instruction, the obtaining of practical training, and the conducting of scientific measures and return;

subsidies for the publication and acquisition to scientific literature, the establishment and maintenance of scientific contracts, including with the use of means of communications (telephone, facsimile, telex, electronic mail), the obtaining of information from domestic and foreign databases;

the pay of the staff of the foundation.

The assets of the foundation cannot be spent for purposes which have not been stipulated by this charter.

11. The use of the assets of the foundation is carried out in the directions, which are envisaged by the budget of the foundation for the current year, and in conformity with the estimates of expenses.

12. The foundation makes assets available on a nonreturnable noncommercial basis.

The assets for the support of basic scientific research are allocated by the foundation on a competitive basis regardless of the departmental affiliation and the legal status of the scientific organization, as well as the age, academic title, academic degree, or position, which is held by the scientist at the scientific organization.

The obligation of the scientist, the group of scientists, or the scientific organization to publish the results of the research, which was conducted using the assets of the foundation, and to make them public property is an indispensable condition of the granting of financial support by the foundation.

13. The foundation in principle refrains from any changes in or additions to the formulations of the scientific projects which are submitted for its consideration.

The foundation does not have scientific research institutions and laboratories and does not bear responsibility for the results of the work that is being performed at the expense of its assets.

14. The assets of the foundation, which were not used during the year under review, are not liable to confiscation, are carried over to the next fiscal year, and are spent for the purposes which are stipulated by this charter.

IV. The Organization of the Activity of the Foundation

15. The council of the foundation, to which the chairman of the foundation, his two deputies, the responsible secretary of the foundation, and the 24 members of the council of the foundation belong, is the highest administrative body of the foundation.

16. The council of the foundation:

submits for approval to the Government of the Russian Federation proposals on changes in the charter of the foundation;

specifies the amounts of the allocations which are being channeled into the accomplishment of the basic tasks of the foundation;

approves the list of scientific directions, in which the foundation announces the competition of scientific projects;

approves the list of expert councils of the foundation and their composition, as well as the general list of experts of the foundation;

makes decisions on the financing of enterprising scientific projects and other proposals;

approves the standard documents which regulate the activity of the foundation;

approves the structure and staffs of the foundation, the composition of the executive committee of the foundation, the budget and the estimate of expenses (including the wage fund), the annual balance sheet, and the report on the use of the financial assets of the foundation;

approves the executives of the basic subdivisions of the foundation;

makes other decisions on fundamental questions of the activity of the foundation.

17. The council of the foundation is authorized to make decisions, if not less than 15 of its members are present at its meeting. The decisions on all questions, except for the making of changes in the charter of the foundation, are made by a simple majority of votes. If there are an equal number of votes, the vote of the chairman of the foundation is decisive.

Proposals on the amendment of the charter of the foundation are adopted by a qualified majority of votes.

18. The meetings of the council of the foundation are held twice a year: on the second Monday of February and on the second Monday of November.

19. Extraordinary meetings of the council of the foundation are scheduled by the chairman of the foundation. The chairman of the foundation is obliged to schedule an extraordinary meeting of the council of the foundation, if not less than 10 members of the council of the foundation demand this. The date and the agenda of the extraordinary meeting of the council of the foundation should be reported to the members of the council of the foundation no later than two weeks before it is held.

20. The deputy chairmen of the foundation, the responsible secretary of the foundation, and the members of the council of the foundation are approved by the Government of the Russian Federation on the representation of the chairman of the foundation for three years.

The chairman of the foundation, his deputies, and the members of the council of the foundation cannot belong to the council of the foundation for more than two consecutive terms.

21. The chairman of the foundation, who is appointed by the President of the Russian Federation for three years:

chairs the meetings of the council of the foundation;

supervises the activity of the executive committee of the foundation;

represents the foundation in all organs, institutions, and organizations;

within the limits of the powers granted by the council of the foundation makes final decisions on fundamental questions of the activity of the foundation;

issues orders, instructions, and directives, which are mandatory for fulfillment by the staff members of the foundation;

in conformity with the labor legislation of the Russian Federation hires and fires the personnel of the staff of the foundation;

has other rights, powers, and responsibility in conformity with the legislation of the Russian Federation.

22. The 11-man executive committee of the foundation is the permanent executive and administrative body of the foundation. The chairman of the foundation, his deputies, the responsible secretary of the foundation, and the executives of the basic subdivisions of the foundation belong to the executive committee.

23. The executive committee of the foundation:

examines all questions, which come under the jurisdiction of the council of the foundation, and submits to the council of the foundation for discussion and approval coordinated proposals;

within the limits of the powers granted by the council of the foundation makes decisions on the financing of resourceful scientific projects and other proposals;

draws up drafts of the manning table of the foundation and estimates of the expenses of the subdivisions of the foundation, as well as statutes which regulate the functions of these subdivisions;

specifies the amounts of the remuneration of the labor of nonstaff experts in accordance with established procedure;

settles current questions of planning, financing, and material and technical supply.

24. The foundation is the main place of work of the chairman of the foundation, his deputies, the responsible secretary of the foundation, and the other members of the executive committee of the foundation. The indicated staff members of the foundation do not have the right to hold the positions of administrative executives (and their deputies) of organizations and institutions, which conduct basic scientific research.

25. For the checking of returns, as well as for the auditing of the property and the financial activity of the foundation the council of the foundation elected for three years an auditing commission made up of the chairman of the commission and its two members.

V. The Accounting and Reporting of the Foundation

26. The accounting and reporting of the foundation are carried out in accordance with the procedure which is established by the legislation of the Russian Federation.

27. In accordance with the results of the year under review the the foundation submits annually to the President of the Russian Federation and the Government of the Russian Federation a report on its activity.

The foundation annually publishes its reports and balances.

The activity of the foundation does not constitute a commercial secret.

28. The year under review of the foundation is established as from 1 January to 31 December.

VI. The International Ties of the Foundation

29. The fund develops and extends ties with international and foreign organizations and foundations, which are carrying out the support of basic scientific research.

For these purposes the foundation establishes direct ties with these organizations, participates in their activity, concludes agreements with them, and establishes joint collectives of experts on mutually agreed on terms.

VII. The Reorganization and the Termination of the Activity of the Foundation

30. The reorganization of the foundation is carried out by the Government of the Russian Federation at the suggestion of the council of the foundation in conformity with the legislation of the Russian Federation.

31. The activity of the foundation can be terminated in accordance with the procedure which is established by the legislation of the Russian Federation.

Role for Privatization Vouchers in S&T Reorganization Proposed

937A0060A Moscow RADIKAL in Russian No 43 (100), Nov 92 p 11

[Article by Doctor of Economic Sciences Boris Smirnov, the State Academy of Management imeni S. Ordzhonikidze, under the rubric "A Topic of the Day": "The Voucher of the Researcher for the Scientific Potential of Russia"]

[Text] The process of issuing privatization checks (vouchers) to the population of Russia is achieving a good pace. The first attempt at an analysis testifies: Every large independent organizational structure (this is appearing especially clearly at enterprises and associations) is performing active work on the attraction of the vouchers of its personnel for the issuing of shares and for life under market conditions.

In connection with this the fact that active work of this sort has thus far not been started in the system of the Russian Academy of Sciences and the higher school, which have an enormous scientific and technical potential, but an extremely weak motivational mechanism, is creating anxiety. After all, under the conditions of the

formation of the market, including the market of scientific and technical products, academic and VUZ science, even given considerable state support, is in dire need of a powerful innovation infrastructure for the commercialization of applied development.

On the one hand, the fixed capital of academic and VUZ scientific and technical and pilot experimental organizations, which is privatized according to the appropriate quotas (for example, 5 percent in 1992, 5-10 percent in 1993), and, on the other hand, the privatization checks of personnel of the RAS [Russian Academy of Sciences] and the higher school could become one of the means of forming such an infrastructure—joint-stock science and technology parks, innovation centers and incubators, engineering centers, and so on.

However, in conformity with the state privatization program the institutions of the RAS and the higher school are among the objects that at this stage are not liable to privatization in the general manner. It is as if being assigned to the later period. As a result the enormous mass of vouchers of personnel of the RAS and the higher school (with an approximate worth of up to 10-12 billion rubles) may be placed outside them, which will have an extremely negative effect on the effectiveness of the functioning and development of the academic and VUZ sectors of science under the conditions of the market economy.

Nevertheless, the possibility of partial privatization at institutions of the RAS and the higher school by a special decision of the State Committee for the Management of State Property and in accordance with the justified petitions of the appropriate ministries and departments was retained in the same program. Therefore, in our opinion, it is expedient in the shortest time to draw up and implement a set of steps on the accumulation of the vouchers of personnel of the RAS and the higher school for their efficient use for the establishment around scientific research institutes and higher educational institutions of a kind of commercial innovation network. I think that the personnel themselves of these spheres—of course, if there are convincing projects and programs—will be very interested in investing their vouchers in specialized investment checking funds of the system of the RAS and the higher school.

Incidentally, the establishment of such funds is so essential. In our opinion, a system of the following funds should be developed by the end of 1992:

a) centralized all-Russian investment funds of the RAS and the higher school for the issuing of shares by means of the vouchers of structures which have an academy-wide and VUZ-wide purpose;

b) regional investment funds of institutions of the RAS and higher educational institutions (combined and separate) for the privatization of structures of common regional use (technology parks, centers for the collective use of scientific equipment, information centers, and so forth);

c) investment funds under large specialized scientific research institutes and higher educational institutions by fields of science and by directions (spheres) of innovation activity (these funds can accumulate the vouchers of personnel of scientific research institutes and higher educational institutions, who are working on related themes and have scientific developments of the same type—for example, an investment fund under a scientific research institute or higher educational institution of a physical technical or chemical technology orientation, and so on).

It is natural that mixed enterprises and commercial structures can participate in the organization of these funds.

The accumulation and use of the vouchers of academic and VUZ personnel for the establishment of and the issuing of shares in "their own" innovation structures can create new motivation for research work and can increase significantly the innovation potential of Russia.

Space Research Organizations Form Association

937A0048B Moscow RADIKAL in Russian No 42 (99), Nov 92 p 10

[Article by M. L. under the rubric "Institution": "The Ranks of Associations Have Increased"—first paragraph is RADIKAL introduction]

[Text] The constituent assembly of the Association for the Promotion of Space Science and Technology (ASKONT) was held at the Institute of Space Research of the Russian Academy of Sciences.

The old partners in space activity, who have known each other for more than a year, decided to combine their efforts. These are the representatives of academic institutes—the Institute of Space Research, the Institute of Applied Mathematics, and the Center of Program Research of the Russian Academy of Sciences—and of design organizations, for example, the Scientific Production Association imeni Lavochkin, where unmanned spacecraft are developed, as well as the RADIO Scientific Production Association, and public organizations. Collectives and private individuals can be association members.

The composition of ASKONT will to a certain degree be limited: At the assembly they made it understood that they would not welcome the appearance of strangers in the fairly exclusive space club. Although the president of the association, Doctor of Technical Sciences G. Avanesov, head of a department of the Institute of Space Research, who was elected at the assembly, stressed that scientists, lawyers, and journalists can become members of the organization.

ASKONT, as the by-laws state, is a public nonpolitical, nonprofit organization. It plans to conduct examinations of individual ideas and projects, to prepare proposals on long-range space projects, to organize and implement

international scientific and technical measures, to promote the attraction of investments to the sector, to sell items on the domestic and world market, to engage in educational activity, and so forth.

The nonprofit nature of ASKONT is not preventing it from establishing a business center, which, as they explained at the assembly, does not conflict at all with the nonprofit nature of the new organization.

The profit will be used exclusively for the development and expansion of activity, as well as for the publication of a specialized journal, educational activity (no one explained precisely what kind), the material support of some scientific developments and directions, small grants and stipends to students, and even foreign business trips. But all this is in the future, if funds permit.

The budget of ASKONT will be formed by means of admission fees, membership dues, deductions from the profit of commercial structures, and subscriptions of sponsors.

In spite of the fact that the organization is not yet even registered with the Ministry of Justice, people have already addressed to it several commercial proposals. In the words of the president, it was a matter of the launching of a small satellite, the conducting of several space experiments, and the development of a robotic system.

One of the assembly participants made skeptical remarks regarding the goals and tasks of ASKONT. In his words, nearly all associations and space organizations, which are involved with space, have similar goals. As far as realization goes, it is impossible to call it successful. But, in the opinion of the initiators of the establishment of ASKONT, this is no longer a reason for inactivity.

Academicians Balk at Creation of State Science Centers

937A0048C Moscow RADIKAL in Russian No 42 (99), Nov 92 p 10

[Article by Marina Lapina under the rubric "Reform": "The Thread of the Fate of State Science Centers Loops in Presidiums and Staffs"]

[Text] Almost immediately, as soon as the idea of establishing state science centers in Russia was expressed, it became obvious that it would hardly be possible to implement it quietly and peacefully. At the beginning it was still possible to count on a successful outcome of the matter: The documents submitted for agreement—the draft of the edict on state science centers and the appendix to it in the form of "The Basic Provisions of the Activity..."—received the approval of all the concerned ministries and departments. However, after the meeting of the presidium of the RAS [Russian Academy of Sciences], which pronounced essentially a negative verdict (at any rate with respect to academic institutions), the optimism of the initiators of the idea began to decrease noticeably.

Although the upper stratum of the academy made the reservation that it is possible to establish state science centers on the basis of an academic institute (or institutions) with its and only its permission, the point of the official conclusion consisted in the following: For the present the academy generals are not inclined to give anyone whomsoever such permission.

The position of the presidium especially causes bewilderment as individual members of it are not at all opposed to giving—and are giving—the go-ahead for the establishment of state science centers on the basis of institutions which they supervise. Thus, Vice President of the RAS Academician R. Petrov, naturally a member of the presidium, supported the petition of a number of Pushchino institutes for the establishment on their basis of state science centers of the biological type. Another presidium member, Chairman of the Siberian Department of the RAS Academician V. Koptyug, is prepared to support a similar request of Academician K. Zamarayev, director of Novosibirsk's Institute of Catalysis (which is a part of the Katalizator Interbranch Scientific Technical Complex). In short, as members of the presidium they are "opposed," but outside it they are "for."

The repertoire of the academy generals in general is not overblessed with diversity. President of the Academy of Medical Sciences of Russia Academician V. Pokrovskiy, who shortly before this had signed a favorable conclusion of the Academy of Medical Sciences on the documents sent from the Ministry of Science, the Higher School, and Technical Policy, also expressed his indignation "apropos." But after a few months he replaced favor with anger—the authors of the documents were accused by him of all but the willingness to destroy Russian science.

The leadership of the Agricultural Academy is united: Establish them, they say, where you want to, but not here.

Thus, fright from the possible loss of financial and administrative control over the best scientific institutions at once enveloped the Mount Olympus of the academy.

But then ministries sent to the Ministry of Science, the Higher School, and Technical Policy not only their remarks and amendments to the documents, but also lists of the subordinate scientific institutions, which it would be advisable to transform into state science centers. Moreover, the lists of candidates, which were recommended by the largest departments, number more than 10 institutes.

When the problem of choice arises, there are practically no chances to avoid discontent. The broader the framework of choice, the more discontent people there are. Therefore, in the Ministry of Science itself no laughing

passions flared up. The curators of all sectors want to depict their institutes with a little larger number.

But meanwhile it is necessary to choose, for the budget outlays on state science centers are limited to 30 billion rubles. This sum will be sufficient for the more or less worthy support of only 17 centers. Of course, it is possible to increase the total number at least to 30, but then the venture will lose all meaning.

A preliminary list has already been drawn up in accordance with the suggestions of ministries and departments. For the present there is not one academic institute there.

In the near future the drafts of the decree of the government (and not an edict of the president, as was planned earlier), the appendix to it, and the list of centers will probably be sent for approval to the government.

Some executives of the Ministry of Science, the Higher School, and Technical Policy and the science staff of the Council of Ministers of the Russian Federation, which directly submits documents to the government, consider that it is necessary again to reconcile the list in all the ministries and to get the "go-ahead" of each one. If officials all the same take such a path, the same fate most likely awaits the decree on state science centers as awaits other draft laws on science, for example, on international grants.

