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***Central Eurasia:
Science & Technology Policy***

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Science & Technology

Central Eurasia: Science & Technology Policy

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Reorganizing Russian Science On German Model Proposed

927A0233A Moscow NEZAVISIMAYA GAZETA
in Russian 15 Jul 92 p 6

[Article by Aleksandr Dynkin, the Institute of World Economics and International Relations of the Russian Academy of Sciences, under the rubric "The Problem": "Who Will Save Basic Science? There Is, Unfortunately, Only One Answer"]

[Text] And this answer is the state. Unfortunately, because in the state budget of Russia there is no available money, while the experience of all developed countries shows that basic science can exist only on budgetary assets.

It is impossible to say that in our country they are not aware of this problem at the state level. For example, in the ministry of science, the higher school, and technical policy, in parliament. The position of the government, which has been repeatedly expressed in the press, reduces to a simple formula: "There will be money for science, but there will not be enough for everyone." With respect to academic science this principle has been formulated more specifically—to help only the most intelligent and talented people, to specify the priorities clearly in accordance with the requirements of the future, to halt competition with the entire world along the entire front of scientific research, that is, to eliminate mediocre unpromising directions.

At first glance it is reasonable.

But the danger of selection according to the principle of intelligence, talents, and priorities consists in the very high degree of uncertainty of these concepts. There can be one result here—subjectivism and arbitrariness in the making of decisions, the use of all known forms of lobbying for obtaining the highest decision. The expert councils, which are also necessary for the normal work of the Russian Basic Research Fund, are just being formed, and to expect that at first this fund will be able to distribute assets on the basis of truly independent decisions is very questionable. I am sick of the criticism, but what is to be done, the reader will ask. In my opinion, the only alternative to the proposed "unnatural selection" is the preservation of the viable structures in the maximum possible number of directions. The total number of institutes and, what is the main thing, scientific associates can be reduced, but it is very important to leave if only small groups of researcher-experts on the broad front of scientific research. Precisely such an approach will make it possible to preserve what they call in our country the scientific potential, the availability of which will make it possible under more favorable conditions to launch quickly the necessary basic or applied research.

If one were now to shut down the part of science that is mediocre and unpromising, it may turn out rather quickly that brilliant and exceptionally important themes and developments suffocate without them. In

science, as in nature, there should be room not only for lions and peacocks, but also for rabbits and sparrows. Science has its own internal logic of development, which far from always corresponds to the notions of the public or politicians, even the most respects and educated ones.

The academy and institutes need certainty, a clear understanding of the demands that are made by the state, which pays and therefore calls the tune (the academy can determine itself the composition of the orchestras). Earlier these demands were as a whole clear: The representatives of natural science disciplines were faced with the task of serving mainly the interests of prestige or military space programs, while social scientists (far from everyone, otherwise they could not form the backbone of the present government) provided the logical filling of social development. As a result we fell way behind in the all the macroindicators of scientific and technical progress.

Now academic science is rigidly oriented toward one task—the obtaining of money—and it must be said that some collectives are successfully fulfilling it. The representatives of the most promising directions are establishing commercial structures, selling smartly the accumulated baggage in the country and abroad (as a rule, taking a great loss in remuneration), while institutes are turning either into kinds of Russian technology parks, that is, associations of developers, who are applied scientists, and merchants under the academy's roof or into companies for the leasing of now scarce space for office suites and offices. But what does basic science have to do with it? And how is it possible under such conditions to dream about the establishment of priorities of the future?

The collectives of institutes should understand on what they can thoroughly count now and if only during the next two to three years, which corresponds to the minimum time of development, the training of graduate students, and the writing of books. They should also thoroughly understand what they will have to give up and thus form their own strategy of behavior, in which, perhaps, room will also be allotted for the earning of money, but still this goal should cease to be the central one. The incompatibility of this function with basic science has been demonstrated by all the historical experience of its existence.

It is possible to turn for experience to neighbors. Similar problems were solved in the former GDR after the reunification of Germany, when it became obvious that science was no longer needed in the former volume. The time of the transition process, during which they did not dismiss anyone and commissions, which determined the efficiency of the work of institutes in accordance with the overall program goals of the reorganization of the Academy of Sciences and its new tasks, worked, was clearly specified. As a result the institutes and directions, which were connected with natural science disciplines

and space research, practically did not suffer. The institutes received considerable rights and now are practically independent of the leadership of the academy. At the same time measures on the creation of workplaces for dismissed researchers were implemented and assets were allocated for the competitive financing of a number of projects that remained outside institutes. The shortest possible time, the definiteness of the goals, the possibility of choosing, social guarantees—these are the principles, the use of which would be very helpful in our practice.

Given all the reorganizations, and particularly in such tricky and delicate spheres as the intellectual sphere, it is helpful to use the principle of physicians: "Do no harm." One of the great in response to the question, What good is theoretical science?, said: "None. What good can an infant be?" The revival of Russia is impossible without science. This is one of the few spheres of life, which supports the hopes for a better future.

State Geology Organizations Reorganize Into Private Company

927A0242A Moscow RADIKAL in Russian No 21 (78), Jun 92 p 9

[Article by Aleksandr Polikarpov: "Geology to the Government: But I Will Become Another's Wife..."]

[Text] The all-penetrating effect of economic transformations in Russia also did not pass over geology: The sector has one foot in the grave, the science is prepared for any contractual theme, if only not to follow the sector. The tactic of appeals to the government to show mercy and not to destroy it did not bring success. From such hopelessness some geological enterprises began to think about self-destruction. But, as it turned out, it is a little early.

The other day the International Joint-Stock Geological Company, which is contemplated, in the words of its president, Yevgeniy Kozlovskiy, as "an alternative geological service," was registered in Moscow.

Fourteen geological associations and institutes, a number of ministerial structures and concerns, the International Association of Economics and Development, the joint-stock company "Military-Industrial Investment Company," commercial structures, and three well-known banks: Promstroybank, Orbita, and Rodina, acted as the founders of the company. The authorized capital stock of MAGKO [the International Joint-Stock Geological Company] is 25 million rubles [R]. During the coming two to three months the company plans to issue shares in the amount of about R500 million and to obtain bank credits and additional assets from the founders. As a result the financial capabilities of MAGKO will approach the state capabilities or will even surpass them.

Specialists intend inevitable success for the company, which to a considerable degree is connected with the

personality of its head and the team of professions, which was selected by him. The authority of Professor Kozlovskiy among geologists is very high. They call him a practical and competent man, who for the sake of the common cause is prepared for the window frame, if you like.

Kozlovskiy is memorable to many people in the rank of minister of geology in the Ryzhkov cabinet. Abroad they link his name with the holding of international geological congresses. They say that the unexpected idea to take the horse out from under the careless rider—to establish in Russia an alternative geological service—also belongs to him.

"As a result of the activity of the company, perhaps, some other notion of the management of geology will form," Yevgeniy Kozlovskiy conjectures.

The economic strategy of the company will be based on the implementation of highly profitable projects primarily in the field of geology, although not only in it. Of the enormous number of proposals during the first two years they will accept for fulfillment only the ones that promise a rapid and effective return. For example, the project of the complete extraction of gold from the waste of extractive enterprises. Starting in the third year up to 15 percent of the profit will be used for the financing of scientific research, some other portion will be used for intermediate-term projects. And only after accumulating a mighty potential will the company begin to attract proposals that require the investment of capital for a long period. The support of geological organizations will become a permanent item of expenditures.

The last one, undoubtedly, in many respects will determine the likings and dislikes of geologists for MAGKO and the existing state geological structures. Will there not arise on this basis friction which in the end will paralyze the activity of the company?

In the opinion of Yevgeniy Kozlovskiy, this will not happen. The state realizes the gravity of the situation and its own limited possibilities to help geology, therefore, it is interested in normal cooperation with MAGKO. At any rate Viktor Orlov, chairman of the Committee for Geology and the Use of Mineral Resources under the government, is treating the appearance of the company with understanding and does not see in it his gravedigger.

It is also rather interesting that the geological organizations of practically all the countries of the CIS supported "the restoration of the united family of prospectors and developers of the earth's resources for the sake of progress and the complete use of mineral resources" through MAGKO.