What will a minister do, when he sees that of the 17 institutes, which were proposed for his department, there have been included on the list, for example, only three? He will probably try to add at least just as many. And so everyone will, ad infinitum. It is difficult to think up a better means of burying any undertaking.

In the end the person who has the right to choose should also assume responsibility. Is this a function of the Ministry of Science, the Higher School, and Technical Policy?

Science Officials Meet Over Soros $100 Million Donation

937A0082A Moscow IZVESTIYA in Russian 11 Jan 93 p 5

[Article by IZVESTIYA correspondents Vladimir Mikheyev and Kim Smirnov: "The 100 Million From the Soros Foundation"—first paragraph is IZVESTIYA introduction]

[Text] G. Soros has set up a special foundation to support basic science in Russia and the countries of the former USSR. During the last 10 days of December a meeting of representatives of the Soros Foundation with advisers of the president of the Russian Federation for science and ecology and executives of the Ministry of Science, the Higher School, and Technical Policy of Russia, the Russian Academy of Sciences, the Russian Academy of Medical Sciences, the Russian Academy of Agricultural Sciences, and other Russian scientific centers was held at the Kremlin. The held discussion gives answers to several questions that are being asked by readers in connection with a recent report in the newspaper.

What is the Soros Foundation? First of all it is $100 million, which will be spent here in Russia and in the neighboring new states on supporting basic work in the natural sciences. Applied aspects are excluded.

There will be no quotas and "schedules of fixed allocations" by individual countries (depending, for example, on the number of scientific workers). The foundation does not intend to act through any state and public structures. The outlet is directly to the individual. This can be both a scientist "working alone" and a manager of a collective which is conducting specific research (in case of the financing of collective work).

A board, to which the most prominent American and European scientists, who are world authorities in their fields, including two who came from the USSR and seven who are Nobel Prize laureates, belong, heads the fund.

Three working committees—the committee for the biomedical sciences, the committee for the exact sciences, and the executive committee—are being set up. There will also be a European committee, the goal of which is to achieve the involvement of continental financial sources in investments.

An advisory committee of the foundation, for which G. Soros has already requested the services of nine of our scientists: G. Abelev, K. Zamarayev, A. Zakharov, L. Keldysh, L. Okun, B. Saltykov, V. Skulachev, L. Faddeyev, and A. Yablokov, is being formed in Russia.

Will the dollars get to the individual specific scientist?

Let us see on what these very $100 million will be spent. In the next few months $11 million will be used for emergency aid to scientists. Three million are individual stipends or grants of $500 each, which 5,000 people will receive. The goal is to give them a chance to hold out under our present conditions for a few months.

Although the selection will be made on a formal basis—computers will analyze the published works in Soviet and foreign scientific publications—it is proposed to give some preference to those people who are under the age of 40.

Prof. Alexander Goldfarb, head of a laboratory of the Institute of Health in New York, as well as executive director of the Soros Foundation, who visited the IZVESTIYA editorial office, warned of a danger: The administration locally, which is unaccustomed to such philanthropy meant for specific citizens, may demand a tax levy, as from personal income. In this case the number of recipients of grants, but not the sum itself, will be reduced, and representatives of the leading scientific centers of Russia—in Moscow, St. Petersburg, and Novosibirsk—most likely will stand to gain.

Another $3 million are 300 emergency group grants on behalf of the managers of scientific collectives. They are being allotted not so much for the conducting of research as for the acquisition and maintenance of equipment and the remuneration of technical personnel. Two million are emergency aid to scientific libraries in the acquisition of literature and the subscription to leading scientific journals for 1993. Another $2 million are the support of telecommunications for the next year. And, finally, $1 million are for 1,000 short-term visits of our scientists abroad, particularly for participation in international conferences. It is assumed that a computer will select the candidates for emergency grants on the basis of application questionnaires in English—the elementary data about oneself and three or four scientific articles, which have been published in recent years in the most frequently cited scientific publications.

A detail of no small importance: Access to computerized databases in the West will be paid for, although the Soros Foundation, in the words of A. Goldfarb, still has to knock down a number of Berlin walls. Of course, the restrictions of Cocom [the Coordinating Committee on Export Controls], which thus far have not been canceled by anyone, are meant. The campaign against these bans lies ahead of the foundation, while the question: "For whom are you working?" is being heard in its address from all corners.

"One high-ranking diplomat from the U.S. embassy in Moscow looked at me with the same share of distrust as did a representative of the Russian military-industrial complex," Professor Goldfarb noted.

But the foundation is making the basic contribution—$80 million—to the development of serious basic projects. And here the projects themselves will undergo a rigorous examination of the most prominent scientists of the world.

The remaining $9 million will be used for organizational expenses and overhead.

How will scientists receive the money? Each time individually, through commercial banks. Moreover, the foundation will pay the bills for goods and services—when, for example, the holder of a grant must buy a computer or an airline ticket. This, of course, will contribute to the development in our country of a new sector—service to science.

Thus, all the activity of the foundation is directed toward the individual scientist, toward the protection and support of his personality. The intellectual property, which has been produced by him under a grant, belongs to him alone. Even collective grants will be "credited" to a specific researcher, manager of a group. And if he, let us assume, leaves for another institute, he takes with himself from balance sheet to balance sheet everything that was acquired with the assets of the foundation.

This actually ensures genuine freedom of creativity. Whereas earlier laboratories fought among themselves for financing from above, on the part of state and academic authorities, now both any institute and the Russian Academy of Sciences itself should fight for the holders of grants. The pyramid has been turned upside down and has finally found a firm base in the individual who is obtaining new information about the world.

Let us note another dimension of this large-scale injection into approximately 500 scientific projects. The availability of assets for scientific research will support the demand for instruments, reagents, complex equipment, and computer hardware, which will become a stimulus for the development of a specialized sector in the economy, which will be filled more and more with small and medium-sized firms. Having grown stronger owing to the Soros program, these companies will then be able to appear with high-quality products on world markets. Thus, the market elements in the economy will become firmly established.

Does the American millionaire not intend to buy our best brains standing, on our own territory?

No, he does not. He is proceeding from a principle which was expressed by one of the representatives of the foundation in the following words: A shoemaker can be retrained to be a carpenter. If he knows how to hammer nails into boots, he will also learn to hammer them into boards. But what will become of the intellectual, who does not know how to do anything else, except to think deeply and clearly? What Soros intended to do was to protect our intellectuals.

Here it is appropriate to dispel the illusion that patron G. Soros is handing out money which in any case he would have to turn over to the federal budget as taxes. Prof. A. Goldfarb stresses: Half of the amount, that is, $50 million, would actually have gone to the U.S. budget. But the remaining $50 million is the personal voluntary contribution of Soros, in whose address harsh criticism is being heard from various quarters. Even in the American scientific community, which in principle is favorably disposed, there is grumbling. Some people stress the fact that the U.S. Government is satisfying only 20 percent of the applications of its own scientists for the receipt of federal subsidies.

On the other hand, one Russian very important person asked our usual question: "And who charged Soros with this?"

In this case G. Soros is acting in neither American, Russian, nor any other interests, except for the international interests of science.

And, in general, at the first stages computer selection will be the impartial judge, while at subsequent stages the evaluation of leading scientists of the world will be. Soros himself does not intend to control anything personally. It is, after all, not Americans, but computers that will distribute the grants among our researchers.

As for the apprehension: The RAS [Russian Academy of Sciences] can "intercept" grants, the organizers of the foundation are treating it with great piety, believing that it supports today's intellectual cream of Russia, that many of its members by right can receive grants. But individually. The foundation does not intend to support the RAS as an administrative structure.

The Soros Foundation is the support of namely the researchers who have remained in the homeland.

Will American philanthropy stand up to the duel with the Russian bureaucracy?

It is a serious question. You and I know with what fetters (from taxes to excessive prices for elementary services) this very bureaucracy has now shackled science, praying to the market idols with the same zeal as they prayed just yesterday to the senile leaders. Philanthropy according to the laws of common sense is not assessed taxes. But a distinctive feature of our domestic bureaucrat is unpredictability.

Therefore, today, if we want the scientific "first aid" to begin working as of the new year, state documents, which specify the "deployment base" (premises, telephones, computers), the rights, the preferences, and the rules of operation of the Soros Foundation on the territory of Russia, are absolutely essential.

Russian Academy of Sciences Expenditures, Budget Defended

937A0074A Moscow NEZAVISIMAYA GAZETA in Russian 30 Dec 92 p 6

[Article by Corresponding Member of the Russian Academy of Sciences Vsevolod Medvedev: "Once Again About the Budget of the Russian Academy of Sciences. Tsentrakademsnab and Tsentrakademstroy All the Same Are Needed"]

[Text] The article of Boris Dumesh, "Freudian Slips" (NEZAVISIMAYA GAZETA, 28 November 1992), requires clarifications. The almost inevitable reduction of the number associates of the RAS [Russian Academy of Sciences] is estimated in the article at 30 percent. On the other hand, in the estimation of the author, the staff of the presidium of the RAS should consume 20-30 percent of the total budget of the academy. By these figures the author places an exclamation mark and adds: "It is rather expensive, is it not?" They bring the reader to the conclusion: If money is transferred from the budget of the staff to the institutes, the problem of reduction vanishes of itself.

But, unfortunately, the author of the "economic miracle" for the academy is mistaken in his estimate of the budget of the presidium of the RAS by a factor of 40-60. In reality 0.5 percent of the budget of the RAS, including the expenditures on the maintenance of premises (0.15 percent), is spent directly on the pay of the staff of the presidium. Is it possible in earnest to call these figures "astronomical"? Or to regard as "numerous and dispersed throughout Moscow" the buildings which the subdivisions of the presidium of the RAS occupy at two spots on Leninskiy Prospekt and Ulitsa Vavilova?

Only a person, who is not informed about the affairs of the academy, can ask the question: "And who needs the Central Supply Administration of the Russian Academy of Sciences, which supplies no one, and the Central Construction Administration of the Russian Academy of Sciences, which is building no one knows what?"

For reference it is possible to report that in 1992 academic institutes through Tsentrakademsnab [the Central Supply Administration of the Russian Academy of Sciences] (in 1989 it was transformed into the Main Administration of Material and Technical Supply of the Russian Academy of Sciences) were supplied with special scientific instruments, equipment, chemical reagents, nonferrous and rare earth metals, and so on worth more than 500 million rubles [R]. Under present conditions institutes would hardly succeed in acquiring these products through other channels.

Tsentrakademstroy [the Central Construction Administration of the Russian Academy of Sciences] in 11 months of this year performed construction and installation work in the amount of more than R1 billion, including R385 million, which were spent on housing construction, and R60 million, which were spent on health care facilities. For the completion of the construction of the new building of the RAS, which more out of inertia is called the building of the presidium, R42.5 million were allocated. In this truly enormous building, the foundation of which was laid during the times of M.V. Keldysh, humanities institutes are being housed for the third year, while in December of this year the International Center of Science and New Technologies of the RAS is being organized. Incidentally, the administration of material and technical supply and Tsentrakademstroy are cost accounting organizations and are not financed from the budget of the RAS.

B. Dumesh asserts that the staff of the RAS has not succeeded in earning currency for subscribing to foreign scientific periodicals. The staff in principle cannot earn currency. This year given the situation with currency in the country, which is well known to everyone, the leadership of the academy achieved the allocation of $3 million for the purchase abroad of scientific literature and $500,000 for the payment of membership dues to international scientific organizations (there are tears, of course, given the need for $25 million and $14 million respectively). But a large portion of the financial reserves of the academy—R150 million—was spent for the purchase of currency.

The assertion that foreign countries are not entrusting our official structures even to distribute scientific periodicals, is also incorrect. The noncurrency exchange of scientific periodicals between institutes of the RAS and their foreign colleagues has existed a long time. Under today's difficult conditions foreign colleagues are increasing the deliveries of literature as a form of aid to domestic scientists.

The assertion of the author that given the shortage of assets only large institutes will survive, also testifies to the lack of knowledge of the real economic situation at the RAS. Precisely these institutes, which have a significant material base, got into the most difficult position due to the enormously increased operating expenses. Given the average pay for the RAS in September 1992 of R4,600 at the Institute of General Physics the wage was equal to R4,300, at the Institute of Metallurgy—R3,900, and at the Institute of Earth Physics and the Institute of General and Inorganic Chemistry—R2,900. At the same time at relatively small institutes, including recently established ones, the average wage is often 2- to 2.5-fold higher.

Competitive Funding Program for Basic Science Explained

937A0069C Moscow IZVESTIYA in Russian 26 Dec 92 p 1

[Article by IZVESTIYA correspondent Kim Smirnov: "They Will Give the Money for Science to Those Who Win the Competition"—first paragraph is IZVESTIYA introduction]

[Text] The press service of the Russian Academy of Sciences has distributed an announcement on the competition of basic scientific research projects for 1993.

As is known, in April of this year the president of the Russian Federation signed an edict on the Russian Basic Research Foundation. But until recently this most important document on the state support of science looked like a purely symbolic gesture. Everyone has

heard about the foundation, but no one has succeeded in "touching" it. True, in November the government of the Russian Federation approved its charter, but until now hardly anyone knew how to obtain assets from the foundation for the implementation of his ideas.

Today it is finally possible to give a definite answer. Assets are allocated from the foundation for subsidies (grants) for basic operations of both scientific collectives and individual scientists. Whoever gets through the competition will receive them. The first such competition, for the new year, will encompass mathematics, mechanics, information science, physics, astronomy, chemistry, biology, medicine, the earth sciences, the humanities, and the social sciences.

The council of the foundation, which is headed by A. Gonchar, has been established. Twenty eight authoritative scientists of the Russian Academy of Sciences, the Russian Academy of Agricultural Sciences, the Russian Academy of Medical Sciences, and other scientific organizations of different regions of Russia belong to it.

The final deadline for the submission of projects is 30 January 1993. It is not very much time, perhaps. Taking this into account, they did not squeeze the form of the submission of projects into a strict formal framework. It is important that there would be clear: the essence, the prediction of the scientific results by the end of 1993, their correlation to world standards, the influence on practice, the scientific work in progress today, and the list of publications.

Of course, the candidate for "the satisfaction of personal curiosity at state expense" (that is what Academician L. Artsimovich called science) should display an understanding of the fact that money requires counting: He should indicate and substantiate how much money will be needed.

The only formality, which the competition participants are ordered to observe, is the first, title sheet, where the name of the work, the field of science, the director of the project (surname, name, patronymic, academic degree, title, place of work, position, address, and telephone number), the number of basic performers, the organization, to the account of which assets of the foundation are transferred, the time of completion (not more than three years), the amount of financing for 1993 in the prices of the coming year, a brief annotation of the project, and the signature of its director.

And another not unimportant "guarantee," against which state assets will be allocated to the holder of a grant: He is obliged to make his scientific results public property.

Gubarev Commentary on Impact of Lack of Funding for S&T

937A0069B Moscow ROSSIYSKAYA GAZETA in Russian 26 Dec 92 pp 1, 2

[Article by Vladimir Gubarev under the rubric "Subjective Notes": "Ignorance Is on the Offensive"]

[Text] The potential of the science of Russia is great. Not only the flights to the Mir station, the successes in several fields of physics and power engineering, and the honorary diplomas of foreign academies, which were received by our researchers during the past year, but also the fact that prominent scientists have again gathered at their general meeting, testify to this.

The crisis in the economy had dealt a powerful blow to science, but so far has not destroyed it.

On the eve of the general meeting of the Russian Academy of Sciences the U.S. President issued a directive "on the principle of most favored treatment" for the move to the United States of scientists from the states of the CIS. True, it was a matter of the specialists, who are connected with astronautics and nuclear physics, the development of weapons and new directions in biophysics, that is, scientists who are employed in defense areas. Now they can freely cross the border of the United States, where they are guaranteed a job and a rather high wage.

It is possible to react in different ways to the action of the U.S. President. Some people condemn it: Again, they say, America is "drawing off" intellects. Such a thing had already happened in the past. At the time when the Nazis began to dominate in Germany and Europe, precisely America became a refuge for scientists and precisely they played a decisive role in the development of nuclear weapons. Later to a lesser degree, after the end of World War II, German specialists also helped the United States to go into space and to develop missile systems. At the height of the "cultural revolution" in China the United States gave shelter of thousands of Chinese, who today, having returned home, govern the intensive level of development of scientific and technical progress in China.

But would we not, perhaps, be in a hurry to condemn the President? Let us look at the real state of affairs, which was clearly outlined both in the report of President of the Russian Academy Yuriy Osipov and in the statements of academicians. "There is no money" was heard as a refrain from the rostrum of the general meeting, and in general gratitude was expressed to foreign colleagues, to the leaders of a number of countries, and to prominent western businessmen, who are allotting considerable funds so that the torch of knowledge would not go out in Russia and the other states, which formed in place of the Soviet Union.

Today it is hard for everyone, but, perhaps, scientists feel the most anxious and even hopeless. I remember how

Academician Landau, who got into an automobile accident, for about a year did not become familiar with world literature, and for that reason "fell hopelessly behind," as he said. For a real researcher the lack of information from the laboratories of the world in essence means lagging behind. On obsolete instruments and apparatus it is impossible to maintain a modern level of research. Without contacts at international congresses and conferences and without participation in exhibitions it is easy to lose one's bearings in the basic directions of the development of scientific and technical progress.

There is no money, and for that reason our science has, no, not begun to slow down, but has begun to roll backwards rapidly. Both our and world science, since the research of scientists at such centers as Moscow and Novosibirsk, Pulkovo and Kazan, Vladivostok and St. Petersburg was always studied carefully in the laboratories of all advanced countries. Not by chance could the most prominent world scientific journals not be published without references to works of our scientists. Unfortunately, today this is already happening.

In his report Academy President Yu. Osipov named frightening figures: Sixty percent of the budget assets go for wages, 30 percent go for paying for electric power, heat, transportation, and so on. The remaining 10 percent of the assets are intended precisely for research. This figure is ridiculous, because we should not forget that the efficiency of the work of scientists in our country is unusually low, and for that reason Yuriy Osipov noted not by chance: "We were unable this year not only to start new research, but also to continue much previous research."

They heard this pain of our scientists in the United States, and one must not condemn those who have decided to help! Of course, in America they are also not forgetting their own advantage, but nevertheless....

Advantage? Is this not a too high-flown word?!

There are areas of human activity, which yield the highest profit. And among them is the basic research of scientists. According to UN data, the profit per dollar invested in such science comes to $4. That is why the most prominent firms, which have been prospering for more than a decade, and the governments of developed countries, which are experiencing budget deficits, never reduce the financing of science. Even when social passions rage, money is nevertheless allocated to science centers, since politicians and business people understand perfectly well that only new technology and scientific and technical progress are capable of getting any society out of a crisis. Without high science it is impossible to create in a respectable state decent living conditions for everyone. And that is why only dilettantes are capable of saying that it is necessary to halt space research or not to build new observatories.

I cannot say that, besides scientists, no one understands this. Both people in the government and our deputies realize the necessity of the development of basic research. Many foundations are emerging, the charter of the Russian Basic Research Foundation was approved just recently, but the majority of good wishes, unfortunately, are getting bogged down in organizational rearrangements and in the birth of a new class of bureaucrats, who consider themselves to have the right to manage the fate of scientists and, consequently, science.

Not just angry words were heard from the rostrum of the general meeting of the Academy of Sciences of Russia, the main thing is that the most prominent scientists stated their greatest anxiety over the future of Russia. It will never become "great" without space flights and bone marrow transplants, without ultramodern electron microscopes and nuclear plants. Finally, without concern for the people who know how to work in research laboratories. And it is not a matter of the wage and hard living conditions—our scientists became accustomed to this long ago. Another thing worries them—the impossibility of engaging in their favorite work.

The point of the existence of science is the struggle of man against ignorance. One can safely call a society, which, though experiencing a shortage of bread and entertainment, gives its children and citizens Knowledge, a civilized society. But wherever ignorance gets the better, barbarity will always reign. Today ignorance has gone over to the offensive, in places the front of Knowledge has already been breached, and that is why it is necessary to send in all our forces in order to rescue science. This is the basic result of the general meeting of the Russian Academy of Sciences, and we are obliged to know this.

Financier Allegedly Donates $100 Million for Russian S&T

937A0066A Moscow NEZAVISIMAYA GAZETA in Russian 10 Dec 92 p 10

[Article by Vladimir Kozlovskiy under the rubric "Aid": "George Szoros Gives $100 Million To Aid Scientists of the CIS. As of 1 January 10,000 Scientific Workers Will Receive $100 a Month Each"]

[Text] New York—It is a matter of the $100 million, which the phenomenally wealthy Hungarian emigrant, who left his homeland in 1947 at the age of 17 and now owns the Quantum investment fund, is allotting for the rescue of science in the former Union. The size of the fund is estimated by experts at $7 billion.

The newspaper THE WALL STREET JOURNAL wrote that in September Szoros earned for himself and his clients, whose money he invests for growth, exactly $1 billion on exchange transactions (including on the decline of the exchange rate of the British pound). The financier told me that the rumors were exaggerated, "but that is pretty close."

According to my information, Szoros himself earned on these exchange perturbations $300 million, $100 million of which he is allotting now for the support of science in

the CIS and the attempt to halt the brain drain from there. On Tuesday, the day before the official announcement of the allocation of this sum (which will double the donations made by Szoros in recent years for aiding democracy in the communist countries), more than 50 people, who represented the cream of the scientific world of America, including four Nobel Prize winners, as well as several scientists from Russia and their colleagues, who had emigrated to the United States, met in auditorium 305 of Rockefeller University.

During the three-hour meeting the details of the undertaking, which was conceived by Szoros and is designed for two years, were discussed. At the end of this period he will decide whether to continue the financing of the project, which will consist of two phases.

The first one sets itself the goal to take extreme steps in order to help thousands of scientists of the CIS simply to keep afloat for six months. For this purpose $6 million are being allocated. Scientists will receive a maximum of $600, that is, $100 a month for half a year. Thus, the $6 million should be enough to help 10,000 scientific workers, that is, as one of the speakers voiced his opinion, "the entire pick of Russian and republic science." Applications for financial aid, which officially will most likely have the name "stipends," will be accepted until 1 April. The organizers promise to publish the details in newspapers of the CIS.

The selection, which, as one of the organizers stated to me, will be "of a very superficial nature," will last for two to three months. The stipends will be reckoned after the fact from 1 January 1993.

Such, in any case, are the plans of the organizers at this moment: Apart from the resolutely allocated sum of $100 million, all their estimates for the present are conditional, inasmuch as the system of the distribution of the money began to originate on Tuesday before my eyes and will take more than another week to be formed.

As was possible to understand, the master plan of the initiators of the project is to make money available in circumvention of the entire established system of academic institutes during the second phase, when the multimillion dollar financing of basic research in the CIS will begin. Such an approach evoked a protest on the part of Arno Penzias, winner of the Nobel Prize in Physics, and several other conference participants, who insisted that a part of the funds also be spent through established scientific institutions.

For the present the only element of this plan, which is intended for more than two years, is the financing of 30-50 professionships by means of the interest from $5 million, which will be deposited in a bank. Inasmuch as the existing rates have already been figured out, such a maneuver will make it possible to expand the staff of professors, Valeriy Soyfer stated. One of the goals of the project is to link together teaching and research work, as it has been in the United States.

I asked Szoros, how did he stand to gain from halting the brain drain from Russia? "Russian science is a great value, and if it passes into nonexistence, this will be a great loss for mankind," the financier replied. "And, second, it is extremely important for Russia itself. For Russian scientists were in the front ranks of the people who preserved an independent way of thinking. They are one of the sources, from which the new Russia can develop. Russia without scientists will be far poorer and weaker."

"I believe that Szoros has done something inconceivable," said one of the conference participants. "We thought that we would fight for every dollar! But with one stroke he cut this knot, and we should now merely consider how to organize everything. He has set for the world scientific community an enormous task."

Russian Academy of Sciences Handling of Finances Criticized

937A0057A Moscow NEZAVISIMAYA GAZETA in Russian 28 Nov 92 p 6

[Article by Boris Dumesh under the rubric "Science": "Freudian Slips. The Presidium of the RAS Interprets the Budget Deficit in an Original Way"]

[Text] A report on the serious budget deficit of the Russian Academy of Sciences was published in NEZAVISIMAYA GAZETA of 30 October of this year. The article was based on the materials of the decree of the presidium of the RAS [Russian Academy of Sciences] of 22 September. However, it is worth studying this decree more closely.

In its extensive preamble it is reported that the presidium had not succeeded in obtaining an increase of financing of the RAS in the fourth quarter. But since the wage of associates of the academy was increased all the same by one and a half-fold, while prices continue to rise, the allocated assets will not be sufficient even for the modest functioning of scientific institutions. The anticipated budget deficit of the RAS is 1 billion rubles. Simply speaking, the financial collapse of the Academy of Sciences is at hand.

At the same time it is noted that some institutes are living better than others, true, not entirely honestly: "Many of the concluded contracts with foreign partners are not in line with world prices, which is undermining the prestige of domestic science.... Numerous financial violations, and at times abuses are occurring in case of the interaction of institutions of the RAS with commercial structures.... A number of organizations of the RAS are leasing on a large scale premises and other property...."

What does the presidium of the RAS propose? The total, rapid reduction of scientific research institutes, "on the basis of the amount of financial allotted to them for the fourth quarter, meaning the reduction of particularly priority scientific directions."

True, subsequent to the decree the presidium of the RAS sent out a circular letter, which reported a misprint that had been made: Instead of "reduce" [sokratit] one should read "retain" [sokhranit]—really the Freudian "psychology of misprints"!

Moreover, the presidium is setting up control over all the leasing and foreign economic activity of institutions of the RAS "for the purpose of the increase of profitability and greater efficiency" and is collecting from them henceforth a 20-percent fee "for the additional support of basic research, the settlement of questions of the social protection of scientists and specialists of the academy, and the development of international scientific cooperation." While penal sanctions are being developed for the rebellious.

In short, the presidium prefers that we sink under its strict supervision. But while we are not yet at the bottom, let us ask ourselves several questions. Why in the decree is there also no hint at the activity of the presidium and apparatus of the RAS on the saving of assets, on the reduction of burdensome and unnecessary structures and staffs, and, finally, on the organization of mutually advantageous ties with foreign countries?

Let us beginning with saving. The maintenance of the new immense building of the presidium on Gagarin Square in Moscow costs much more than that of the largest institute of the RAS. The expenditures on the maintenance and leasing of numerous premises, which the apparatus of the presidium occupies throughout Moscow and is obviously in no hurry to give them up, are also astronomical. And who needs the Central Supply Administration of the Russian Academy of Sciences, which supplies no one, and the Central Construction Administration of the Russian Academy of Sciences, which is building no one knows what? Or the system of sanatorium institutions of the Academy of Sciences, to which it has become beyond the means of our indigent scientists to go? All this, however, is as before on the balance sheet. Moreover, the apparatus itself of the presidium of the Academy of Sciences for the most part duplicates the functions of the Ministry of Science, which raises justified doubts about its necessity.

Inasmuch as purchases of scientific equipment and the building of new installations have now been reduced to a minimum, the basic expenses of the Academy of Sciences today are the operation of buildings and the wage of associates. It is easy to reckon that the budget of the apparatus of the presidium (which is concealed modestly in the decree) together with the organizations associated with it should come to 20-30 percent (!) of the total budget of the Academy of Sciences. It is rather expensive, is it not?

Let us proceed to foreign economic ties. In this field the successes of the apparatus of the RAS are minor. At any rate it has not succeeded in earning currency for subscribing to foreign scientific periodicals, without which it is as hard for our scientists to exist as it is without a wage. And the reason is clear: The foreign system of the financing of basic science soundly supports specific scientists and specific scientific developments. And it is by no means inclined to fatten associated structures with vague functions. Understanding that currency essentially dries up when passing through our administration, the West does not wish to deal with it. I will cite an example: Institutes of the RAS have now begun to receive foreign scientific periodicals from abroad free of charge—from various foreign scientific societies. Our scientists receive a portion of the journals directly at home. Foreign countries are not entrusting our official structures even to distribute scientific periodicals, which as if do not stick to the hands.

And although from the decree the existence of the Akademintorg Foreign Economic Association suddenly became known, it is unlikely that it will henceforth effectively promote the influx of currency to our scientific research institutes.

In conclusion let us return to the decree and predict its effect. It reduces to the requirement of the sharp reduction of associates—by approximately 30 percent—or to the equivalent elimination of individual institutions, moreover, within a month's time. Of course, the departments will not be able to do this that quickly, and then in the fourth quarter scientists will be left not just without a wage, but even, it is not ruled out, without heat, for in the offices, which are to be eliminated, they can also cut off the electric power.

As a result only large institutes, which have on the staff the largest number of academicians (and accordingly votes at the general meeting of the RAS), will survive. But at large institutes the administration is just as "terribly far from the people" as the presidium of the RAS is. And for this reason the reduction will occur at the expense of scientific associates. And only the scientific themes, which yield quick income, that is, exclusively applied themes, have a chance to survive. The main blow will fall precisely on basic science, which, it would seem, the presidium of the RAS should save first of all. But the paradox is imaginary: Administrative structures, as always, are first of all interested in self-preservation, not in scientific benefit and common sense.

Problems With Mandated Wage Scale for RAS Workers

937A0069A Moscow RADIKAL in Russian No 45 (102), Nov 92 p 9

[Interview with Aleksandr Konoshenko, chief of the Finance and Economic Administration of the Russian Academy of Sciences, by V.P.; place and date not given: "Wage Scales for the Academy"—first paragraph is RADIKAL introduction]

[Text] The decree of the government of 8 November, which orders all associates of institutions of the RAS

[Russian Academy of Sciences] to be converted to remuneration according to a single wage rate as of 1 December of this year, has created many difficulties. Perhaps, today this is the most serious problem facing the academy, Aleksandr Konoshenko, chief of the Finance and Economic Administration of the RAS, believes. Moreover, not the single wage rate itself, which both is reasonable and in many countries is working successfully for budget-carried sectors, but the method, by which it has been ordered to introduce it at the academy, worries him. Namely, for everyone all at once and so that it would be introduced without fail by 1 December.

[Konoshenko] In the preceding decree of 14 October, he says, it was assume that the changeover to a single wage rate would take place gradually, as institutes became ready, after certification had been carried out and the additional resources necessary for such a changeover had been found. In the new decree entirely unrealistic deadlines are established—after all, certification alone, due to the very technology of carrying it out, requires far more time. But one must not violate the formalities connected with it, because in case of the occurrence of a labor conflict and legal proceedings any violation of the time limit unequivocally leads to the nullification by the court of the results of certification.

It would be a different matter if it were only this. For today, during the last days of November, certification has not yet begun, because the approval by the Ministry of Labor and Employment of the corresponding skills requirements should precede it, but we received them only yesterday, moreover, in part in the form of a not yet approved draft.

But the administrative difficulties for all their seriousness are not the most dreadful thing. In the end everything will come down to the fact that certification will take place in December-January, while in accordance with its results the amounts of salaries will be determined as of December of this year—it looks as if institutes will own their associates a certain amount of money. The most serious question is, Where are they to get this money?

The changeover to a single wage rate for the academy means an increase of the wage by approximately twofold. For this alone we need about 700 million rubles of additional financing. The decree orders the Ministry of Finance to find this money for the academy, but there they are saying that there is no money in the budget. As a result every institution of the RAS will be forced to draw up a new manning table, based on the assets it has. Moreover, inasmuch as all the salaries are strictly fixed, it will no longer be possible to play with the "brackets," that is, to get out of the situation by specifying for everyone a salary that is lower for this "bracket." Of course, managers will be left with some opportunities for maneuvering and it will not come, I think, to a 50-percent reduction: For example, at many academic institutes various increments, which it is possible to cancel temporarily, make up a significant share of the wage fund. However, I still cannot visualize how it will be possible to change over to the new system of remuneration without serious losses, if this procedure is not accompanied by the corresponding increase of financing.