'Analysis Report' Paints Grim Picture for Russian Science

927A0242B Moscow RADIKAL in Russian No 21 (78),
Jun 92 p 10

[Article by Vladimir Pokrovskiy under the rubric "The Strategy of Survival": "Flying Over the Point of Bifurcation"]

[Text] A Sudden Change Is Possible in Any Direction

Dmitriy Piskunov, director of the Analytical Center of the Russian Academy of Sciences, supplemented our account of the analysis report "Science of Russia" (see RADIKAL, No 18, 1992). He reported that the research program, which concluded with the indicated analysis report, at first was headed by Boris Saltykov (who, as is known, is now minister of science and at the same time vice premier), then by Ilya Lomakin-Rumyantsev, who several months ago headed the Science and Technical Policy Department, which had been established under the government apparatus.

This fact clarifies the roots of the present very strict scientific and technical policy, which was announced by the minister of science two weeks ago and received the full approval of the government. There are serious reasons to believe that not just the thesis that the government has little money, but mainly the conclusions, predictions, and recommendations, which were made during the large-scale scientific study and then were brought together in the two small volumes of the analysis report, were the basis for this policy.

In any case Ilya Lomakin-Rumyantsev states his view of the essence of the new scientific and technical policy with approximately the same words as it is possible encounter in the report, only from a slightly different angle—from above.

"The conditions, which have changed drastically over the past year," he says, "are inevitably bringing us to the point that science should also be changed accordingly. In its present form it will not survive under any conditions. Its thorough and, perhaps, painful reform is necessary. For example, world practice gives us two basic forms of the conducting of basic research. This is, first, a very limited number of scientific organizations that live by means of state financing. Moreover, such organizations differ substantially from ours: In the West a research institute with more than 100 people is a great rarity, while staffs of 10,000-15,000 people are altogether inconceivable. Large scientific collectives are formed there around national instruments, moreover, from researchers who work in other places. But the basic form is university science. A different model, which is based on large institutes that conduct research along the entire front, was adopted in our country. And it is very difficult to determine how to build a bridge from such an obviously nonviable structure to the model which will be selected.

"The present scientific and technical policy is called upon to solve several problems of equally great importance. These are the search for money and the creation of the conditions for the stimulation of the influx of finances not from the state budget; the development of a new mechanism of the financial support of research with allowance made for the changed conditions and forms of implementation of scientific and technical activity; the creation of a reasonable legal base for the entire innovation process, which would promote the formation of a new model of science, which for the most part is nonstate and is immersed in production."

Neither the government nor the ministry of science has a new detailed model of the organization of science—or, what is the same thing, they have many of them. There is only the aspiration to provide the conditions, which are necessary for the construction of such a model, there is something like a vision of the general outlines, and today something different is hardly possible. At any rate, if you proceed from what was said in the report. While there, if you remember, it was said: What science will be like depends entirely on what Russia will be like when it has recovered from the crisis.

Now Russia is at the point of bifurcation, from which a sudden change is possible in any direction. Being at this point, it is impossible to make predictions that are in any way reliable, only the examination of the spectrum of likely scenarios remains. In the report there were three such scenarios:

- (1) everything takes shape splendidly, Russia remains among the countries of the "first world" and, thus, needs the corresponding highly developed science;
- (2) the situation is so-so, Russia is scrambling out, but no longer leads and is among the countries of the "second world," which is made up of the states of the former East Bloc and the not too prosperous European countries like Greece—here science is also needed, but mainly as service science, which caters to high-technology sectors;
- (3) everything is poor, Russia falls into the "third world" and becomes a source of raw materials and cheap manpower, an international toxic waste dump, and so forth—here they practically do not need the services of science, except for the production of narcotics.

To the question, for which of these three scenarios is the new concept of scientific and technical policy fit, Ilya Lomakin responded in "intermediate" terms: "Somewhere between the first and the second." It is curious that when I asked Dmitriy Piskunov, director of the Analytical Center of the Russian Academy of Sciences, toward which of the three scenarios, according to his feelings—since all the same nothing more substantial is possible—does the situation tend, he responded with exactly the same intermediacy: "Somewhere between the second and third scenarios." And there is no discrepancy here between what they want to do and where everything is going—it is simply that no scientific and technical

policy is required for the third scenario, but one should be prepared for the first and the second.

"This Year Will Be Critical"

"For the present the situation is departing farther and farther from the first scenario," Dmitriy Piskunov considers. "Unfortunately, everything is going almost exactly according to the prediction that was given in the report, and the prediction was by no means optimistic. In addition to what was in the prediction, we established a sharp decrease of the number of people employed in science and scientific service—during the period from 1 January 1991 to 1 April 1992 nearly 600,000 people left. Now we are trying to ascertain when this landslide began. Moreover, the real picture is significantly more gloomy than statistics show. There is also a latent form of the drain: Many associates are only formally registered at scientific institutions, but in reality for long time have not been working there, but are only registered. Striving to maintain their affiliation with one large institute or another, they keep their labor book there, but in reality their working time is being spent not on planned themes, but on the filling of some other orders that were found by them independently.

"We are trying now to ascertain the scale of this drain. For the present only one thing is clear—the commercial structures, which are getting hold of specialists, are using their skills for the fulfillment of routine jobs which have a most indirect bearing on science, moreover, most of often of all this work does not lead to the development of some product, inasmuch as today our businessmen are engaged mainly in the production of money out of air. True, large commercial structures are beginning little by little to display interest in scientific research, but today it is not they that determine what is what."

In general today it is possible to surprise only a complete idiot with gloomy predictions. Today one has occasion to hear constantly: In two months (versions—three months, half a year) the academy will collapse, sectors will cave in, universities will dissolve, and the defense complex will fold up. Dmitriy Piskunov treats predictions of this sort with the utmost caution.

"These predictions," he considers, "are made mainly on the basis of feelings, not formalized data, therefore, it is not worth particularly relying on them. If you remember history, Russia was repeatedly on the verge of "departure from the highest league"—during the Time of Troubles, during the times of the Crimean War, and so on. And each time everything somehow turned out all right.

"On the other hand, the situation is actually gloomy. Any scenario you wish can be implement, and, as our data show, this year will be critical."

Incidentally, about the gloom. One of the people I spoke with, the discussion with whom concerned the new scientific and technical policy, described its essence as: "Run for your life." Ilya Lomakin-Rumyantsev

expressed the main task of the new policy differently: to rouse researchers to the display of their own initiative.

"For a very long time," he considers, "the country, including science and scientists, lived under the conditions of an orientation toward the center. Practical experience shows that today those who change this orientation are achieving the greatest successes. In no case does the state intend to cast scientists to the mercy of fate, but today those people, who are active, who are not relying exclusively on the Ministry transformations, which are consistent with the overall course of the change of society, have greater chances to survive."

S&T Organizations Seek National Science Center Status

927A0229A Moscow RADIKAL in Russian No 23 (80), Jun 92 p 10

[Article by Marina Lapina under the rubric "In the Ministry of Science": "They Are Already Drawing Up Lists"]

[Text] While the executives of the majority of scientific institutes were making the rounds of instances with outstretched hand in the hope of extracting additional state budget injections, Academician Ye. Velikhov prepared an ukase on giving the Kurchatov Institute the status of a national science center, having determined to a considerable degree future events. Closeness to B. Yeltsin and all power structures enabled Yevgeniy Pavlovich to achieve what others for the present are only dreaming of.

Numerous applications from various scientific institutions with the substantiation of the fact that precisely this institution is worthy of becoming a national science center, are being received by the Ministry of Science. The number of such spontaneous applications has already exceeded 1,000. In turn the ministry is taking countermeasures, having circulated among interested ministries and departments a letter signed by Minister B. Saltykov with the request to submit a list of the scientific institutions, to which it would be advisable to give the high status. As is specified in the new concept of the scientific and technical development of Russia, which was approved by the government, these organizations should perform the most important basic and applied research that is of statewide importance.

The number of national science centers for the present will not exceed 25-30. The figures were not made up. As they explained in the ministry of science, the state budget is incapable of bearing large loads, although no one has doubts that the number of scientific institutions of Russia, which are worthy of having the state assume all material concerns about them, is not limited to these figures.

The list compiled according to the same principle of Russian institutions of culture, off of which the Russian Museum, for example, found itself, does not leave

doubts that a similar situation is also inevitable in science. Moreover, regardless of who will make the choice. The problem of the criteria of choice, in order as far as possible to reduce the losses to a minimum, is assuming all the more importance. The reformers have specific views of a recommendatory nature. Apparently, first of all the most prominent head organizations, at which by definition the basic intellectual potential should be concentrated, or unique institutes of such a level, as, for example, the Pushkin House, will be considered as candidates. Mainly institutes of the natural science type regardless of their present affiliation with the Russian Academy of Sciences or some ministry will be among the centers. True, for the present in the absence of a statute on state national science centers the question of whether the granting of the status means their complete independence, let us assume, from the same Russian Academy of Sciences, remains open. For there will be no reason for the latter to release from under its wing the leading and best institutes.

Initially it was planned to approve at the governmental level the list of centers as a whole, but then they rejected this idea. Now a separate statute or ukase will be adopted on each institution. On the instructions of the government the ministry of science should submit its proposals and recommendations on the composition of the list by 1 July, but, it seems, the deadline will be pushed back somewhat.

At the same time in the same ministry work is under way on another list, which will include only institutions of the sectorial level. For the purposes of economic stimulation their exemption from the value-added tax, the land and income taxes, and the mandatory sale of a portion of the currency receipts is proposed.

The implementation of these and several other measures, which are envisaged in the new concept, will signify that the majority of scientific institutions will have to follow the principle which B. Saltykov has repeated declared: Rely only on oneself. Actually, the reformers of science have adopted the experience of the transformation of scientific organizations of the former GDR, having taken into account the peculiarities of our situation. Not by chance will a joint seminar of German and Russian experts, which is devoted to this theme, be conducted in the immediate future in the Ministry of Science. One of the basic problems, which worries associates of the Ministry of Science and other departments, who are involved in the carrying out of reform in this sphere, is the psychological problem. How is one to avoid the social consequences of the transformations that are planned for the immediate future? Their success depends in many respects on whether they will find an answer to this question.

New Mechanisms For Regulating Development of Science and Technology

927A0229B Moscow *RADIKAL* in Russian No 17, 15 May 92 p 11

[Article under the rubric "Versions of Reform": "New Mechanisms of the Regulation of the Development of Science and Technology"—first two paragraphs are *RADIKAL* introduction]

[Text] The state of Russian basic and applied science, the decrease of the demands on technologies, the increase of all types of expenditures, and the ecological infringements in production require the rapid development and implementation of new mechanisms of the stimulation of developers in the devising of and of consumers in the extensive use of technological innovations.

The proposals in this area were prepared by the Academy of Technological Sciences of the Russian Federation in the form of the Concept of the Technological Development of Russia. We offer a statement of the most essential features of the Concept, which was prepared by Vice President of the Academy of Technological Sciences V. Bryunin and adviser S. Menshikov.

Privatization

The activity of owners, who produce a commodity, under market conditions is impossible without the transfer of the right of ownership of means of production to commodity producers. In the scientific sphere this is the collectives of scientific organizations. The granting to these collectives of ownership of the state property that is being used by them today—buildings, structures, equipment, land—requires the making of changes in the Program of Privatization, in prevailing legislation, and in other standard acts. It is necessary to specify the types of scientific activity, privatization in which is inadvisable (in the area of defense research and the basic sciences) and where state (public) scientific institutions with the corresponding status, which has been set down in law, should be retained.

In the remaining areas of scientific activity, first of all applied activity, privatization should be carried out with the preferential establishment of closed joint-stock companies. For the redistribution of a portion of the revenue from the activity of scientific organizations to the social sphere it is advisable to allocate a portion of the value of the property being privatized to local (municipal) organs of power with the reservation of controlling interest for scientific collectives.

Privatization in accordance with the proposed plan should be carried out not as the free transfer or sale to individual stockholders of a portion of the shares of stock in accordance with the standards, as is envisaged in the Program of Privatization, but by the sale of the entire value of the means of production or a controlling share to the collective of a scientific organization on long-term credit with repayment in five to 10 years. Such credit

should be issued by the state bank are reduced interest and should be repaid both by means of the depreciation charges for renovation and by means of the profit and workers' own assets. Of course, in the case of sale it is necessary to conduct an inventory of the assets being sold and to reappraise them for the establishment of the present market value of the objects of privatization.

In cases of the rejection by the scientific collective of privatization in the proposed manner it can be carried out in accordance with the provisions of the Program of Privatization and the Law on Privatization and with other standard acts.

The significant number of new collective owners, which appeared as a result of such privatization, should stimulate appreciably the market of technologies, while in the collectives themselves should increase significantly the responsibility for the results of scientific activity.

Industrial and Intellectual Property

The present situation with industrial and intellectual property is leading to its squandering and practically free transfer, including to foreign partners.

We propose to attach to organizations that are the developers of an innovation, which were established in the last 10 years, and to grant to them general licenses for the use of the results. These general licenses should be charged for and should envisage the possibility of one's own implementation of the results of scientific development, as well as the right of foreign patenting and the sale of licenses to other users, including abroad.

The right to use the results of scientific development in the form of the acquisition by the enterprises that are the users of various types of licenses in conformity with world practice should be secured legislatively. The liability of users for the illegal use of innovations or the violation of the terms of licenses should be envisaged. Innovations that are being newly developed should be registered by the collectives that are the owners by means of the acquisition of patents, a copyright, and so on.

Tax Policy

The tax system in effect today practically does not consider the special conditions of the development and use of technological and other innovations. These special conditions consists in the originality of innovations, which are developed once and the implementation of which often requires considerable expenditures. Until now the state assumed the financing of these expenditures, while the use received only the result (a new technology, design, material) at production prices without allowance for the expenditures on research and development.

The changes in the tax system should envisage the preferential taxation of both the developers of new technologies and their users—so that the use of new and

traditional technologies would be at least equally profitable during the period of the assimilation of innovations. Tax sanctions against the users of obsolete, including ecologically dangerous and resource-consuming technologies are also needed. The introduction of tax credits and sanctions requires the drawing up of periodically revised lists of advanced and obsolete technologies for various sectors of production, which are drawn up by groups of independent experts and are approved at the governmental level.

Investment Policy

The questions of the taxation of the profit derived by enterprises and scientific organizations from the use of advanced technologies are closely connected with the questions of investment policy. This is due to the abandonment by the state of centralized capital investments for the development of production in the majority of sectors and by the retention of centralized budget capital investments in the sectors, which ensure the development of the production infrastructure (medicine, education, culture, and so on), the maintenance of the defensive capability of the country, and the development of the basic sciences.

It should be taken into account that today investment processes have been slowed down considerably due to the overall decline of production. Apparently, a revival of production should be expected no sooner than in three to four years. It is important that this revival would be accompanied not by the simple replacement of worn-out equipment, but by the retooling of enterprises on the basis of new advanced technologies. Whereas within the framework of state centralized investments this problem can be solved in the traditional way, for all other areas certain regulating decisions are required. Inasmuch as significant technological changes entail large expenditures of the users of new technologies, it is necessary to resort to bank credits, which are granted by commercial or state banks, first of all Promstroybank. In this case the delimitation of the credits being granted into innovation credits and simple investment credits with the corresponding preferences with respect to the terms, amounts, and interest is required.

Monetary Policy

The development of new technologies and their implementation require, as was noted above, considerable one-time expenditures. The decrease of the amounts of direct state investment for these purposes presumes the more extensive use of credits of commercial banks. This step requires active regulation on the part of the Central Bank of Russia, which with allowance for the lists of new advanced technologies, which have been approved by the government, should issue to commercial banks special-purpose preferential credit resources and ensure the effective monitoring of their use.

Commercial banks, in turn, are obliged to issue the corresponding credits on a preferential basis both to

scientific organizations, which are the developers of new technologies, and to enterprises, which are the users, for retooling. Lending with reduced interest rates requires the decrease of the corresponding tax rates on the revenues of commercial banks at least to the level of their equal profitability as compared with conventional credits.

The establishment as a result of privatization of a large number of scientific organizations and enterprises, which are owners, is leading to the necessity of the formation by them of considerable working capital. The assets, which are obtained on the security of property, can act as one of the sources of this capital. This form of bank activity, which is new for us, requires the establishment of a network of mortgage banks, which issue intermediate- and long-term loans on the security of the real property of scientific organizations that are the developers and enterprises that are the users of technological innovations at a low interest. It also requires state documents on the appraisal of the property being mortgaged, the procedure of compensation in case of the failure to repay the loan or the delay of payments, and so on.