[V.P.] But what is going on? Why such haste? For what was a second decree needed?

[Konoshenko] I have no information, I can only conjecture. I think that to a significant extent this is a political decision.

Situation Governing Foreign S&T Grants Still Unclear

937A0066B Moscow RADIKAL in Russian No 44 (101), Nov 92 p 9

[Article by Marina Lapina: "The Benefits for Science Are Again Weighed Down"]

[Text] When the work on the draft of the Edict of the president on international grants began, the euphoria with regard to the fact that the West would not let our advanced science be lost, reached the peak. There were actually grounds for this. During the numerous official visits abroad of top officials, who are in charge of science, and the less numerous official visits of western representatives of various ranks to our country the latter were not sparing of promises. The impression was created that dollar and other convertible aid at any moment would pour across the Russian borders.

Nearly a year has passed: The number of trips of our figures abroad not only has not decreased, but has even increased. But then the situation with the promised dollars is far worse—there are simply none of them. Moreover, in recent times they have been giving us to understand at times diplomatically, and at times not very diplomatically that, strictly speaking, it is no use counting on aid. Apparently, for the purpose of becoming convinced of this sad truth "on the spot" newer and newer trips are being organized.

Recently an American delegation headed by F. Press, president of the U.S. National Academy of Sciences, came to Moscow for the signing of an agreement with the Russian Academy of Sciences. Our executives for diplomatic or some other reasons are in no hurry to admit that the Americans actually refused direct dollar support. Moreover, summarizing the meeting with the Americans, Academician Yu. Osipov from the television screen hastened to give assurance that the Americans as before are prepared to give us aid. But, it appears, the situation is exactly the opposite. The situation with other western partners is not in the least better.

Under such conditions a legal norm on international grants—whether in the form of an edict or in the form of a decree—is vitally necessary: It would make it possible to protect from taxes, customs duties, and other exactions if only the crumbs, for the obtaining of which hope

still remains. But it appears that the next draft law, which concerns science, has died....

The two published documents are as if called upon to replace it in part. But their form and content place their effectiveness in doubt.

How will the Ministry of Science, the Higher School, and Technical Policy be able, for example, to gather regularly "information on the lists and quantities of acquired equipment, instruments, and materials..."? How does it intend to confirm "the involvement in grants of monetary assets, scientific equipment, and instruments" and especially "the natural and legal persons who presented the grant"? And in what form should these most generous persons prove their involvement? And what is one to do, if some person wants to place at the disposal of Russian scientists a unique instrument, the involvement of which in a grant would raise doubt for the Ministry of Science, the Higher School, and Technical Policy? Does it turn out that the provision, which is formulated in the latter, does not apply to such an instrument?

Both documents generate more questions than answers. And there is no certainty that answers will be found. Talks with representatives of the two mentioned departments—the State Tax Service of Russia and the Ministry of Science, the Higher School, and Technical Policy, on the initiative of which, incidentally, everything was undertaken—convinced me of this.

A conversation with V. Oskin, chief of the department of tax assessments of foreign legal persons and the regulation of foreign investments of the State Tax Service of Russia, who is dealing directly with the letter signed by A. Pochinko (his deputy) and V. Shorin, confirms the worst apprehensions. The request to explain what specific steps the state tax service intends to take for the fulfillment of the points of the letter evoked from V. Oskin a completely inadequate reaction: "And what concern is it of yours?" Vladimir Nikolayevich changed the tone of the conversation and replaced anger with kindness only after I explained what the mass media can have to do with it in such a situation and indicated that his reaction to an innocent question can evoke only suspicions with respect to the main tax department and nothing more. Then the subject of my interview noted quite justly that his department should give specific instructions to the local tax services, but this is a very complex problem.

The question, in the words of Oskin, is being studied, and in the very new future instructions, perhaps, will be given. "But might they not be?" I was curious. "The question is being studied," followed the response. The version, when the opinions of A. Pochinko and V. Shorin with regard to the exemption of grants from taxes will remain their personal wish, while the document signed by them will go no farther than the addressees indicated in it, is thereby not ruled out.

The position of A. Shlykov, deputy chief of the Administration of the Development of Basic Research of the Ministry of Science, the Higher School, and Technical Policy, also does not increase the optimism. "As in any new matter," for the present there are no answers, by his admission, to many questions. He explained the appearance of the new documents, which do not have the force of law and merely "indicate the direction of movement," in part by the fact that the concept "grant" is unknown to our legislation, and that is why it was necessary to explain this concept.

But about what, strictly speaking, new matter is it a question and why after nearly a year was it impossible to explain the concept "grant," if it is that necessary, in the same draft of the Edict, which was prepared by the ministry and was submitted to the government?

The existence of the law in general would have eliminated many problems, which had arisen and concern taxation, customs duties, and other exactions. In any case, the law gave grounds to demand execution from the same tax and customs service. The new documents do not give such grounds.

A month after their appearance in the Ministry of Science, the Higher School, and Technical Policy they do not even know what the departments, on which the specific implementation of the stated proposals depends, are doing or intend to do. The scientific community also does not know about this, just as about the existence of the documents in principle. But Russian scientists should know that there has appeared for them at least some chance to receive from abroad the little that is due to them.

[Box, p 9]

To Vice Premier of the Government of the Russian Federation B.G. Saltykov

To Director of the State Tax Service of Russia I.N. Lazerev

In connection with the numerous inquiries regarding the taxation of grants, which are being received by the Supreme Soviet, we give the following explanations:

1. A grant, that is, monetary assets, instruments, and scientific equipment, which are transferred voluntarily and free of change to our scientists by foreign legal and natural persons for the implementation of specific scientific goal programs, is not currency receipts or payment for works, but is a charitable contribution and for this reason is not assessed taxes and fees.

2. In order to rule out abuse, the Ministry of Science, the Higher School, and Technical Policy, as well as the foreign natural or legal persons, who gave the grant, should confirm the involvement in grants of monetary assets, scientific equipment, and instruments.

(Signed by A. Pochinko, Chairman of the Commission for the Budget, Plans, Taxes, and Prices of the Supreme Soviet of the Russian Federation, and V. Shorin,

Chairman of the Committee for Science and Public Education of the Supreme Soviet of the Russian Federation)

[Box, p 9]

The Procedure of the Customs Registration of Goods Which Come to Russia to the Account of Funds for the Support of Basic Science in Russia

1. The Ministry of Science, the Higher School, and Technical Policy of Russia receives information about the lists and quantities of acquired equipment, instruments, and materials from international funds for aid to Russian scientists and organizations, which have been formed by foreign governments and scientific societies.

2. The Ministry of Science, the Higher School, and Technical Policy of Russia reports the indicated information to the State Customs Committee of the Russian Federation, confirming the necessity of the acquisition of the goods named in it and reporting the numbers of the contracts for their importing (the range and volumes of goods).

3. The State Customs Committee of the Russian Federation promptly informs the necessary customs houses about the exemption of these goods from the import duty.

(Approved by Deputy Minister of Science, the Higher School, and Technical Policy I. Bortnikov and Deputy Chairman of the State Customs Committee V. Kruglikov on 23 October 1992)

Ukrainian Computer Sciences Academy Announces Membership Vacancies

937A0079A Kiev PRAVDA UKRAINY in Russian 18 Dec 92 p 2

[Article: "The International Academy of Computer Systems and Systems Announced the Election of Full Members and Corresponding Members of the Academy"]

[Text] The thorough integration of science and production and the computerization of all spheres of activity of society for the purpose of the increase of labor productivity, the efficient use of material and intellectual resources, the achievement of the world level of development of the economy, and the increase of the well-being of the people are one of the decisive conditions of the firm establishment of the state independence of Ukraine, its national revival, and familiarization with world civilization and with the international cooperation of developed countries.

The International Academy of Computer Sciences and Systems was founded on 23 June 1992 by the constituent congress and was registered by the Ministry of Justice of Ukraine.

Leading scientists and specialists of the Academy of Sciences of Ukraine, sectorial academies, ministries and departments of Ukraine, institutions of the higher school, industrial enterprises, firms, and commercial structures, as well as action groups of foreign scientists and specialists acted as the initiators of its establishment. The Institute of Cybernetics imeni V.M. Glushkov of the Academy of Sciences of Ukraine acted as the base institution when establishing the Academy.

The International Academy of Computer Sciences and Systems is setting as its goal the pooling of the efforts of scientists of academic, VUZ, and sectorial science and specialists of design organizations, state institutions, industrial enterprises, and all spheres of economic and production activity, as well as the use of the experience of foreign science for the successful development of basic and applied research in the area of the computer sciences and for the development and introduction of the latest computer hardware, promising computer technologies and systems, as well as their software.

Diverse forms of the organization of scientific, production, educational, commercial, and charitable activity and international cooperation, which afford extensive opportunities for the fulfillment of the prescribed tasks of the Academy, are envisaged by the Charter of the Academy, which was adopted at the constituent congress.

The activity of the Academy is based on the principles of democratic self-administration, collective leadership, glasnost, and voluntary membership in it.

In addition to personal members (academicians and corresponding members), collective and associate members, as which labor collectives, which assume in consultation with the Presidium of the Academy obligations on the fulfillment of specific tasks envisaged by the Charter of the Academy, act, can join the Academy. The academicians and corresponding members of the Academy are elected at its general meeting.

There are elected as full members (academicians) of the Academy distinguished scientists who are doctors of sciences, as well as leading specialists of state institutions and all spheres of production, culture, and education, who have outstanding achievements in the area of the development and practical use of the computer sciences, computer hardware, control systems, computerized instrument making, and software.

There are elected as corresponding members of the Academy well-known scientists who are doctors of sciences (as an exception, candidates of sciences), executives and specialists of industry, agriculture, state institutions, education, culture, medicine, entrepreneurial structures, as well as other spheres of social activity, who have achieved significant success in the area of the development and practical use of computer sciences and systems.

Collectives of scientific, design, and state institutions, industrial enterprises and organizations regardless of their departmental subordination and state affiliation, as well as full members of the Academy enjoy the right to nominate candidates for membership in the Academy.

The Presidium of the Academy also elects honorary members of the Academy, who can be prominent figures of science, culture, industry, and other sectors of the economy, whose activity is of decisive importance for the development of computer sciences and systems.

The Academy organizes its work in the following scientific production directions:

—new physical principles of the synthesis of computer hardware, systems, and their component base;

—information science, mathematical modeling, and systems analysis;

—artificial intelligence and computerization in the humanities areas of knowledge;

—problems of computerization in the earth sciences;

—systems engineering and automated control systems;

—automated computer-aided design and engineering systems;

—computerization hardware, systemwide and systems software;

—information systems and networks;

—computerized instrument making;

—computer problems of aerospace dynamics and control;

—radiocybernetics, telecommunication, and communication;

—problems of computerization in machine building;

—cybernetics of chemical technology processes and food technologies;

—problems of control in power engineering;

—problems of control in transportation;

—problems of computerization in mining sectors;

—problems of computerization in agricultural technology, agricultural production, and agricultural processing;

—problems of control in metallurgy;

—cybernetics in construction;

—applied problems and conversion;

—problems of computer holography and optics;

—legal problems of computerization;

—computer systems in ecology;

—economic cybernetics;

—computerized medicine and biology;

—computer-aided instruction;

—computer systems in state government;

—production management;

—computerization of the mass media;

—problems of the computerization of management and business;

—computerization of financial, bank, and exchange activity and marketing;

—problems of the computerization of municipal activity, personal service, and trade.

When reporting the names of the candidates for full members and corresponding members of the Academy, it is necessary to submit the following documents:

—the personal statement of the candidate—one copy;

—the decision of the collective body, which nominated the candidate (with the voting results), or the letter of recommendation of the full member of the Academy—one copy;

—a report on the creative, public, and production activity of the candidate, which has been certified by the manager or the Scientific Secretary at the place of work of the candidate—two copies;

—an autobiography—two copies;

—the personal job registration sheet, which has been certified at the place of work of the candidate—two copies;

—a list of scientific works and engineering developments of the candidate, which has been certified at his place of work—two copies;

—a personal program of activity at the Academy—two copies;

—a rating sheet of the established form—two copies;

—copies of the documents on higher education, academic degree, and academic title—two copies;

—4.5 X 6 cm photographs—three.

The indicated documents should be sent by 20 January 1993 to the International Academy of Computer Sciences and Systems at the address:

252055, Kiev-55, Ulitsa V. Vasilevskaya, 7. The Presidium of the MAKNS [International Academy of Computer Sciences and Systems]. Telephone inquiries: (044) 271-03-88.

The election of personal members of the Academy is being held at its general meeting at the end of February 1993.

[Signed] The Presidium of the International Academy of Computer Sciences and Systems

France Major Importer of Russian Mathematicians

937A0063A Moscow IZVESTIYA in Russian 18 Dec 92 p 5

[Article by IZVESTIYA correspondent Yuriy Kovalenko: "France Is Working the Gold Vein of Talented Russians"—first paragraph is IZVESTIYA introduction]

[Text] Paris—Russians make up 30 percent of the mathematics instructors who were hired at French Universities in 1992, stated Prof. Claude Bardos of the University of Paris-VII and l'Ecole Normale Superieure.

Moreover, in the last two years more than 200 stipends for various terms were granted by Paris to specialists from the countries of the CIS.

Nevertheless, France, where 600 Russian scientists are working, in the matter of the organization of the brain drain for the present lags appreciably behind other countries. In the United States and Israel the number of specialists from the former Union has reached 30,000, while in Germany it has reached 4,000.

The firm Siennes Carriere et Management, reports the newspaper ECHO, the organ of business circles, specializes in the recruitment of high-level scientists for higher educational institutions and enterprises of France. For this purpose its emissaries have made more than 10 trips to the republics of the former Soviet Union.

Our specialists in space, information science, nuclear physics, and chemistry, who, ECHO stresses, represent a gold vein for French companies, are in the greatest demand here. They, says Silvy Druard, director of Siennes Carriere et Management, are extremely interested in having the know-how of these scientists at their disposal, but at times do not know how to use them in the best manner.

A search is being made at the best scientific research institutes of not only Moscow and St. Petersburg, but also the provinces. At first scientists are invited for three to four months and upon completion of the contract return home, but then come again. Meanwhile the French watch them closely, trying to find answers to the following questions: Will the Russian be able to adapt to western conditions? What new things will they bring? Is it possible to rely on them?

In spite of certain doubts a sharp fight for the best specialists in the field of information science has been going on, ECHO stresses, among French enterprises. For a year Bull, the largest French firm, has been engaging in their recruitment.

"We are seeking first of all young people," says Georges Irch, director of Bull for personnel of the countries of Eastern Europe, "they often know English, are more dynamic, and adapt better." G. Irch is now in Russia, is speaking at educational institutions, telling about his firm, and is meeting with candidates who would like to work at Bull.

Several French companies are changing their personnel strategy. Whereas the group BSN, which is engaged in the production of foodstuffs, earlier used the services of Russian emigres, now it is giving preference to young engineers who acquired an education in Russia.

BSN, to all appearances, first will send them "for acclimation" for two to three years to enterprises in Europe, then will transfer them to its affiliates in Russia. All these specialists, as a rule, have good theoretical training, but do not have work experience at western companies and, in particular, the skills to make critical decisions.

These are people 24-32 years old, says Philippe Marer, director of l'Ecole Polytechnique, whose store of knowledge is not inferior to the French and who have a command of our language. Often these are future managers, who subsequently will hold key positions in national industry and will help western firms in concluding contracts.

At the Pariba Bank they also consider that, in developing relations with Eastern Europe, it is necessary to place the emphasis on young people, taking into account the fact that the processes of privatization are actively taking place there. On its part l'Oreal, largest producer of cosmetics and perfume in the world, which has its own enterprise in Moscow, prefers to have on one team both young people and veterans. "We are gradually taking on young people," says l'Oreal vice president Marcel Lafforg, "but we also need experienced specialists, who know both their job and their market."