Thus it is necessary legislatively to make the corresponding changes in the Law on Banks in the area of the activity of mortgage banks and in tax legislation in the area of preferential taxes on banks and on the innovation activity of enterprises and scientific organizations, as well as to draft legislation on the property of enterprises and organizations, which are owners.

Foreign Economic Policy and Foreign Investments

The overall decline of production and the lack of interest of enterprises in the assimilation of technological innovations will lead in the next few years to the further decrease of the exports of science-intensive products, including machine, equipment, and instruments. Raw material and fuel resources will be the basic items of export. This means for Russia the complete loss of world markets of technically complex science-intensive products and its transformation into a raw material appendage of developed countries.

At the same time in Russia there is an enormous, practically unused source of exchange earnings in the form of the accumulated fund of advanced technologies. It would improve significantly the structure of our exports and ensure significant payments of exchange assets to the country.

A market of science-intensive technologies, the effective exchange of which is enabling various countries to solve the problems of industrial development on the basis of international specialization and the sharing of the results of scientific research, has formed in the world. For the appearance of Russia on this market and the improvement of the structure of both exports and imports it is necessary to implement a number of measures of both a legislative and a financial nature.

First of all this applies to the stimulation through taxes and custom tariffs of the export of technological innovations and trade in and the exchange of licenses for the results of scientific development. The involvement in foreign economic activity of thousands of scientific organizations, which are the developers of new technologies, and enterprises, which are the users of the scientific product, will make it possible, on the one hand, on the financial level to strengthen scientific organizations by the influx of exchange assets and, on the other, to ensure the extensive use in production of the best foreign technologies.

The establishment of joint ventures, which are the developers and users of new advanced technologies, should especially be encouraged. The preferential taxation of these enterprises not only will make it possible to increase the export of technologies, but will also ensure the building of new and the retooling of already existing production capacities, will enlarge the assortment, will increase the volumes, and will improve the quality of products.

The benefits for foreign investors, who invest their assets in joint ventures, should envisage the priority of new technologies.

The establishment of joint ventures with the participation of Russian entrepreneurs in other states should become a special form of joint activity on the efficient use of technologies in foreign economic activity. Such ventures, which are established for the joint use of advanced technologies on the condition of the preferential injection of the profits, which are derived in this case, into Russia, would also improve significantly the overall exchange balance. Such joint business requires the making of additions to prevailing tax legislation in the area of the complete elimination of the limits on the amounts of taxable sums.

The Conversion of Defense Technologies

A basic source of advanced technological innovations is defense science and industry. The possibilities of their extensive use in the national economy and in the foreign economic sphere are restricted by the level of their secrecy. For the solution of the problem we propose to make an inventory of defense technologies, to identify those of them, which have dual application, and to declassify for use in civilian production the ones that are not important for the tasks of the defense of the country. It is necessary to set down legislatively the procedure of the transfer of defense technologies to civilian production with allowance for the conditions listed above. Taking into account that the scientific organizations and enterprises of the defense complex, just as scientific organizations that engage in basic research, should not be subject to privatization, the tasks of monitoring the use of declassified defense technologies of dual application in the civilian sphere in the form of the licensing of the use of such technologies, including in case of sale abroad, should be attached to them.

The National Program of the Socioeconomic Development of Russia on the Basis of Advanced Science-Intensive Technologies

The Concept of the Technological Development of Russia contains the basic directions and proposals, which should be implemented to get the country out of the crisis and to transform it into a modern industrial developed state on the basis of the use of highly efficient technologies.

The formulation of the National Program of the Socioeconomic Development of Russia, which envisages the moving of Russia in the next 10 years up among the leading technologically developed countries of the world, is necessary for the implementation of these proposals.

The implementation of the program should ensure the accomplishment of the following tasks:

the formation of mechanisms of the stimulation of the development and assimilation of new advanced technologies;

the formation of a modern scientific and technological base, which ensures the prompt assimilation and duplication of new technologies;

the formation of the infrastructure in the area of education and informatization, which ensures the reproduction and duplication of advanced technologies;

the increase of the standard of living of the people, the qualitative change of the social sphere of society, the saturation of the market with everyday goods and food by the use of advanced technologies;

the assurance of ecological safety and the protection of the health of the population;

integration with the world community on the basis of the intensive mutually advantageous exchange of advanced technologies.

The pooling of the efforts of state bodies of administration, including the legislative and executive power structures, as well as of the scientific community, including the Russian Academy of Sciences, the Academy of Technological Sciences, sectorial academies, other scientific associations, specialists of higher educational institutions, and representatives of the production sphere of various forms of ownership, is necessary for the accomplishment of these tasks.

The determination of the most important directions of the socioeconomic development of the country on the basis of the formation of national interests will make it possible to identify the most urgent directions of development and to ensure with respect to them the concentration of assets through the implementation of the mechanisms, which are set forth in the Concept of Technological Development.

For the coordination of the progress of the work on the formulation and implementation of the Program it is

necessary to establish the State Coordination Council (GKS) under the president of the country, which is made up of representatives of the main drafters of the Program with the broadest powers. The decisions of the State Coordination Council should be backed by standard acts.

The main tasks of the State Coordination Council should be: the determination of the basic directions of the scientific and technological development of the country, the assurance of the well-founded formulation of specific state scientific and technical goal programs and the efficient use of the assets of the state budget, which are allocated for this, just as the accumulation of the spare assets of its participants and performers of all forms of ownership at all levels of production and management.

Within the National Program intersectorial, sectorial, and territorial programs can be implemented with allowance for the peculiarities of the development of sectors and regions.

The implementation of the Program will make it possible during the next three to four years to obtain an economic impact of not less than 150-180 billion rubles just by the efficient use of the assets of the state budget and the involvement in measures under the program of various scientific and production performers and the revival of the production sphere.

The social climate among scientists and the technical intelligentsia will be improved significantly, the scientific and technical potential of the country will be preserved and increased, the brain drain will be averted, the standard of living of the population will be increased, and real conditions for the revival of Russia as a developed democratic state, which holds a worthy place among the leading countries of the world, will be created.

Proposed Law on Russian Academy of Sciences Criticized

927A0229C Moscow RADIKAL in Russian No 17, 15 May 92 p 9

[Article under the rubric "Live by the Law": "The Academy Wants To Define Its Status. But It Means by It the Status Quo"]

[Text] On 12 May the presidium of the RAS [the Russian Academy of Sciences] discussed for the third time the draft of "The Law on the Russian Academy of Sciences." This document, which in its way is unique, was drawn up at the Institute of State and Law of the RAS and was submitted to the presidium by Academician Vladimir Kudryavtsev, whom to this day they call—some in jest, some in earnest—"the main lawyer of the country."

Briefly, the essence of the draft law reduces to the fact that the academy as "the highest all-Russian scientific self-administered organization" receives from the state money for the conducting of approximately half of all domestic basic research and distributes it among the

institutes that belong to it. Here the buildings, equipment, and other possessions of the academy are declared its property, which is not liable to alienation, while essentially no one, unless the Supreme Soviet to a small degree, can control the actions of the academy.

Evil tongues interpret this law in a slightly different way: The presidium of the RAS, they say, is declaring itself national property, which is not liable to alienation from the academy.

Thus, before us there is another attempt of the top officials of the academy to get out of the restraint, into which the desire to combine the incompatible—to remain an elite club of scientists and at the same time to control a large portion of the scientific state budget—drove it. An attempt which, to all appearances, does not have much chance for success. Whereas under Soviet power uncertainty with the status and accordingly the lack of clarity in matters with property were perceived as the norm, now, when we, though slowly and painfully, are still entering the regime of “the rule-of-law state,” without the proper status of the academy it is simply impossible.

It can choose from only two statuses—a state institution or a public organization. But the academicians can in no way do precisely this. Having ranked themselves among state organizations, they obtain the opportunity, as before, to distribute finances for the conducting of basic research. But then in accordance with Russian legislation all the founding documents of the RAS (the charter and others) should be approved in the appropriate ministry. And an elected president does not tie in too much with a state status—the state, by giving money, should have the opportunity to monitor its expenditure, that is, should have the right to appoint and dismiss the chief executive.

It is even worse with the status of a public organization. Then not just state appropriations are up in the air, the question of the internal interrelations between the members of the academy (academicians and corresponding members) and the scientific associates of academic institutes, who, according to the charter of the RAS, while not members of the academy, still belong to it, also arises. In this case the law dictates the complete equality of all the members of the public organization and the policy of our customary apartheid, in case of which the “white” minority rules the life of the “black” majority, authorizing itself to do this, becomes incompetent.

For more than a month and a half the presidium has been struggling with a problem—life without a status is becoming completely impossible, but not a single status suits the academy. And here is the draft of “The Law on the Russian Academy of Sciences.” In spite of the fact that such a respected institution prepared it, while such a distinguished lawyer submitted it to the presidium for consideration, this document abounds in legal absurdities. Having declared in the preamble the necessity of establishing a status, in the very text the law...does not envisage any status for the academy. While the definition “self-administered organization” does not make any legal sense and the main question—What laws of Russian legislation will the RAS obey in the future?—remains open.

The question of intellectual property is also decided in a very interesting way. On the one hand, the authorship rights to objects of intellectual property belong to their creators. On the other, the rights to use these objects, as well as the obtaining of an award for them are turned over to the organization, at the expense of which they were created. It is not entirely clear, what property rights are left to the creators?

And in general not everything goes well with property in the draft. As is known, the General Meeting of the RAS resolved to regard the possessions of the RAS as federal property—in the draft the buildings, equipment, and so forth belong to the academy. And so on and so forth.

Yuriy Lebedev, a member of the executive committee of the conference of scientists of the RAS and one of the few people, who has access to some sessions of the presidium of the RAS, considers that the document in general was executed at an extremely low legal level. “It is difficult to assume,” he says, “that people, who are familiar with the drawing up of legal acts, wrote it. Here, for example, is one of the blunders. In Article 1 it is stated that the RAS operates ‘on the basis of this law, other legislative acts, and the Charter, which is adopted by the General Meeting of the RAS.’ In other words, the legislators refer for the interpretation of the law to a secondary legal act, which the Charter of the RAS is. This is legal nonsense—a higher law does not appeal to a lower one.”

Of course, “The Law on the Russian Academy of Sciences” is needed—today the legal basis of the academy is too shaky. And a status is needed. But the main thing, about which there is not a word in Kudryavstev’s draft, is that the legal strengthening of the interrelations between the members of the academy and those people, who, while belonging to it, are not members, is necessary.

Defense Cuts Threaten 'Astronomy' Coordination Center

927A0224A Moscow IZVESTIYA (Morning edition)
in Russian 3 Jul 92 p 2

[Article by IZVESTIYA correspondent Sergey Leskov: "The Scientific Center, Which Was Established To Counteract SDI, Is Forced To Wage Administrative Battles"—first paragraph is IZVESTIYA introduction]

[Text] The "Astronomy" Coordination Center, which is a part of the system of the Russian Academy of Sciences, is in a state of siege. Since October of last year they have not paid wages here, several months ago financing was halted and bank accounts were closed. There walk through the corridors two directors—one, who is supported by the collective, but was removed by the leadership of the academy, and the other, who was appointed from above, but is surrounded here by an atmosphere of rejection. Three-fourths of the associates are convinced that they are on the verge of dismissal, but are continuing to work diligently, for they have started such major projects that it is simply impossible to move aside.

Meanwhile the "Astronomy" Coordination Center was formed just five years ago from the most experienced specialists, who are well paid and are certain that they are performing necessary and prestigious work. What authorities decided a question—the USSR Council of Ministers, the presidium of the USSR Academy of Sciences! Its unremarkable name "Astronomy" served as camouflage, the real goal was strictly classified and meant the taking of countermeasures against the American SDI. It was planned to develop the "Kvazar" basic system for the determination with high precision of the position and time of space objects. High precision is 3 cm at a distance of thousands of kilometers. In the USSR it was proposed to build a network of six surveillance stations and a Control and Data Processing Center.

The work, even the opponents admit this, was in full swing. The collective of 20-30 people ensured the fulfillment of work in the amount of up to 50 million rubles [R] a year in old prices, coordinated the activity of more than 70 enterprises of various departments, and played the role of the general client for the construction of the surveillance stations and the production of 32-meter antennas and other equipment. The result? In a short time a complex, which, according to available information, surpassed American analogs, was developed. The construction of the surveillance stations, the number of which as a result of the disintegration of the USSR and economic squabbling decreased, and the technical part are today at a 60- to 80-percent degree of readiness. For our times, when all assignments and deadlines are being outrageously upset, such a pace cannot but evoke at least respect. At the same time other large-scale tasks, which were assigned to the center by the academy, were also accomplished.

But even in better times it was not necessary to be a prophet in order to predict big trouble for "Astronomy."

The danger had deep, earthly roots. Given the indecently meager allowance, which scientific institutions in our country had been awarded, such a gold Klondike as the "Astronomy" Coordination Center could not but arouse the jealous interest of neighbors. If you consider the specific nature of our bureaucratized science, this small institute was simply doomed. It did not have protection in the form of a fence of scientific titles of associates and did not have such a sure guarantor of inviolability as a high title of the director. "Take some academician for protection!" soft-hearted personnel of the staff of the General Physics and Astronomy Department of the Academy of Sciences advised. But "Astronomy," which had gotten carried away with a specific job, considered that the energy and knowledge of director Ye. Nikolayev, who had participated in the construction of the most complex facilities, were far more important than the imaginary authority of some aged Funt. That, it is now clear, was a naive and frivolous approach....

And then it was decided to subordinate the coordination center, which is located in Moscow, to the Institute of Applied Astronomy, which is in St. Petersburg. Is the Institute of Applied Astronomy, perhaps, capable of helping the center to increase the efficiency of work? But then the words spoken to me by Doctor of Physical Mathematical Sciences A. Finkelshteyn, director of the institute, concerning the fact that he knows with specifically what only three of his new associates are dealing, seem strange. The work of the others and the very direction of their activity does not interest the Institute of Applied Astronomy. A. Finkelshteyn called one of the programs, which concerns the development of balloon-borne probes, an inefficient one that had been deprived of financing. But this is given the fact that the "Astronomy" Coordination Center for several years has been performing joint work in this direction with the most authoritative Physics Institute imeni P.N. Lebedev of the Academy of Sciences.

The question is not only that the institute does not know all about the affairs of the subdivision, to which it is laying claim. By their nature the coordination center and the scientific research institute are dissimilar, incompatible institutions. Then for what does the large institute need a branch in another city? The explanation, it seems, lies in the perennial aspiration of the bureaucratic structure to swell to the maximum possible limits. But there are also other visible advantages here: Having absorbed the center, the institute obtains a base in Moscow and the opportunity to intercept the financing for the prestigious project. It is a surprising thing, but in our times no one weighed the economic expediency of the strong-willed approach, which is giving up for lost all the activity of the "Astronomy" Center.

Today no one agrees without a fight to deadly decisions that have been made without your knowledge. The "Astronomy" Coordination Center addressed an entire series of messages to the presidium of the Russian Academy of Sciences, specific proposals, which from a purely economic standpoint seem very tempting, are

being advanced: to free the collective from budget finance, to give it the right to work on a cost accounting basis. But the logic of the system is invincible: On no account is one to agree to the shrinking of the sphere of influence. Moreover, center director Ye. Nikolayev, who displayed obstinacy and did not want to turn over his duties, by an order of the presidium of the RAS [the Russian Academy of Sciences] was dismissed from his post.

I happened to hear from A. Boyarchuk, deputy academician secretary of the General Physics and Astronomy Department of the Russian Academy of Sciences, that one of the reproaches leveled at the coordination center is that it had engaged in commercial activity that was not connected with the basic themes assigned to it at the moment of establishment. But let us recall how at the last annual meeting of the Russian Academy of Sciences its president Yu. Osipov complained of the catastrophic material state of many institutes, of the avalanche-like reduction of themes, and of the impossibility of providing even the most important directions with funds. In such a situation it would be worth studying more closely the experience of the center, which proved to be one of the few subdivisions of the academy, which avoided material difficulties, without reducing in so doing development on the basic themes. The associates of the "Astronomy" Coordination Center, knowing well the possibilities of both science and industry, were able to establish contact between these areas, which is so lacking today. In a number of their projects they are carrying out the very conversion, for which in other places for the time being they yearn only dreamily. The production of unique, ecologically clean soundproofing and heat-insulating materials, the use of aerostats in the national economy, the production of grain silos made of film and inexpensive mirror-reflectors for satellites, even the development of a new system of radiotelephony, which can finally destroy the age-old monopoly in this matter of the Ministry of Communications. The leadership of the Institute of Applied Astronomy is not hiding the fact that it will put an end to the cost accounting activity of the center. But who will be better because of this?