A special group, which was set up by several French firms in the area of information science, is dealing with the coordination of activity in Eastern Europe and in Russia and with the getting of agreement on wage issues. Until now they paid an engineer from East European countries 5,000-6,000 francs a month, which is several fold less than what they paid his western colleagues.

It is impossible to offer them immediately a salary which would exceed by ten- to twentyfold the wage of a minister, Pierre Laguerre, general director for the countries of Eastern Europe of the Ron-Pulenk firm, considers. However, everyone agrees that the wage will be increased gradually to western standards. On such terms France will be able for a long time to come to replenish itself with foreign minds, by exploiting the gold vein of talented Russians.

Turkmen Intellectual Property Rights Law Analyzed

937A0067A Moscow RADIKAL in Russian No 44 (101), Nov 92 p 11

[Article by Doctor of Juridical Sciences Prof. Anatoliy Vengerov, head of a chair of the Moscow Legal Institute,

under the rubric "...There Is a Law": "Intellectual Property in Neighboring Foreign Countries"—first paragraph is RADIKAL introduction]

[Text] One of the striking features of contemporary legal life of Russia is the ever increasing interest not only in the legal systems of Europe and America (this interest is traditional), but also in the legislative experience of neighboring foreign countries. Moreover, precisely the experience of these new sovereign states, which are solving in many respects similar problems, provides the most abundant material for reflections, comparisons, and progress in legislative practice on the basis of such a scientific direction which is called comparative law.

It is in the sphere of the affirmation and protection of intellectual property that such fundamentally new legislative experience has finally appeared. As of 30 September 1992 the Law "On Scientific Intellectual Property" began to take effect in Turkmenistan.

The passage of this law by the sovereign state marks the end to many theoretical legal disputes. About whether there is such a type of property as scientific intellectual property, who its owner is, if such property exists, and what its content is. And about whether a law on this type of property can be passed, and, if it can be, how one is to compare it with the laws on other types of intellectual property, first of all with the laws on inventions and industrial designs and with the copyright.

Henceforth the Law of Turkmenistan "On Scientific Intellectual Property" shifts scientific disputes to the practical sphere. It marks the beginning of the practical study of the legislative regulation of the social relations which arise in the sphere of scientific and technical activity during the production and use of the results of scientific research, design, surveying, experimental design, and experimental technological work. The law declares precisely these results to be objects of scientific intellectual property.

Thereby the law takes under protection the enormous body of the intellectual product (design documentation, designs, scientific reports, knowledge and ideas, which have been objectified in one form or another, know-how, methods, formulas, and so forth), which is formed in the creative scientific process, but for some reasons is not being patented or is not protected by copyright. It brings the scientist and employer into normal legal relations, specifies the worthy reward for the labor of a scientific worker, and gives it a fair social appraisal.

The law specifies the owner of the intellectual product, that is, who can own it, use it, and dispose of it. The law establishes the forms and limits of state interference in the production and use of the results of scientific work, specifies and defends the rights of the developers (creators) of objects of intellectual property, and indicates the basic content of contracts between clients and the performers of jobs. In it there are indications of the conditions and forms of the defense of the right of intellectual property, new descriptions of the results of scientific work are introduced, the relationship with patent legislation is specified, and so forth.

This list already suffices to show with what new legislative regulations everyone, who will conduct scientific and innovation activity on the territory of Turkmenistan, including citizens of Russia, will have to deal. In the law there is, for example, Article 13, which establishes the legal status of the intellectual property of joint ventures, foreign citizens, organizations, and states.

The specification of the right of intellectual property, which consists in the possibility of the owner, which is recognized and protected by the law, at his own discretion to own, use, and dispose of the results of scientific work, which have been objectified in diverse form, is fundamental. No one can use them without the permission of the owner.

Only in exceptional cases can the Cabinet of Ministers permit the limited use of the scientific intellectual property, which belongs to an owner, by other legal persons. But in all cases without exception the exercise of the right of scientific intellectual property should serve humane goals, should not violate the rights and the interests, which are protected by law, of the state, citizens, enterprises, and institutions, and should not do harm to the environment.

The law secures various grounds for the appearance of the right of scientific intellectual property. It, as a rule, belongs to the developer (author, creator) of the object of property, who directly participated in its creation. However, if the creation (development) of an object of intellectual property is connected with work under contract or on a special assignment (according to the plans of a scientific organization, institution) and in this case the materials, assets, equipment, and other resources of the employer, with whom the developer has labor relations or has concluded a contract, were used, then the right of scientific intellectual property belongs to the employer.

The law also establishes the conditions, when the joint ownership of the developer and the employer can arise, the procedure of the cession of the right of scientific intellectual property, and a number of other important principles in this area.

The right of the developer (creator) to a share of the profit (revenue), which was derived by the owner from the use of an object of intellectual property, is one of the new important principles which is established by the law. I will stress—the developer can receive not just a reward (for example, a bonus), but namely a share of the profit from the use of the result of his labor (royalties).

Contracts (agreements) between the employer and the developer are appearing more and more extensively in the practice of the organization of scientific work and the use of its results. These contracts are very specific in the sphere of science. In Russia in conformity with the Temporary Statute on the Organization of Scientific Research Work, Which Is Financed From Assets of the

Republic Budget Under a Single Order, the requirement to specify in a special contract (agreement) the owner of the object of intellectual property and the procedure of its use is established.

The study of the experience of the contractual (contract) relations, which are being introduced by the law of Turkmenistan, may also prove to be very useful for the formation of the VUZ practice of using the results of scientific research work in Russia. Of course, with allowance for the peculiarities of the organization of this work in accordance with Russian legislation. Mechanical copying in the legal sphere was always contraindicated.

The Law of Turkmenistan "On Scientific Intellectual Property" introduces as organizational steps of the protection of this property the duty to observe confidentiality. It is well known that here, too, the scientific sphere has its own peculiarities as compared with the protection of a commercial, production secret. Science cannot develop without scientific intercourse and the exchange of ideas and knowledge. However, the reasonable restriction of information exchange when creating specific objects of intellectual property, which is connected with the protection of the right of property, still should be established—and this circumstance was also not forgotten by the legislator.

The law confirms judicial defense as the basic form, the possibility of the property compensation of the moral damage caused by the violation of this right is established.

Of course, the problem of the relationship of this law with patent legislation remains complicated. But in this sphere the law also takes a clear stand: It does not exclude the possibility of switching objects of intellectual property to the patent form of protection, which can also be stipulated in the contract. Such a right is reserved for the performer of the work, that is, specific developers and inventors.

The law proposes to organize the registration and accounting of objects of intellectual property in a statewide information fund. The experience of establishing such a fund and the procedure of its operation would also be very interesting.

It is well known that for scientific reports a procedure of their registration always existed. But it was of a very complicated nature and was bureaucratized. A large quasiscientific bureaucracy (staff members of scientific research departments, sectors) "lived" on the organization of the accounting of the results of research and development. Will they succeed in overcoming this shortcoming in Turkmenistan?

In short, we have before us an original attempt at the legislation regulation of social relations in the sphere of scientific activity, which makes it possible without looking back at the paralyzing dogmas of centralized legal regulation to solve real problems on the basis of their own understanding, with allowance for their own social and scientific realities.

Russian Copyright Law Draft Nears Completion

937A0067B Moscow RADIKAL in Russian No 44 (101), Nov 92 p 10

[Article by Georgiy Vitaliyev, general director of the Russian Agency for the Legal Protection of Computer Programs, Databases, and Topologies of Integrated Microcircuits: "The Drawing Up of the Draft of the Copyright Law Is Close to Completion"—first paragraph is RADIKAL introduction]

[Text] A press conference of official representatives of the United States and Russia, which was devoted to the results of the work of the Russian-American working group for problems of intellectual property, was held at the International Press Center (the Radisson-Slavyanskaya Hotel).

Official representatives of the government and a number of leading companies of the United States in the area of software, publishing, sound recording, the movie industry, and professional associations and representatives of working bodies of the EEC took part in the work of this group. On the Russian side representatives of leading committees and commissions of the Supreme Soviet, experts of the working group of the Supreme Soviet, who are completing the drawing up of the draft of the law of the Russian Federation "On the Copyright and Related Rights," and representatives of the Russian Intellectual Property Agency (RAIS) and the Russian Agency for the Legal Protection of Computer Programs, Databases, and Topologies of Integrated Microcircuits (RosAPO) participated in the talks.

Allen Weinstein, president of the American Center for Democracy and the main organizer of the Russian-American working group, formulated as follows the basic results of the work: "The American and Russian sides in the past week made substantial progress in the general understanding of the responsibility for the effective protection of copyrights."

At the press conference it was noted that the direct damage from the pirate use of products just in the four listed areas of industry comes in a year to up to $14 billion and from 10 billion to 30 billion rubles. Here the introduction in the Russian Federation of copyright legislation, which has been harmonized with the European countries and the United States, will make it possible in two to three years to reduce the level of the dissemination of pirated copies from 95 percent to 60-65 percent. The experience of introducing similar legislation in Italy and Portugal, in particular, testifies to this. Foreign experience also shows: The existence of a precise mechanism of legal protection is equally advantageous for both domestic and national producers of objects of intellectual property. Consequently, the transition to civilized relations in the area of the protection of copyrights without any substantial additional investments

ensures the transfer of these sectors to the sphere of legal business and the corresponding increase of tax payments to the state budget.

In accordance with the results of the meeting the Joint Statement of the Russian-American Group for the Protection of Intellectual Property was signed. In this statement the conference participants noted the importance of the effective protection of copyrights and of the stimulation of the development of cultural and technological resources in the Russian Federation and the necessity of reducing the level of illegal copying for the purpose of developing the market economy and attracting foreign investments.

Moreover, in the statement it was emphasized that in the trade agreement of the Russian Federation and the United States the granting to Russia of most favored nation status is dependent on the submission by the end of 1992 to the Supreme Soviet of a copyright law which conforms with the Bern Convention. The single draft of the working group of the Supreme Soviet of the Russian Federation, which conforms to the stated principles, should be submitted in the very near future to the Supreme Soviet.

The working group recommended that serious attention be directed to the creation of the conditions for the fulfillment of the law in practice, particularly in the area of computer programs, musical recordings, and other works, which exist at the moment of the passage of the law, as well as indicated the necessity of the drafting of additional legislative acts, in which the civil and criminal sanctions against copyright violators will be improved, and the conducting of a series of seminars on the training of personnel of bodies that administer and enforce the law.

In our parliament, it appears, the work on a series of laws on the protection of intellectual property is being completed. The Patent Law and the laws on the legal protection of trademarks, the name of the places of origin of commodities, and computer programs, databases, and topologies of integrated microcircuits were passed again at the end of September, while they were published and put into effect in October. In the next few months it is also possible to count on the passage of the law on the copyright and related rights.

Changes, Enabling Resolution for Law on Databases, Programs

937A0058A Moscow ROSSIYSKAYA GAZETA in Russian 20 Oct 92 p 5

[Amended Article 2 of the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases," the Decree of the Supreme Soviet of the Russian Federation "On the Procedure of Putting the Law of the Russian Federation 'On the Legal Protection of Computer Programs and Databases' Into Effect," and the Decree of the Supreme Soviet of the Russian Federation "On the Reconsideration of the Law of the Russian Federation 'On the Legal Protection of Computer Programs and Databases'"]

[Excerpts] [passage omitted] **Article 2. The Relations Regulated by This Law**

1. The relations, which are connected with the development, legal protection, and use of computer programs and databases, are regulated by this Law and the legislative acts of the republics within the Russian Federation, which are passed on its basis.

2. Computer programs and databases are grouped by this Law with objects of the copyright. Legal protection is granted to computer programs as works of literature and to databases as collections. [passage omitted]

[Signed] President of the Russian Federation B. Yeltsin

Moscow, the House of Soviets of Russia

23 September 1992

No. 3523-1

Decree of the Supreme Soviet of the Russian Federation "On the Procedure of Putting the Law of the Russian Federation 'On the Legal Protection of Computer Programs and Databases' Into Effect"

The Supreme Soviet of the Russian Federation resolves:

1. To put into effect the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases" as of the day of publication.

2. Henceforth until the legislation of the Russian Federation is brought in line with the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases" it is applied insofar as it is not at variance with the indicated Law.

3. The Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases" applies to relations, which are connected with the development and use of computer programs and databases and emerged after the indicated Law was put into effect.

4. To establish that until 1 January 1994 on the territory of the Russian Federation the use for scientific research, educational, and personal purposes without the derivation of a profit of computer programs and databases, which appeared (were published) before the indicated Law took effect, is permitted without the consent of the author (the holder of the rights) and without the payment to him of a fee.

5. The Government of the Russian Federation:

by 31 December 1992 is to submit in accordance with established procedure for the consideration of the Supreme Soviet of the Russian Federation drafts of laws of the Russian Federation on the making of changes and

additions in the RSFSR Civil Code, the RSFSR Criminal Code, and other legislative acts, which are connected with questions of the legal protection of computer programs and databases;

by 1 January 1993 is to bring the decisions of the Government of the Russian Federation in line with the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases";

by 1 January 1993 to ensure the review and repeal by ministries, state committees, departments, and other organizations of the Russian Federation of their standard acts, including instructions, which are at variance with the indicated Law;

by 31 December 1992 to ensure the passage of standard acts in conformity with the indicated Law;

to envisage in the republic budget of the Russian Federation, starting in 1992, all the necessary items of expenditures in conformity with the indicated Law.

6. The Committee of the Supreme Soviet of the Russian Federation for Science and Public Education with the participation of the State Patent Office of the Russian Federation is to generalize the practice of the application of the indicated Law and to report the results to the Supreme Soviet of the Russian Federation by 1 January 1994.

[Signed] Chairman of the Supreme Soviet of the Russian Federation R.I. Khasbulatov

Moscow, the House of Soviets of Russia

23 September 1992

No. 3524-1

Decree of the Supreme Soviet of the Russian Federation "On the Reconsideration of the Law of the Russian Federation 'On the Legal Protection of Computer Programs and Databases'"

Having considered the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases," which was returned by the President of the Russian Federation, the Supreme Soviet of the Russian Federation resolves:

1. In conformity with the second part of Article 117 of the Constitution (Basic Law) of the Russian Federation to pass again the Law of the Russian Federation "On the Legal Protection of Computer Programs and Databases with the proposed amendment of the text of Article 2 of the indicated Law.

2. To insert the appropriate amendments in point 5 of the Decree of the Supreme Soviet of the Russian Federation of 14 May 1992 "On the Procedure of Putting the Law of the Russian Federation 'On the Legal Protection of Computer Programs and Databases' Into Effect."

[Signed] Chairman of the Supreme Soviet of the Russian Federation R.I. Khasbulatov

Moscow, the House of Soviets of Russia

23 September 1992

No. 3525-1

Status of 'Secret' Inventions Discussed

937A0064A Moscow RADIKAL in Russian No 43 (100), Nov 92 p 10

[Interview with Vladimir Smirnov by S. Vladimirov under the rubric "Our Rights"; place and date not given: "What Will Happen to Secret Inventions"—first two paragraphs are RADIKAL introduction]

[Text] Numerous questions about the drawing up of draft laws and lawful acts, which supplement the Patent Law of the Russian Federation, are being received by the editorial office. Readers are displaying particular interest in the status of so-called secret inventions. It will be clarified in the document "On the Procedure of the Handling of Secret Inventions, Useful Models, and Industrial Designs and the Compensation for Their Classification," which the government of the Russian Federation has been commissioned to draw up.

We asked Vladimir Smirnov, an expert from the group of drafters of this document, to answer questions that are of practical interest to our readers. And by trying to use as completely as possible the text of the draft of the document being prepared, we are hoping for a kind of public examination of the document and ask that you send your remarks and suggestions to the editorial office.

[Vladimirov] Could you briefly explain to what the necessity of the prompt drafting of the document, which will be discussed, is due?

[Smirnov] Any law regulates a group of legal relations, which is entirely specific and is characteristic only of it. For example, if the reader would turn to Article 1 of the Patent Law, he would see that there are regulated in it "...the property relations, as well as the personal non-property relations connected with them, which arise in connection with the development, legal protection, and use of inventions, useful models, and industrial designs." Further in Point 5 of Article 3 of the Law it is stated word for word that "...Legal protection in conformity with this Law is not granted to inventions, useful models, and industrial designs, which have been recognized by the state as secret."