For nine months the associates of the "Astronomy" Coordination Center have not received their wages. They applied for justice to the Kalininskiy Rayon People's Court of Moscow. And here is the response: This application cannot be accepted for consideration, since the extrajudicial procedure of the consideration of labor disputes has not been observed. Put more simply, it is necessary to go cap in hand to the very organization, from which the center is trying in vain to stand apart. Thus there was no trial, but a verdict was pronounced. Some bureaucratic boundlessness reigns in our state: The laws are being interpreted in such a way that they are coming into conflict with common sense.

At present the "Kvazar" system is the only significant scientific and technical facility, the construction of which has not yet been halted due to the impossibility of further financing. The "Kvazar" system is of not only

strategic importance, but also fundamental importance for science. It is possible to use it for the prediction of earthquakes and for work in the area of geophysics, cartography, and geodynamics. More than R200 million at the old prices have already been invested in "Kvazar." And suddenly at the finish line contrary to the old truth that they do not change horses at the crossing, the leadership of the academy is making a purely bureaucratic decision on the reorganization of the viable center. A war of scientists against each other will not speed up the placement of the long-awaited "Kvazar" into operation. Will the renewed membership of the presidium of the Russian Academy of Sciences be able, perhaps, to look at the old conflict in a new way?

Privatization Woes of Radio Equipment Research Institute

*927A0218A St. Petersburg NEVSKOYE VREMYA
in Russian 23 May 92 p 2*

[Article by Sergey Tachayev under the rubric "How the Ministerial Flagship Ran Aground": "Let the Democrats Pay"]

[Text] The Myth of "World Novelty"

During the times of stagnation the stock of orders of numerous scientific research institutes was formed in the traditional way: Departments and laboratories announced the themes, while the ministry financed them. If a development found application in industry, it is a good thing, if it remained a theoretical one, it is not a disaster: The economic impact was miscalculated and was paid for in advance.

The applicants, it is true, had to sweat a little when substantiating the world "novelty" of the study, otherwise they did not approve the theme. This novelty was nearly always questionable: Even an original idea came to a bad end in the antiquated technical base.

The Leningrad All-Union Scientific Research Institute of Radio Broadcasts Reception and Acoustics imeni Popov (VNIIRPA) was also not an exception. The only institute of this type in the country and the flagship of the union Ministry of the Communications Equipment Industry, the VNIIRPA lived comfortably. Its director (since 1982) Gennadiy Vlasov conscientiously went to two "meccas"—the ministry and the State Committee for Television and Radio Broadcasting. Associates plugged away diligently, developing director's studio consoles, acoustical systems, measuring instruments, and household radio receivers.

The market for many sectorial institutes proved to be a blow below the belt. The collapse (as not wanted) of tens of main and auxiliary firms followed. The VNIIRPA remained intact: due to the lack of competitors and its expediency.

Having come down from "world novelty" to a specific industry, the associates saw a large number of orders from television and radio plants and commercial firms.

The VNIIRPA did not make use of its advantages: The administration assigned the search for orders and their filling to the heads of subdivisions, the unified technical and scientific policy came to nothing, the profit of the firm was spent without control. The departments and laboratories even do not know how much the institute earned during 1989-1991: The board of directors flatly refused to report this information to the collective. The results of the foreign business trips of director Vlasov also turned out to be a secret sealed with seven seals: Last year alone he visited France, the FRG, Bulgaria, Finland, Czechoslovakia, and China.

Keeping "in step with the times," Gennadiy Vlasov permitted small enterprises, which solved specific technical problems to the order of industry, to be established at the institute. At the institute 12 small enterprises were opened, and at many the director turned out to be a member of the board. Commercial structures leased 30 percent of the space of the scientific research institute, put into operation a significant portion of its equipment, while the institute as a whole conscientiously paid the amortization deductions.

Just for leasing and amortization, according to Leonard Shtutman, chief of the laboratory of laser record players, the small enterprises last year failed to pay the institute more than 500,000 rubles [R]. A kind of "corvee" was imposed on the personnel who were not put to work at small enterprises—to pay for the establishment of the commercial subdivisions. Is it not because director Vlasov had plunged into business?

The collapse of the institute began: By the order of the director the leading subdivisions were rendered lifeless—the department of radio broadcasts reception was practically broken up and the department of acoustics was eliminated. Having taken last year orders worth R28 million, at the beginning of the market the VNIIRPA was forced to borrow R3 million at the bank, while now it has a debt on credits of R1 million and "revolving credit" of R2.6 million. The payment of the wage is constantly delayed. No one, let us recall, "below" knows what became of the profit of the enterprise.

The laboratories and departments of the VNIIRPA, in order not to be left without wages, are selling original ideas for a song. The laboratory of laser research, for example, not having the proper equipment and element base, invented a...code electronic lock with remote control. It is impossible even for a diehard "bear hunter" to open the lock, which does not have analogs in the world. They then and there sold the innovation: of course, at a modest price....

The board of directors invested money reluctantly in promising directions. The pilot plant of the institute, seeing such a lay, went and set up on its own. In turn, as the council of the enterprise noted in a memorandum to

the Russian department of the communications equipment industry, assets were spent lavishly on the construction of a sauna, tennis courts, and centers of representations. In February 1992, when Gennadiy Vlasov proposed to colleagues to increase by threefold the current overhead, the collective cried out—it expressed to him its mistrust. Seventy percent of the personnel voted against director Vlasov.

A High Chair Is More Reliable Than a Rating

The main "frondeurs"—Aleksandr Denin, chief of the department of radio broadcasts reception, Irina Aldoshina, chief of the acoustics laboratory, and Leonard Shtutman—stress that the conflict with the director is not of a human, but of an ideological nature. In their opinion, with the collapse of the administrative management of applied science the time of executives like Vlasov had passed. Gennadiy Ivanovich is wary about the privatization of the institute and its attachment to specialized commercial projects. (Vlasov himself proposed a business of a different kind: to merge with one of the concerns and to produce...glass and furniture.)

The technical policy, which was pursued by the director in recent times, led to the complete decline of the main departments and laboratories of the institute and to the loss of the production base (the pilot plant of the VNIIRPA).

After the February demarche representatives of the labor collective went to Moscow, to the department of the communications equipment industry. Igor Shurchkov, general director of the department, "took into consideration" the results of the vote and issued a resolution: not to hurry—in a few months to elect a director on the basis of a rating.

On 14 May 1992 at the institute the rating of its executives was established. The six candidates, including Vlasov, wished to check their authority. Again, just as three months ago, 30 percent of the associates voted for the leadership of Vlasov. His rating remained only third—after Denin and Aldoshina.

Everything, it would seem, is clear: The two laboratory chiefs should vie for the director's chair, which Vlasov had held for 10 years, while Gennadiy Ivanovich himself should look for another job.

The labor collective began to prepare for the election. The programs, which were presented by Aleksandr Denin and Irina Aldoshina, were absolutely identical. The candidates for a long time have been allies, and the main thing for them is to win not personally, but conceptually.

According to the concept of Aleksandr Denin, the future of the institute lies in the selling of shares in it and its privatization. For privatization, incidentally, not that much capital is required. Vlasov frightened the collective with the sizable amount of the buy-out—R51 million—

but in reality it is sufficient today to pay in 13 percent of this amount: A labor collective, which has decided to privatize its enterprise, has substantial preferences and credits.

The selling of shares will make it possible to accumulate assets and to find reliable partners. The department of the communications equipment industry, the Russian Committee for Television and Radio Broadcasting, industrial financial groups in the area of radio electronics, and commercial firms are prepared to cooperate with the VNIIRPA. The institute, while working with manufacturers, will completely retain its specialization, will study the market, and will set up the trial production of new equipment at its own (thus far not equipped) plant in Staraya Derevnya.