[Vladimirov] And still, if legal protection is not granted by the Law itself to secret objects of industrial property, will this not decrease creative activity among the developers of special equipment? The stimuli will be, as they say, the wrong ones....

[Smirnov] In the above-mentioned Point 5 of Article 3 of the Law there is the following premise: "...The procedure of handling secret inventions, useful models, and industrial designs is regulated by special legislation of the Russian Federation." Thus, a mechanism of the regulation of legal relations with secret inventions, useful models, and industrial designs is envisaged by the Patent Law.

How this mechanism of legal relations will be revealed and at what level it will be decided, is a different matter. Some personnel of the State Patent Office understand by the procedure of handing secret objects of industrial property only the observance of the regime of secrecy. In our opinion, this is a more multidimensional document. The demands on the application, the body of criteria, questions of examination, and many others should be decided along the lines of the requirements of the Patent Law. There will also be a fundamental distinction here with regard to the group of additional users—based on prevailing standard documents on the regime of secrecy and other distinctions.

[Vladimirov] But is it possible to settle questions of the legal protection of secret inventions, useful models, and industrial designs by other laws—for example, on job-related inventions, on the state secret?

[Smirnov] On no account. They regulate completely different legal relations.

Our document will specify the conditions of the submission and examination of applications for secret objects of industrial property, the dissemination of information about them, the payment of compensation for their classification, and the payment of fees for the use of secret inventions, useful models, and industrial designs in case of the development and manufacture of special-purpose products.

[Vladimirov] Now people are talking about many cases of unfounded classification. On what grounds will it be carried out in the future?

[Smirnov] Only in strict accordance with the List of Information Which Constitutes State Secrets. Ministries and departments will approve it.

Classification for reasons of the protection of a commercial secret of the applicant or for other reasons is not permitted, of course, if this is not connected with the protection of state secrets.

[Vladimirov] What will demands on the drawing up of applications for secret objects of industrial property be like?

[Smirnov] The applications for them are drawn up in conformity with the demands of the Patent Law on open applications and of standard documents of the State Patent Office on this question. Incidentally, in our opinion, the problem of the stimulation of the developers—first of all!—of fundamentally new weapons systems, military equipment, and special equipment of law enforcement agencies should be solved precisely at the legislative level.

This is a multidimensional problem. It includes, first, the regulation of the legal relations that arise in connection with the development and use of objects of industrial property, which in the interests of national security have been recognized as secret. It is also possible to extend to the authors of secret objects the effect of the benefits, the procedure of material stimulation, and the protection of rights—everything that is envisaged by the Patent Law

and other legislation of the Russian Federation for the authors of inventions that are not secret.

The extension to managing subjects, which use secret objects of industrial property, of the effect of all the already adopted benefits is just as reasonable.

The government of the Russian Federation in connection with all this has to specify the list of ministries and departments, to which the rights on the acceptance for consideration, the conducting of an examination, and the establishment of the priority of applications for secret objects of industrial property will be granted.

The establishment of the sources of the financing of work and compensatory payments, which are envisaged by "The Procedure of the Handling...," is also within its jurisdiction.

[Vladimirov] What protective document will be issued for classified objects of industrial property?

On the basis of a favorable ruling of the expert commission on the conformity of objects of industrial property to the conditions of protectibility the State Patent Office registers and issues to the applicant a certificate for authorship, priority, and the right of use and the receipt of compensation.

A certificate is not issued for a secret useful model. Why? Let us turn to Point 1 of Article 23 of the Patent Law: "In case of the examination of an application for a useful model verification of conformity to the conditions of patentability, which are established by Point 1 of Article 5 of this Law, is not carried out, that is, the novelty and inventive level are not verified." And as a consequence—"a certificate is issued on the responsibility of the applicant without a guarantee of authenticity."

[Vladimirov] Where is it possible to appeal decisions on secret objects of industrial property?

[Smirnov] Complaints about decisions are considered where they were made. The decisions, which have been made on a complaint by the management of the corresponding ministry or the State Patent Office, are final.

[Vladimirov] To whom is the monetary compensation for the classification of objects of industrial property paid?

[Smirnov] The ministry, which confirmed the necessity of classification, pays compensation to the applicants—in a lump sum—and, of course, only with regard to the applications, on which it made a favorable ruling.

[Vladimirov] What does the monetary compensation for classification include?

[Smirnov] The reimbursement of the expenses of the applicant on the payment of patent fees and the payment to the author of an incentive fee.

[Vladimirov] What is the amount of this fee?

[Smirnov] Tentatively its amount will be equal to five minimum wages. Payment should be made within a month from the day of receipt of the certificate. Monetary compensation is not paid for the classification of useful models.

[Vladimirov] Is a fee paid to authors who have not been indicated as applicants?

[Smirnov] Yes. The legislation of the Russian Federation on job-related inventions, useful models, and industrial designs establishes the amount of the fee and the procedure of payment.

[Vladimirov] Who makes the decision on declassification?

[Smirnov] Here, in our opinion, it is advisable to examine the question a little more broadly. Verification of the necessity of maintaining the established degree of secrecy of an object of industrial property by the ministry, which confirmed the necessity of classification, is made no less often than once every three years. Such verification in principle can also be made earlier on the initiative of the applicant.

The applicant jointly with the corresponding ministry makes the decision on declassification. This decision on declassification is reported to the State Patent Office.

[Vladimirov] Who will maintain the State Register of Secret Inventions?

[Smirnov] There are two points of view. Some experts consider that a state administrative body, that is, the State Patent Office, should maintain this register.

Other experts believe that the certificate for secret inventions should be issued by the ministry which conducted the examination of these inventions. In our opinion, a centralized system of the issuing of certificates for secret inventions—a common form of the document, numbering, a data bank, and so forth—is preferable.

Ukraine Adopts Temporary Patent Law

937A0072A Moscow RADIKAL in Russian No 45 (102), Nov 92 p 11

[Article by Docent Igor Krylov under the rubric "There Is a Law!": "How To Obtain a Patent of Ukraine"—first paragraph is RADIKAL introduction]

[Text] "The Temporary Statute on the Legal Protection of Objects of Industrial Property and Efficiency Proposals in Ukraine" was approved by Edict No. 479/92 of President of Ukraine Leonid Kravchuk of 18 September. Inasmuch as this document will be in effect until the passage of the corresponding laws of Ukraine, about the specific dates of the consideration of which in the parliament it is hard to say anything specific, and affects all inventors who are the holders of authorship certificates of the former USSR, its analysis is of unquestionable practical interest.

The Inventor and the Employer

"The Temporary Statute..." regulates questions of the development, legal protection, and use of inventions, industrial designs, trademarks, and efficiency proposals. In the new Russian legislation, which also grants legal protection to useful models, the names of the places of origin of goods, computer programs, databases, and integrated microcircuits, the group of objects of intellectual property, which can be protected, is significantly broader. This will surely cause conflicts in those instances, when legal protection on Ukrainian territory cannot be obtained for an object that is protected by Russian legislation.

It is gratifying that Point 6 of "The Temporary Statute..." and Article 4 of the patent law of Russia establish analogous criteria of the patentability of an invention—absolute world novelty, an invention level, and industrial applicability. The definitions of these criteria as a whole a similar, but in the Russian legislation the concept "level of technology" is more detailed. At the same time the different term of the author's preference with regard to novelty can cause certain difficulties. According to Point 1 of Article 4 of the Russian law the preferential period comes to six months, while Point 26 of the Ukrainian statute extends it to 12 months.

The demands, which are made by the Russian and Ukrainian legislation on industrial designs and trademarks, which can be protected, are similar.

In specifying the interrelations of the author and the employer, the new patent legislation of both Russia and Ukraine proceeds from the same contractual concept of the transfer of rights. However, the Russian law contains the concept "job-related invention," which is absent in the Ukrainian statute. The right to it can be reserved for the author either by virtue of the terms of the contract with the employer or if the employer within a specific time after notification by the author of the developed technical solution has not submitted an application for it. Here the deadline for the submission of an application by the employer in the Russian law is specified as four months (Point 2 of Article 8), while in the Ukrainian statute it is specified as three months (Point 11).

Moreover, in contrast to the Ukrainian legislation, the Russian legislation contains a supplementary clause about "an award that is proportionate to the profit, which was derived or could have been derived by the employer in case of the proper use of the object of industrial property." From this standpoint the patent law of Russia protects the rights of the author of a job-related invention better than "The Temporary Statute..." of Ukraine.

In addition to the author and the employer the state—in the person of the Federal Fund of Inventions of Russia or the Fund of Inventions of Ukraine—can act as the patentee in the legislation of both Russia and Ukraine.

The terms of validity of the protective documents of Russia and Ukraine are similar and come as of the date of receipt of the application by the patent office to: 20 years for patents for inventions; 10 years for patents for industrial designs; 10 years with the unlimited possibility of a 10-year extension for certificates for trademarks.

The extent of the exclusive rights of the patentee and the actions, which are not recognized as their violations, are specified in approximately the same way in the patent legislation of Russia and Ukraine. However, "The Temporary Statute..." does not envisage the possibility of the granting of a compulsory nonexclusive license in case of the failure to use or the inadequate use of a patent, which is envisaged by Point 4 of Article 10 of the Russian patent law.

The Examination of Inventions

The procedure of obtaining a patent of Ukraine is of the greatest practical interest. Let us dwell on it in greater detail. In Point 20 of "The Temporary Statute..." it is established that foreign natural and legal persons conduct business on the obtaining and keeping in force of patents through patent agents, who are registered at the State Patent Office of Ukraine. According to the information received from the State Patent Office of Ukraine, so far 21 patent agents have gone through the procedure of the taking of the qualification examination and official registration. The composition of the application documentation is similar to the one, which was used earlier in union legislation and has been retained in the Russian patent law. It is required to translate into Ukrainian only the statement on the issuing of a protective document, the other documents can be submitted in Russian, but the State Patent Office of Ukraine has the right to request from the applicant their translation into Ukrainian.

Both in Russia and in Ukraine the new patent legislation introduces a deferred system of the examination of applications for inventions. The system of the examination of industrial designs in Ukraine is an informative one (Point 27 of "The Temporary Statute..."), while in Russia it is a verification one. Several differences also exist in the details of the deferred system of examination. Thus, a formal examination in Russia should be conducted within two months from the date of receipt of the application (Point 1 of Article 21 of the patent law), in Ukraine its deadline is not specified legislatively (Point 23 of "The Temporary Statute...").

But the difference in the times of the possible deferment of the examination in essence is most significant—in Russia the petition on its conducting should be submitted within three years from the date of receipt of the application (Point 7 of Article 21 of the patent law), while in Ukraine the analogous time comes to five years (Point 26 of "The Temporary Statute..."). This, undoubtedly, will complicate the reciprocal patenting of inventions. As a most tentative recommendation I will

note—first patent inventions in Russia (the time of the possible deferment of the examination is two years shorter), and then in Ukraine.

Both patent legislations, unfortunately, do not specify maximum deadlines of the examination in essence. Both in Russia and in Ukraine information about the application is published 18 months after the date of priority, temporary legal protection, which is in effect until the publication of the patent (in Russia) or until registration in the State Register (in Ukraine), is granted to the inventor as of this date.

The procedure of appealing a denial of the patent office in Russia is more complicated and includes two instances—the Chamber of Appeals and the Supreme Patent Chamber (the patent court). In Ukraine the applicant has the opportunity to appeal an examination decision in one instance—the Appeal Council—the decision of which can be reviewed only by order of the chairman of the State Patent Office of Ukraine (Point 26 of "The Temporary Statute...").

"The Temporary Statute..." contains Point 36, which specifies the procedure of the submission of an application to the Interstate Organization for the Protection of Industrial Property. Thus, Ukrainian patent experts, who have repeatedly expressed particular interest in a common patent of the states of the CIS, envisaged this long-range possibility, although in practice it has thus far not been possible to reach any specific understandings on these problems among the states of the CIS.

The legislation of Russia and Ukraine decides in similar ways the questions of foreign patenting—three months after the submission of an application in the country its submission to foreign countries is permitted.

The Use of Industrial Property

Finally, in contrast to the Russian patent law, which in principle does not regulate questions of the use of inventions, "The Temporary Statute..." in sections VIII-IX contains a number of corresponding legal norms. Thus, Point 48 of "The Temporary Statute...," in speaking about the preferential taxation of the use of inventions, contains a reference norm to Article 5, Points a, b, and c of the law of Ukraine "On Taxes From Enterprises...," which, as is known, includes a five-year 100-percent tax credit for the patentee and the licensee. Alas, as a consequence of the unreasonable tax policy of the Russian government enterprises, organizations, and inventors of Russia have been deprived of this extremely necessary stimulating measure. "The Temporary Statute..." in contrast to the Russian law does not specify the types of license agreements, but also establishes the mandatory nature of their registration at the State Patent Office of Ukraine.

The minimum amount of the inventor's fee, which is paid to the inventor in accordance with a contract with the employer or in case of the transfer of the rights to the Fund of Inventions of Ukraine, is established in Point 51 of "The Temporary Statute...." This fee cannot be less than: 10 percent of the revenue, which is derived from the use of the invention or efficiency proposal; 20 percent of the license fee for an invention or industrial design; 2 percent of the share of the production cost, for which the invention or efficiency proposal accounts, if it does not yield direct revenue. The fee for an invention and an industrial design is paid during the term of validity of the patent and for an efficiency proposal during the first two years of its use. It should be paid within a three-month period after the expiration of the calendar year of the use of the invention or efficiency proposal.

In case of the violation of the dates of payment a fine of 0.04 percent of the amount due for payment for each day of delay is imposed. In Point 70 it is established that the bonuses for the promotion of invention and rationalization cannot exceed the amounts of the inventor's fee for the corresponding inventions, industrial designs, and efficiency proposals.

As a whole the stimulation of authors is practically analogous to the stimulation, which was used in the union law "On Inventions in the USSR" and at present has been prolonged in Russia by Point 6 of the decree of the Supreme Soviet "On Putting the Patent Law Into Effect." With the exception of the fact that the 10 percent from the revenue, apparently, will constitute a more significant inventor's fee than the 15 percent from the profit, which was envisaged by the union law. Although I should note that the union law (true, in parentheses) also envisaged the possibility of the deduction of the fee from the revenue of the patentee.

The Exchange of Authorship Certificates for Patents

Point 64 of "The Temporary Statute..." contains norms that are of unquestionable interest to all inventors and patent experts. On the petition of the author (coauthors) and given the consent of the applicant authorship certificates of the former USSR can be exchanged for patents of Ukraine. For this it is required that at the moment of the introduction of "The Temporary Statute..."—on 18 September 1992—with respect to these authorship certificates the 20-year period from the date of the submission of the application (the 15-year period for industrial designs) would not have expired—then the issuing of a patent of Ukraine for the remaining period is possible. In case of the failure to receive a petition on exchange within a year (that is, by 18 September 1993) the exclusive rights to authorship certificates of the former USSR for the remaining period will be transferred to the Fund of Inventions of Ukraine. As to patents of the former USSR for inventions and industrial designs and certificates for trademarks, their registration at the Ukrainian State Patent Office is required for the confirmation of their validity on the territory of Ukraine.

The fees for legally significant actions on the protection of objects of industrial property in Ukraine are specified by the addenda to Law No. 8/10 "On State Fees" of 7

July 1992. Thus, for example, for the submission of an application for an invention the fee comes to 450 rubles [R], for the conducting of an examination—R1,800, for the issuing of a patent—R900. The annual fee for the maintenance of a patent is collected starting with the third year of its validity. As a whole, as they reported to me at the State Patent Office of Ukraine, the maintenance of a Ukrainian patent for 20 years will cost about R40,000—for the present for applicants from the states of the CIS it is possible to pay all the fees with rubles.