Aleksandr Denin dreams of establishing at the institute a consulting group that serves foreign firms (Denin himself, incidentally, works under contract with Sony, adjusting for its needs stereophonic channels. The technology is a domestic one.)

"It is necessary to allow western competitors to enter our market," the chief of the department of radio broadcasts reception is certain. "The benefit is twofold. First, by giving information about the specific technical needs of Russian enterprises, the VNIIRPA will earn money, while the Japanese will gladly sell their complexes. Second, while working with foreign developers, the personnel of the scientific research institute will evaluate their level and will try to achieve it. And in the future to go farther."

Denin and Aldoshina have their own view of the development at the institute of small enterprises. In their opinion, small enterprises can take part in the privatization of the enterprise and make their contribution to its development. Moreover, small enterprises can create additional workplaces. There are many orders, including foreign orders. Firm owners, incidentally, prefer to cooperate not with the scientific research institute itself as a structural unit, but with its commercial subdivisions.

On 19 May 1992 Denin and Aldoshina entered the second round of the election competition. The general meeting of the collective should have decided which of the allies would become the new director. But an election campaign of another level, which was organized by Gennadiy Vlasov—on sabotaging the election—was begun shortly before this. The board of directors openly appealed to eliminate both candidates and held among "loyal subjects" closed conferences. The propaganda continued, although this is improper and illegal, even on election day: Posters, which slandered the candidates, were displayed.

The election all the same took place, and 56 percent of the associates gave preference to the new program of the development of the institute.

Aleksandr Denin was just seven short of the necessary half of the votes of the electorate. According to logic, a

conference of the labor collective, which is officially called upon to elect the new director, should have been the next step. Irina Aldoshina, incidentally, after 19 May wanted to withdraw her candidacy in favor of Denin.

But events began to develop in a different key. Acting institute director Yuriy Alekseyev by order banned the election campaign (Vlasov himself had resigned) on the basis that no candidate had taken 50 percent of the votes of the electorate. The order is at variance with the statute on the election, which was approved by the conference.

On 20 May the conference of the labor collective of the VNIIRPA recommended to the department of the communications equipment industry its own candidate for the position of the new director—Aleksandr Denin.

The deputation of the council of the enterprise intends to go to Moscow again in order to defend democracy and justice. I wonder how will Igor Shurchkov, general director of the department, react this time?

Commentary on State Fund To Support Basic Research

927A0230A Moscow *RADIKAL* in Russian No 17, 15 May 92 p 10

[Article by Vladimir Pokrovskiy under the rubric "Money for Science": "But All the Same a National Science Foundation Exists!"]

[Text] A very little time has passed since we established the guilt of the bureaucrats who ruined such a fine science foundation (see *RADIKAL*, No 10, 1992), and here it has appeared. If you look closely at Yeltsin's Ukase "On Urgent Steps on the Preservation of the Scientific and Technical Potential of the Russian Federation," which was published in the last issue of our weekly, it is possible to see that the first point—on the establishment of the Russian National Basic Research Fund—is the primary and most practicable of all the other points of the ukase.

It is noteworthy that it is declared by the ukase to be a self-administered state organization; this means that the NFFI [National Basic Research Fund] will not protect anyone's interests, except for those who are recorded in its Charter. It is noteworthy that from the very start the budget of the Fund, which comes to it from the state, is stipulated in a strict manner. It will come to 2 percent of the allocations that are being channeled into the base financing of basic research. In rubles it comes to the sum of 2 million, which for current times is not very large, but is still impressive. Yes, the U.S. National Science Foundation began with 50 million—true, dollars. Also noteworthy is the fact that this fund is for everyone, and not just for the Academy of Sciences, at which somewhere around half of the domestic basic science is concentrated. In short, we can congratulate ourselves on the fact that our National Science Foundation will be a fund,

which operates according to the rules, and not a money bag, which is distributed at the discretion of our authorities.

Vice President of the RAS [the Russian Academy of Sciences] Andrey Gonchar was appointed organizing director of the NFFI. Most likely, he will also become president of the Fund, when after the approval of the Charter the position of organizing director will be automatically eliminated. As has become known, after acquainting himself with the latest version of the Charter of the NFFI, which was approved by the government of the Russian Federation, Andrey Aleksandrovich took very calmly the point about the impossibility of combining the position of president of the Fund with any other position. This means that he will most likely leave the post of vice president of the RAS.

According to some data, after Gonchar Aleksandr Konoshenko, who directs today the finance and economic administration of the RAS, will also leave the academy (for the sake of the Fund!). Having spread through academic institutes, this news plunged many people into despair and gloomy forebodings regarding the future of the academy.

It is impossible to say that academy associates liked these two people that unconditionally. For all the unquestionable respect for him a portion of the scientific associates hold against Academician Gonchar the conservative (some add "reactionary") policy being pursued by him. The reputation of Aleksandr Konoshenko at the academy is even sort of odious, which given his position is not at all surprising. But even the most zealous opponents of Konoshenko and Gonchar understand that without them the likelihood in the shortest time of, to put it mildly, complete disorder increases significantly for the academy.

There is also another potential fly in the ointment. The future of the Fund in many respects depends on who will become the second man in its management—the executive director. The point is that Igor Nikolayev, a staff member of the Ministry of Science, the Higher School, and Technical Policy, who devoted a year and a half to the formulation of the principles of the activity of the NFFI and its establishment, is aspiring not without reason to this chair. (As we already said earlier, together with his associates he prepared all the documents on the Fund, and these documents, having been examined in the Carnegie Foundation, were rated highly.) "If I do not become executive director," he states, "I will keep these documents, let the executive director himself organize his work as he wishes. My associates, with whom we worked on the documents of the Fund, are also of the same opinion. In the end, this is our intellectual property."

In the government of the Russian Federation the candidacy of Nikolayev has been greeted favorably, but for the present it is known what Andrey Gonchar, on whom

much here depends, will say. Everything will be decided 14 May, during the second half of the day.

It appears that today the desire to lay it on thick has become a common Russian misfortune. But we state with pleasure: Many gloomy predictions of yesterday have today the habit of not coming completely true. Perhaps, nothing terrible will happen to the Fund without Igor Nikolayev and his documents. However, first, such an outcome would be unfair and, second, it would be truly a pity to exchange the candy, about which it is already known that it is very tasty, for no one knows (for the present) what.

Nikolayev's Fund is also really good. It is organized according to principles that are perfectly understandable for western colleagues. This is a big plus, considering our present desire for integration with science of the West. The system of applications for grants, the system of the official registration of grants, and others in many respects are analogous to those adopted throughout the world, but have been adapted to our society, to our way of keeping budget documents, and to our items of expenditures. An infrastructure, which ensures the uninterrupted operation of the system of grants in our country, and not only for the NFFI, is envisaged for the future. A procedure, which enables the system of grants to operate already now, also exists.

A new expert system, which is similar to the one that exists in the U.S. National Science Foundation—when four independent experts evaluate a submitted application on a point scale, and then these evaluations are summarized, and the final decision is made on their basis—is being set up.

Although this is almost not spoken about aloud, the high degree of cliquishness of our science is well known. Different scientific schools fight with each other not so much with arguments of logic as with arguments of their influence among the leaders. Therefore, even the most noteworthy expert system can turn into a nonworking illusion, if, for example, some one clique were to take all four seats in a given scientific direction. It is even worse if opposing schools were to divide the seats evenly—then it would be hard to find the arithmetic mean.

In sociology this is called a "conflict of interests." An entire set of measures to overcome it is envisaged in Nikolayev's version of the NFFI. The most powerful means—and this is one of the conditions of the activity of the NFFI—is the complete openness of the examination. The Economics Faculty of Moscow State University is now developing an efficient statistical information system, which will immediately say who is who in the world of experts. It is also proposed to set aside a special day, when the Fund will consider the complaints of malcontents. The enlistment of foreign experts, who will more quickly establish the true level of a work, will also play a considerable role in overcoming the conflict of interests.

Anyhow, the Fund has been established, and there is the great likelihood that all will turn out well.