The last detail, of course, is pleasing. But as a whole the conducted analysis of "The Temporary Statute..." testifies to the presence of significant differences between the Russian and Ukrainian patent legislation. This, undoubtedly, will not benefit the development of economic and scientific and technical relations between the two states and will significantly complicate the work of patent experts and inventors.

252008, Kiev, Ulitsa Karla Libknekhta, 4, the State Patent Office of Ukraine.

252133, Kiev, Bulvar Lesi Ukrainki, 26, the Scientific Research Center of Patent Examination (address for the submission of applications and petitions).

Siberian Scientists Air Complaints

937A0059A Moscow ROSSIYSKAYA GAZETA in Russian 27 Nov 92 p 9

[Report by ROSSIYSKAYA GAZETA correspondent Valeriy Ivanitskiy on ROSSIYSKAYA GAZETA round table under the rubric "Emphasis": "Siberian Scientists Sound the Alarm"—first paragraph is ROSSIYSKAYA GAZETA introduction]

[Text] Novosibirsk—"A society, which considers itself civilized, first of all is obliged to take care of science, culture, education. If it does not do this, it does not have a future, it is doomed to degradation. If Russia does not take urgent steps, degeneration is in store for it as a state"—it was with such, let us say frankly, a gloomy assertion that the discussion of the present state of domestic science began. [passage omitted]

Corresponding Member of the RAS [Russian Academy of Sciences] Valentin Nikolayevich Parmon, Deputy Director of the Institute of Catalysis of the Siberian Department of the RAS:

I can name the reference point, with which the destruction of domestic science began—this is the start of perestroyka.... They began to throw mud at science as the author of our failures. They particularly attacked the Academy of Sciences due to its "undemocratic nature."

The Academy of Sciences was and should be a conservative organization. Look at its age—more than 250 years old! Owing to its conservatism it was also able to survive all the ordeals which fell to the lot of Russia over these two and a half centuries. Is it now really necessary for the academy to restructure itself immediately after the pattern of the rosy democrats? It is another matter that, in addition to the Russian Academy of Sciences, undoubtedly, there should be very many other versions of the organization of science.

Therefore, the main feeling that I am experiencing is that we have become unnecessary to the state. They have kindly permitted us to survive—no more. [passage omitted]

And All the Same We Are Trying To Save Ourselves

V. Parmon:

It is a little easier for us: Our institute was more prepared for independent life. About 20 years ago we coordinated throughout the Soviet Union a large and practically important direction and, therefore, we know well where we are needed. We require a very large amount of general financing. The institute is costly with respect to equipment, the most wealthy one among the institutes of our type. And that is why, even when the opportunity to increase the wage sharply appeared, we withstood this temptation and continued the investments in science. And although our associates did not speak very well of the board of directors, we did not agree to the spending of all our money.

Now we are changing over to the contract system. At the institute about 100 people have already signed individual contracts with the increased (by two- to threefold) remuneration of labor. We began with doctors of sciences, that is, with the people who have a certificate of skills, which does not depend on the board of directors of the institute. This is very important for the objective selection of associates with an increased remuneration of labor. About 90 doctors of sciences (that is, nearly all of them) have agreed to change over to individual contracts. Then the people, on whom the life of our institute depends (as a whole there are about 10 such people and this has its painful points, first of all financial and administrative), changed over to contracts. Then we also began to consider the requests of other associates for their changeover to contracts.

The contract is an agreement, a rather specific and rigid one. Given the overall shortage of assets contracts are a means of the selective support of those centers of the crystallization of science, which now require special protection. [passage omitted]

Academician Anatoliy Panteleyevich Derevyanko, director of the Institute of Archeology and Ethnography of the Siberian Department of the RAS:

And all the same one cannot live without commerce. The monthly budget suffices us for only a week. We will be frank: Commercial activity enables us to conduct scientific research.

Our scientific tourism is really intellectual. We specially selected very demanding partners—the Swiss, who are spoiled by service.

The revenue from the receiving of such groups is used for the payment for transportation, the wage of associates of the institute, and field and laboratory research. [passage omitted]

Prophets Without a Homeland

Corresponding Member of the RAS Eduard Pavlovich Kruglyakov, Deputy Director of the Institute of Nuclear Physics of the Siberian Department of the Russian Academy of Sciences

One of the directions of research, in which the Institute of Nuclear Physics is engaged today, involves plasma physics and the problem of controlled thermonuclear fusion. In this area the institute has its own character. Suffice it to say that all the plasma confinement systems, which are known among physicists by the name "open systems," were proposed by us.

Today world science has begun the development of an experimental thermonuclear reactor (ITER). For the transition to thermonuclear power engineering physicists urgently need a powerful source of thermonuclear neutrons. The layout of such a source was proposed at our institute. In spite of enormous financial difficulties, we have begun the implementation of a full-scale model of a neutron generator.

The second direction of our activity in the area of basic physics involves research in the area of high-energy physics. More than half of our associates are engaged in this research.

I would also like to direct attention to a third direction of our activity. In the course of basic research a large number of "by-products" of science, which are extremely useful to the national economy, appear. Many years ago the introduction of applied jobs in industry began.

Today there are many impressive examples of the use of, for example, our industrial accelerators in the economy of the country. Near Voronezh there is an enormous underground reservoir of water about 30 km in diameter. Back in the 1950s the water was contaminated by the chemical industry of the city. In the last eight years the continuous treatment of this water has been carried out by means of our accelerators, and today the untreated zone comes to less than 1 km. Or another address: For many years accelerators of the institute have been operated at the Odessa Port Elevator, irradiating the grain and increasing its degree of preservation.

In general radiation technologies based on accelerators gave the country an enormous economic impact. But all this is in the past—today Russia does not need them. But abroad they are in demand. Japan, for example, is buying an accelerator from us. In Russia only one plant removes harmful emissions from smoke in this way.

Another example. Large electron accelerators, which were built for studying the microcosm, gave industry an amazing phenomenon—synchrotron radiation (SI). In microelectronics and micromechanics it literally caused a revolution. But today scarcely one-tenth of the possibilities of this amazing radiation are being used. And again we are receiving proposals on the joint development of sources of synchrotron radiation for other countries....

Or the following fact. For the study of rare phenomena of the microcosm physicists have to develop supersensitive detectors, which are capable of registering every particle, even quantum. When such a detector was developed, it turned out that on its basis it is possible to build an X-ray unit which enables medical personnel to reduce by hundreds of fold the radiation doses of patients. The institute built several such units. One, we know, is operating in Moscow, at the Institute of Mother and Child, and has saved the life of many women in childbirth with serious pathologies. But whom does this interest?

For ages they kept telling us: Science should sell the by-products of scientific production, introducing them in industry, fattening itself, and releasing the earned assets for its own development. But earlier these assets were help. Today we are earning more than we receive from the state. That is, the state is inciting us to commercialization.

The Institute of Nuclear Physics is today also a world-class institute. But its degeneration is not far off. We will become an applied institute. But it is not for this that the country created us! [passage omitted]

Foreign Sales Save Siberian Math Journal

937A0070A Moscow RADIKAL in Russian No 43 (100), Nov 92 p 11

[Article under the rubric "News From Siberia": "SIBIRSKIY MATEMATICHESKIY ZHURNAL Yields a Profit"]

[Text] As is known, the publication of scientific literature, including periodical literature, is financed by the Academy of Sciences. In former times it did not occur to anyone to think about the unprofitability of this matter and about the problems connected with this. However, "the good old times" have passed.

Today the production expenses for the publication of the same SIBIRSKIY MATEMATICHESKIY ZHURNAL come to hundreds of thousands of rubles. The meager academy budget will not squeeze out such a sum. Meanwhile SIBIRSKIY MATEMATICHESKIY ZHURNAL for 25 years has been published in the United States with a profit for the American partners. Mathematicians, whom earlier merely the very fact of the existence of the journal in English interested, counted at last and ascertained that even the sale of one issue of the Russian journal abroad compensates for its production.

Then the Institute of Mathematics of the Siberian Department of the Russian Academy of Sciences decided to engage in publishing activity independently, having given up the services of intermediaries. The undertaking of the editorial board of SIBIRSKIY MATEMATICHESKIY ZHURNAL received the full support of Academician V. Koptyug, chairman of the Siberian Department of the Russian Academy of Sciences. The editorial board of the journal intends to organize its production at the institute during the new year of 1993. The official founders are the Siberian Department of the Russian Academy of Sciences and the Institute of Mathematics. The electronic production of the journal will help to cope with technical difficulties. The simultaneous preparation of the makeup pages in Russian and English is very advantageous for the publishers and the American partners, for graphics and formulas do not need translation. It is extremely important that the institute obtained the right to make all settlements directly with the authors and translators—it remains for them merely to pay income tax.

Academy of Technological Sciences Head on Nanotechnology Research

937A0070B Moscow RADIKAL in Russian No 45 (102), Nov 92 p 10

[Interview with Vladimir Nikolayevich Alfeyev, president of the Academy of Technological Sciences of

Russia, under the rubric "News From the Academies"; date not given: "The Attractive and Insiduous 'Nano'"—first three paragraphs are RADIKAL introduction]

[Text] At the general meeting of the Academy of Technological Sciences of Russia President of the ATSR [Academy of Technological Sciences of Russia] Vladimir Alfeyev somewhat surprised and angered and at the same time raised the hopes of many people, having spoke a few phrases about one of the directions of work of the academy—**nanotechnology.**

"The research in this field is similar to the work on the development of the atomic bomb, when everything was done in utter secret, mankind was unable to control this research, and here is the result—Hiroshima, Nagasaki, several territories of Russia." Alfeyev also announced the decision of the international community on the holding in Russia of the Second International Congress of Nanotechnologies, NANO-92.

Therefore, the first question for Vladimir Nikolayevich, with whom we met in the only won space of the ATSR in the building of the State Committee for Standards—in the office of Alfeyev himself:

[RADIKAL] Why are you raising this technology, the ideas about which for many people are completely premature and which they imagine only as a refinement, an improvement of existing microtechnologies, to the rank of ones that are so revolutionizing, like nuclear technologies, and are in some way dangerous for mankind?

[Alfeyev] Nuclear technologies originated in supersecret laboratories, without any publicity. Everyone knows the result—they let the genie out of the bottle. Now everyone is actively combating the most dangerous thing—the radioactive contamination of the environment and the proliferation of nuclear weapons. So that mankind would not repeat the same mistake a second time, specialists from the United States, Japan, Switzerland, Russia, and a number of other countries proposed to place under the control of the community research in the area of nanotechnology.

In 1991 the First International Congress on "Nano," at which they decided that every step in this area would be discussed periodically at international congresses and an association of scientists of the world, which constantly monitors "nano"—the International Academy of Technological Sciences—would be established, was held in the United States. Its representations are in the United States and Switzerland. Jointly with the ATSR this academy is already carrying out the preparation of NANO-92. Moreover, a special representation at the United Nations, which will notify the world of the most important events in the nanotechnology field, is envisaged.

[RADIKAL] Public means are understandable, they are very impressive. And still why such precautions?

[Alfeyev] All technologies, including microtechnology, built the world out of some standard bricks. For example, electronic circuits are built out of transistors and microcircuits. While nanotechnology has already come close to developing systems, including by assembly out of individual atoms.

In short, nanotechnology is encroaching upon the sanctum of nature, and here the most unexpected consequences are possible.

[RADIKAL] But is this not what they are accusing genetic engineering of?

[Alfeyev] Geneticists work at an incomparably more crude level and do not go down, to atoms. While "nano" is capable of helping geneticists in the improvement of "sick" elements and is capable of the purposeful change of nature. It is frightening to imagine what will happen if those wishing to use this technology for the purposes of destruction master its possibilities....

[RADIKAL] Is it a question of self-reproducing bloodthirsty cybers, monster mutants, controlled insects and bacteria?

[Alfeyev] It is entirely possible to imagine such a thing. The first practical steps in the field of nanotechnology have already been taken. In particular, we are working on the development of a new type of memory, which we call TERABIT memory.

Her we can achieve in principle a density of 10^{12} bits per cm^2. International centers, which are developing integrated equipment for the production of nanotechnology devices, have been established under the Academy of Technological Sciences of Russia. More than 30 state enterprises have been enlisted in the operations. On the part of the ATSR our Academician Valeriy Nikishin, deputy director for science of the Mikroelektronika Scientific Production Association, is supervising the operations. The Institute of Nanotechnology and Nanoelectronics, which is making close contact with plants, has been established.

[RADIKAL] That is, the production of equipment has already been placed owing to the actions of the Academy on an industrial basis. You explained that this equipment will make it possible to make the most powerful information devices and robotics, computers with a giant memory capacity and high speed. And we will then be able to forget the failures in the area of the development of a domestic supercomputer, over which the most prominent scientists are racking their brains to this day, surpassing to some extent even the world level in the area of the architecture of similar devices. Now this, apparently, will no longer be that important....

[Alfeyev] I do not know, for the present it is too early to talk about this—who will make a computer based on this memory and how.

I also regard as an extremely urgent task for Russia the development of electronic money circulation. We need it

more than everyone in the world. We have about 300 million inhabitants, entire carloads of money are being sent from one end of the country to another. But if everything were placed on electronic service, 500 million subscribers would appear in our country. Imagine what power of processing centers are needed in order to regulate the work with electronic money. Everyone has credit cards. Thus, both in the metro and at a pay telephone one will have to use a card.

[RADIKAL] Tell me, how soon will the set of equipment for nanotechnology be ready?

[Alfeyev] Next year, I think. The work is in full swing. An experimental model of the integrated equipment is already practically ready.

[RADIKAL] What is the nature of this equipment?

[Alfeyev] The discovery of Swiss scientists G. Rorer and G. Binnit of scanning tunnel microscopy, which makes it possible to scan sequentially, atom after atom, that is, to cover line by line the segment being studied, gave rise to nanotechnology. This created the opportunity to develop new elements which consist of only two or three atoms. The Swiss scientists were awarded the 1986 Nobel Prize.

Russian scientists and engineers, who are cooperating with our academy, were also able to develop several types of scanning microscopes, or to put it more correctly, nanoscopes. Similar instruments, as well as several tens of thousands of assemblies are also included in the set of technological equipment for the development of terabit memory.

The work is under way at state enterprises and at design bureaus. The state is releasing some assets to these organizations. For the present it is too early to talk about the required amount. But we hope that, having obtained real results and having presented them to foreign investors, we will also have the lacking sums.

[RADIKAL] Are western businessmen already willing to invest money in Russian nanotechnology?

[Alfeyev] Yes, in the West they have already understood that this is a profitable business. Two years ago I was in New York and displayed our developments. Many people took an interest. When appearing on the international arena, we constantly tell about our capabilities. Thus, we can already put our nanoscopes on sale—appraising each one at $100,000-120,000.

We also have something to offer in addition to terabit memory. For example, the result of our many years of joint research with Turkmen scientists is colored cotton. This is also a unique result of nanotechnology. We have learned to grow cotton of different colors and shades—beige, brownish red, sky blue.... We achieved this by changing the atomic structure in the genes of cotton. The first harvests have already been gathered on the fields of Turkmenia. While our pattern makers have developed a unique collection of clothing and linen.

[RADIKAL] Here, to all appearances, there is much money in the future, is there not?

[Alfeyev] We would hope so. I exhibited our works in New York. Representatives of foreign firms often come and see me. Why, they were here just yesterday.

[RADIKAL] Vladimir Nikolayevich, you have just told about undertakings which can yield simply incredible revenues. Here, to all appearances, considerable money has already been spent on experimental models. And given all this at the general meeting of the academy you revealed to its members the big secret that at the bank there is nothing in the account of the academy, moreover, there are large debts. How can it be? For the work is on nanotechnology, you use large sums, and given this are you admitting to poverty?

[Alfeyev] Well, this is completely different money.... What passes through state enterprises is one thing, while the organizational needs and programs of the ATSR are a completely different thing. Moreover, I will say honestly, at one time we firmly believed the edict of the president that the Academy of Technological Sciences of Russia would be financed from state sources. But they let us down. They did not give a kopeck either for our programs or for the needs of the academy. Thus far there is also no money for the organization of the congress on NANO-92. We are seeking sponsors. But, I think, all this is not that terrible and not so literal. Everything is in dynamic equilibrium. We are waiting for money, we will get something on credit, while here our developments are approaching, businessmen are taking an interest—any moment buyers and investors will appear. Perhaps, they will remember us in the government and in the Supreme Soviet. But if they do not, we will remind them of ourselves. We will remind them with our deeds.

Ukraine Announces 1992 State Prizes for Science, Technology

937A0077A Kiev PRAVDA UKRAINY in Russian 20 Dec 92 pp 1, 2

[Edict of President of Ukraine L. Kravchuk "On the Awarding of the 1992 State Prizes of Ukraine in Science and Technology" of 19 December 1992]

[Text] 1. On the basis of the statement of the Committee for State Prizes of Ukraine in Science and Technology to award the 1992 State Prizes of Ukraine in Science and Technology to:

—for the series of works "Research on Integral and Meromorphic Functions":

Iosif Vladimirovich Ostrovskiy, corresponding member of the Academy of Sciences of Ukraine, head of a department of the Physical Technical Institute of Low Temperatures of the Academy of Sciences of Ukraine,

Boris Yakovlevich Levin, doctor of physical mathematical sciences, lead scientific associate of the Physical Technical Institute of Low Temperatures of the Academy of Sciences of Ukraine,

Anatoliy Asirovich Goldberg, doctor of physical mathematical sciences, professor of Lvov State University imeni I.Ya. Franko;

—for the series of works "Fluctuations and Nonlinear Interaction of Waves in Plasma":

Aleksey Grigoryevich Sitenko, academician of the Academy of Sciences of Ukraine, director of the Institute of Theoretical Physics of the Academy of Sciences of Ukraine;

—for the work "Plasma Chemical Processes: The Physical Chemical Principles, Technology, Application":

Vladimir Dmitriyevich Parkhomenko, doctor of technical sciences, [passage illegible] for questions of science and technologies,

Boris Vasilyevich Tkachuk, doctor of chemical sciences, chief of the scientific production complex of the Saturn Scientific Research Institute,

Petr Ignatyevich Soroka, doctor of technical sciences, head of a chair of the Dnepropetrovsk Chemical Technology Institute,

Viktor Grigoryevich Vereshchak, candidate of technical sciences, lead scientific associate of the Dnepropetrovsk Chemical Technology Institute,

Stanislav Alekseyevich Yukhimchuk, doctor of technical sciences, head of a chair of the Zaporozhye Machine Building Institute,

Pavel Nikolayevich Tsybulev, candidate of technical sciences, lead scientific associate of the Institute of General and Inorganic Chemistry of the Academy of Sciences of Ukraine;

—for the development of organic phosphors and luminescent materials, the organization of their production in Ukraine, and introduction in various branches of the national economic, science, and technology:

Vladimir Petrovich Seminozhenko, corresponding member of the Academy of Sciences of Ukraine, director of the Institute of Single Crystals of the Academy of Sciences of Ukraine,

[L.Ya. Malkes] [passage illegible] the Institute of Single Crystals of the Academy of Sciences of Ukraine,

Boris Mordukhovich Krasovitskiy, doctor of chemical sciences, chief scientific associate of the Institute of Single Crystals of the Academy of Sciences of Ukraine,

Viktor Mikhaylovich Shershukov, candidate of chemical sciences, chief of a laboratory of the Institute of Single Crystals of the Academy of Sciences of Ukraine,

Lev Moiseyevich Yagupolskiy, doctor of chemical sciences, chief scientific associate of the Institute of Organic Chemistry of the Academy of Sciences of Ukraine,

Valeriy Ivanovich Kolodyazhnyy, general director of the Rubezhanskiy Krasitel Production Association,

Tamara Andreyevna Serdechnaya, chief of a shop of the Rubezhanskiy Krasitel Production Association,

Diya Georgiyevna Pereyaslova, doctor of technical sciences (posthumously);

—for the work *Likarski roslyny: entsyklopedychnyy dovidnyk (Medicinal Plants: An Encyclopedic Reference Book)* (Kiev, USZ, 1989):

Andrey Filippovich Lebeda, candidate of agricultural sciences, deputy director of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Nina Mikhaylovna Makarchuk, candidate of medical sciences, head of a laboratory of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Aleksandra Petrovna Isaykina, candidate of biological sciences, lead scientific associate of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Nadezhda Ivanovna Dzhurenko, candidate of biological sciences, senior scientific associate of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Vladimir Gavrilovich Sobko, candidate of biological sciences, senior scientific associate of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Vladimir Davidovich Osetrov, candidate of biological sciences, scientific associate of the Central Botanical Garden imeni N.N. Grishko of the Academy of Sciences of Ukraine,

Valeriya Vsevolodovna Krivenko, candidate of medical sciences, head of a laboratory of the Institute of Experimental Pathology, Oncology, and Radiobiology imeni R.Ye. Kavetskiy of the Academy of Sciences of Ukraine,

Andrey Mikhaylovich Grodzinskiy, academician of the Academy of Sciences of Ukraine (posthumously);

—for the discovery of a fundamentally new object of the prospecting of deposits of petroleum and gas as a source of the expansion of the fuel and energy base of Ukraine:

Ivan Ilich Chebanenko, academician of the Academy of Sciences of Ukraine, head of a department of the Institute of Geological Sciences of the Academy of Sciences of Ukraine,

Vladilen Alekseyevich Krayushkin, doctor of geological mineralogical sciences, head of a department of the Institute of Geological Sciences of the Academy of Sciences of Ukraine,

Viktor Petrovich Klochko, candidate of geological mineralogical sciences, lead scientific associate of the Institute of Geological Sciences of the Academy of Sciences of Ukraine,

Yevgeniy Stepanovich Dvoryanin, chief geologist of the Ukrgeofizika State Geophysics Enterprise,

Galina Dmitriyevna Zabello, former chief of a division of the Ukrgeofizika State Geophysics Enterprise,

Vladimir Vasilyevich Krot, chief of a main administration of the State Committee of Ukraine for Geology and the Use of Mineral Resources,

Petr Timofeyevich Pavlenko, chief of a division of the Poltavaneftegazgeologiya State Geological Enterprise,

Mikhail Ivanovich Ponomarenko, chief geologist of the Akhtyrka Administration of Drilling Operations of the Ukrneft Production Association;

—for the work "The Development of Fungal Microbiological Means of the Protection of Plants Against Pests and Diseases. The Development of the Technology of Their Production and Use":

Mikhail Pavlovich Lesovoy, academician of the Ukrainian Academy of Agrarian Sciences, director of the Ukrainian Scientific Research Institute of Plant Protection,

Nina Vladimirovna Lappa, candidate of biological sciences, head of a department of the Ukrainian Scientific Research Institute of Plant Protection,

Viktor Martynovich Goral, candidate of biological sciences, lead scientific associate of the Ukrainian Scientific Research Institute of Plant Protection,

Zinaida Makarovna Mudrik, head of a laboratory of the Kiyevskaya ovoshchnaya fabrika Hothouse Sovkhoz;

—for the creation, the development of the technology, and the study of the clinical effectiveness of the preparations Urolesan and Tsitrinol, which were produced on a plant basis:

Frants Ivanovich Mamchur, candidate of medical sciences, professor of the Ivano-Frankovsk Medical Institute,

Yevgeniy Mikhaylovich Neyko, doctor of medical sciences, rector of the Ivano-Frankovsk Medical Institute;

—for the series of works "The Development of the Scientific Principles and Methods of the Cryopreservation of Cellular Suspensions and Their Application in Medicine":

Apollon Maksimovich Belous, corresponding member of the Academy of Sciences of Ukraine, head of a department of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Vladimir Iosifovich Lugovoy, doctor of biological sciences, head of a department of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Viktor Alekseyevich Moiseyev, doctor of biological sciences, head of a department of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Anatoliy Nikolayevich Goltsev, doctor of medical sciences, head of a laboratory of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Aleksey Mikhaylovich Vorotilin, doctor of biological sciences, lead scientific associate of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Galina Stepanovna Lobintseva, candidate of biological sciences, senior scientific associate of the Institute of Problems of Cryobiology and Cryomedicine of the Academy of Sciences of Ukraine,

Georgiy Ivanovich Kogut, doctor of medical sciences, head of a laboratory of the Kiev Scientific Research Institute of Hematology and Blood Transfusion,

Semen Semenovich Lavrik, corresponding member of the Academy of Sciences of Ukraine (posthumously);

—for the development and introduction in production of a set of machines for the mechanization of the harvesting of fodder root crops:

Leonid Vladimirovich Pogorelyy, academician of the Ukrainian Academy of Agrarian Sciences, director of the Ukrainian State Center for the Testing and Prediction of Equipment and Technologies for Agricultural Production,

Aleksey Aleksandrovich Pokusa, general director of the Dnepropetrovskiy kombaynovyy zavod Collective (Public) Production Association,

Stepan Semenovich Tarasenko, chief engineer of the Dnepropetrovskiy kombaynovyy zavod Collective (Public) Production Association,

Vadim Georgiyevich Kuzminov, general designer of the Dnepropetrovskiy kombaynovyy zavod Collective (Public) Production Association,

Dmitriy Ignatyevich Kozhushko, chief of a division of the Dnepropetrovskiy kombaynovyy zavod Collective (Public) Production Association,

Spiridon Vasilyevich Chernyavskiy, chief of a division of the Dnepropetrovskiy kombaynovyy zavod Collective (Public) Production Association,

Vladimir Ivanovich Solovey, chief of a department of the Ministry of the Economy of Ukraine,

Vladimir Ivanovich Kravchuk, chairman of the board of the Volnotarasovskoye Collective Agricultural Enterprise of Belotserkovskiy Rayon of Kiev Oblast;

—for the series of works "The Structure and Properties of Metastable Amorphous and Microcrystalline Alloys Obtained by the Flash Cooling of the Melt and Their Use in Equipment";

Vladimir Vladimirovich Nemoshkalenko, academician of the Academy of Sciences of Ukraine, director of the Institute of Metal Physics of the Academy of Sciences of Ukraine,

Anatoliy Petrovich Shpak, doctor of physical mathematical sciences, head of a laboratory of the Institute of Metal Physics of the Academy of Sciences of Ukraine,

Valeriy Viktorovich Maslov, doctor of physical mathematical sciences, head of a department of the Institute of Metal Physics of the Academy of Sciences of Ukraine,

Aleksandra Vasilyevna Romanova, doctor of physical mathematical sciences, chief scientific associate of the Institute of Metal Physics of the Academy of Sciences of Ukraine,

Grigoriy Pavlovich Brekharya, doctor of physical mathematical sciences, head of a chair of Dnepropetrovsk State University,

Ivan Stepanovich Miroshnichenko, doctor of technical sciences, professor of Dnepropetrovsk State University,

Alèksandr Stepanovich Bakay, doctor of physical mathematical sciences, chief of a department of the Kharkov Physical Technical Institute;

—for the formulation of the scientific principles of the gas dynamic improvement and the development of highly economical and reliable settings of steam turbines with a rating of 200-1,000 megawatts:

Mikhail Antonovich Virchenko, candidate of technical sciences, chief engineer of the Kharkovskiy turbinnyy zavod Scientific Production Association of Atomic Turbine Building,

Viktor Nikolayevich Galatsan, candidate of technical sciences, chief of a division of the Kharkovskiy turbinnyy zavod Scientific Production Association of Atomic Turbine Building,

Boris Avramovich Arkadyev, doctor of technical sciences, deputy chief of a division of the Kharkovskiy turbinnyy zavod Scientific Production Association of Atomic Turbine Building,

Anatoliy Mikhaylovich Piastro, deputy chief process engineer of the Kharkovskiy turbinnyy zavod Scientific Production Association of Atomic Turbine Building,

Nikolay Artemovich Babadzhnyan, deputy chief designer of the Kharkovskiy turbinnyy zavod Scientific Production Association of Atomic Turbine Building,

Anatoliy Vladimirovich Boyko, doctor of technical sciences, professor of Kharkov Polytechnical Institute,

Anatoliy Viktorovich Garkusha, doctor of technical sciences, professor of Kharkov Polytechnical Institute,

Vitaliy Isayevich Gnesin, doctor of technical sciences, head of a department of the Institute of Problems of Machine Building of the Academy of Sciences of Ukraine;

—for the development and introduction of ecologically clean flow-line technologies of the quick production of food beverages based on the use of new silicon dioxide preparations:

Vasiliy Ivanovich Zinchenko, doctor of technical sciences, chief scientific associate of the Institute of Grapes and Wine "Magarach,"

Viktor Afanasyevich Zagoruyko, doctor of technical sciences, head of a department of the Institute of Grapes and Wine "Magarach,"

German Georgiyevich Valuyko, doctor of technical sciences, deputy director of the Institute of Grapes and Wine "Magarach,"

Aleksandr Sergeyevich Lukanin, candidate of technical sciences, lead scientific associate of the Institute of Grapes and Wine "Magarach,"

Roman Vasilyevich Sushko, candidate of chemical sciences, chairman of the Kalush City Soviet of People's Deputies,

Mikhail Ivanovich Khoma, candidate of technical sciences, director of the Kalush Research Works of the interbranch scientific technical complex of the Institute of Surface Chemistry of the Academy of Sciences of Ukraine,

Valeriy Sergeyevich Belyakov, director of the Sivashskoye Pilot Experimental Plant of the interbranch scientific technical complex of the Institute of Surface Chemistry of the Academy of Sciences of Ukraine,

Ivan Fedorovich Mironyuk, candidate of technical sciences, lead scientific associate of the Institute of Surface Chemistry of the Academy of Sciences of Ukraine;

—for the selection and introduction of new strains of sweet cherries in production:

Nikolay Ivanovich Turovtsev, doctor of agricultural sciences, head of a department of the Ukrainian Scientific Research Institute of Irrigated Horticulture,

Ivan Ignatyevich Mamayev, candidate of agricultural sciences, director of the Melitopolskoye Pilot Farm of the Ukrainian Scientific Research Institute of Irrigated Horticulture,

Mikhail Timofeyevich Oratovskiy, candidate of agricultural sciences (posthumously);

—for the textbook *Biofizika (Biophysics)* (Kiev, Vysshaya shkola, 1988):

Platon Grigoryevich Kostyuk, academician, director of the Institute of Physiology imeni A.A. Bogomolets of the Academy of Sciences of Ukraine,

Igor Silvestrovich Magura, doctor of biological sciences, lead scientific associate of the Institute of Physiology imeni A.A. Bogomolets of the Academy of Sciences of Ukraine,

Dmitriy Mikhaylovich Grodzinskiy, academician of the Academy of Sciences of Ukraine, head of a department of the Institute of Cell Biology and Genetic Engineering of the Academy of Sciences of Ukraine,

Mikhail Fedorovich Shuba, academician of the Academy of Sciences of Ukraine, head of a chair of Kiev University imeni Taras Shevchenko,

Valentin Leonidovich Zima, doctor of biological sciences, professor of Kiev University imeni Taras Shevchenko,

Yevgeniy Petrovich Sidorik, doctor of medical sciences, head of a department of the Institute of Experimental Pathology, Oncology, and Radiobiology imeni R.Ye. Kavetskiy of the Academy of Sciences of Ukraine;

—for the textbooks in four books *Teoreticheskaya mekhanika (Theoretical Mechanics)* (Kiev, Sovetskaya shkola, 1957—book I; Kiev, Vysshaya shkola, 1972—book II; 1989—book III; 1990—book IV):

Mikhail Antonovich Pavlovskiy, doctor of technical sciences, head of a chair of Kiev Polytechnical Institute;

Ostap Filippovich Boychuk, doctor of physical mathematical sciences, head of a chair of Kiev Polytechnical Institute,

Lyudmila Yuryevna Akinfiyeva, candidate of physical mathematical sciences, professor of Kiev Polytechnical Institute,

Nikolay Aleksandrovich Kilchevskiy, academician of the Academy of Sciences of Ukraine (posthumously).

2. To establish for 1992 the amount of the State Prize of Ukraine in Science and Technology at 100,000 rubles each.

[Signed] President of Ukraine L. Kravchuk

Kiev

19 December 1992

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