Reorganization Eliminates Metrology Research Institute

927A0235A Moscow NEZAVISIMAYA GAZETA
in Russian 15 Jul 92 p 1

[Article by Nikolay Ulyanov under the rubric "The Situation": "Sectorial Science Is Slowly Dying. On Its Bones the Barbarians Are Stamping Buttons"]

[Text] The Institute of Testing Machines, Instruments, and Means of Mass Measurement (NIKIMP) is the only plant of measures and weights of an applied nature on the territory of the CIS. In addition to solving purely theoretical problems its personnel are engaged in the development of all kinds of scales, metering devices, and power-measuring equipment, the determination of the quantitative characteristics of petroleum, ore, and precious metals for production needs, and the fueling of missiles by the weight method. In the chemical industry, for example, without batching it is impossible to obtain the desired type of plastic and in the cosmetics industry to obtain good shampoo.

The Vesmash Pilot Plant is on the same grounds as the NIKIMP and was always the experimental workshop of the institute. Last year Vesmash decided to detach itself from the institute, and not simply to detach itself, but also to attach to itself the space of the institute. The leadership of the latter began to write letters to the top, and as a result correspondence was begun between then Deputy Chairman of the Supreme Soviet Shumeyko and Minister Titkin. However, Goskomimushchestvo [the State Committee for the Management of State Property] of the Russian Federation came out against the transfer of the space to the balance sheet of the institute, thereby having scattered to the wind all the hopes of the personnel of the institute. Tired by the hopeless struggle, associates of the institute began in throngs to get their discharge.

Of what benefit to the plant was such a turn of events? A NEZAVISIMAYA GAZETA correspondent walked through its shops, and it is possible to reduce everything he saw to one word—desolation. The specialized shops are idle, of the 10 machine tools one is operating, the high-class workers, who have not yet gotten their discharge, are busy with a constant smoke break. Unique imported equipment for torque measurement—the only equipment in the former USSR—is decaying outdoors. But work is seething on the second floor—here workers of one of the cooperatives (there are already several of them at the grounds of the plant and the premises of the institute, which belong to the plant) on firm batching equipment are producing buttons, children's plastic toys, and other simple household implements, helping the plant with their revenues somehow to stay afloat.

Monitoring of Migration of Scientists Advocated

927A0243A Moscow RADIKAL in Russian No 22 (79),
Jun 92 p 10

[Article by Aleksandr Allakhverdyan, the Institute of the History of Natural Science and Technology of the Russian Academy of Sciences, under the rubric "The Brain Drain": "Monitoring for the Study of the Migration of Scientists Is Necessary"]

[Text] The processes of democratization in the countries of the East European region have caused the vigorous, previously unheard of flow of highly skilled scientists and engineers beyond the geographical region that once was "fortunate" with respect to migration. With the liberalization of emigration policy a new market of highly skilled personnel, who are in demand in the states of Western Europe and the United States, began to form here.

The "brain drain" to a greater or smaller degree has enveloped all the European countries of the former socialist camp. For example, 12 percent of all the scientists and engineering and technical specialists of Hungary have gone for work to western countries, mainly the FRG and the United States. Mathematicians, biologists, and physicists and, in applied fields, electronics experts and programmers are in the lead. Since the middle of the 1950's, according to rough calculations, more than half of the scientific workers have left the country. Polish physicists, mathematicians, chemists, sociologists, political scientists, and philosophers are valued at scientific centers of the West. It must be admitted, Academician W. Markiewicz stresses, that if the departure of scientists abroad in the future also continues at such a pace, Polish science will not have a future.

In recent years, since the start of the liberalization of emigration policy and the afforded opportunities for the more extensive scientific contacts of our scientists with colleagues from foreign research centers, the significance of the "brain drain" problem for the former Soviet Union has also increased sharply.

The empirical studies made by us of the causes of the "brain drain" from scientific research organizations showed that along with scientific and professional factors of a general social nature: the political instability in society, the lack of adequate guarantees of a democratic means of social transformations, contradictions of an ethnic order, and others, play an important role in the making by scientists of decisions about emigration.

The causes of the migration of scientists in the countries of the CIS and Eastern Europe in many respects are similar: the low wage, the poor equipment of research, the hierarchy, a sort of grandfather mentality in the interrelations of "senior" and "junior" scientific associates, as well as causes of a general social nature (political

and ethnic instability, the lack of truly democratic institutions of power, and others). An additional "centrifugal" factor of the drain of scientific personal from Russia and the other countries of the CIS is the fact there here, in contrast to the states of Eastern Europe, a sharp disproportion between the still high level of development of scientific research and the further rapid decrease of the standard of living is being felt. All the listed factors in the immediate future to one degree or another will stimulate the flow of highly skilled personnel from the CIS and the countries of Eastern Europe.

Whereas in the 1950's and first half of the 1960's the "brain drain" took place primarily from some developed countries to other industrially developed countries, while during the second half to the 1960's through the first half of the 1980's the emigration of scientific personnel from underdeveloped to economically developed countries of the world dominated, starting in the late 1980's migration processes actively affected the countries of Eastern Europe.

Both in the pace and in the scale of the phenomenon this region already constitutes serious competition for the traditional "exporters" of highly skilled specialists—the developing countries. Whereas, for example, in 1989 alone about 70,000 scientific workers left the former USSR, over a 12-year period (1966-1977) 75,000 scientists and engineers emigrated from all the developing countries of Asia, Africa, and Latin America taken together. If the pace of the "brain drain" does not decrease, it is safe to say that during the first half of the 1990's leadership in scientific emigration may pass to the countries of Eastern Europe.

The activation of migration processes is facing the governments of the East European states with serious problems, to the solution of which a long-term, stage-by-stage program (which is similar to ones in effect in developing countries) on the stabilization of emigration processes and, in the future, the reemigration of compatriot scientists can contribute.

As world experience testifies, during various periods of postwar history both developed and developing countries experienced the activation of the "brain drain." This problem was realized as a problem of state importance. Governments stimulated special research, special-purpose creative groups for the comprehensive analysis of this problem were formed. The research results served as the basis of the formulation of comprehensive programs and a special scientific policy in the area of the migration of the population as a whole and intellectual migration in particular.

The abundance of journalistic publications and statements of organizers of science and scientists themselves on the theme of the "brain drain" may create the notion that this problem is being studied intensively in our country. But this is an utter misconception, which is due to an external effect—the frequent momentary appearance of the theme of the "brain drain" on the pages of

the periodic press. In reality this socially many-sided and complex science-of-science problem requires more exact, differentiated, and large-scale studies, which would make it possible to arrive at some generalizations and the making of the optimum management decisions.

It is necessary, first, to unite the efforts of specialists of Russia and other states of Eastern Europe for the conducting of joint and coordinated studies of the problems of intellectual migration. Second, for the conducting of such science-of-science studies one should seek special means (perhaps, with the assistance of national, all-European, and American science foundations, which are interested in the organization of such studies, as well as commercial scientific firms, which are concerned about the intensive drain of intellectual resources abroad).

The estimate has already reached not tens, but hundreds of thousands of highly skilled scientists, engineers, and physicians, who have been forced to leave the countries of the East European region.

The unique nature of the historical moment and the uniqueness of the migration situation, which arose after the collapse of the socialist system, when not only individual intellectuals and scientific workers, but also entire scientific collectives came into motion and began to migrate actively, raise the question of establishing a special (independent) center for the comprehensive study of the "brain drain" problem in the states of Eastern Europe and the newly formed Commonwealth. To be a witness of the "volcanic" migration processes and merely an outside observer and not to study their present state, trends, and likely consequences is an impermissible luxury for social researchers, which borders on professional irresponsibility.

Developments in Siberian Department of Russian Academy of Sciences

927A0243B *Moscow RADIKAL in Russian No 21 (78), Jun 92 p 10*

[Article under the rubric "A Fact for RADIKAL": "News From Siberia"]

[Excerpt] [Passage omitted] The Northeastern Department of the Engineering Academy of Russia was established in Yakutsk and its governing bodies were elected.

Sixteen people became members of the Presidium. These are representatives of the scientific and engineering community of Yakutia and Magadan Oblast. The bureau and president of the department were elected. Doctor of Technical Sciences R. Kamenskiy, director of the Institute of Permafrost of the Siberian Department of the Russian Academy of Sciences and a specialist in the area of engineering permafrost studies, who worked in the North for 35 years and knows its problems thoroughly, became him.

The first session of the General Meeting of the Siberian Department of the Russian Academy of Medical Sciences was held.

During the meeting the tasks on the further development of medical science in the region were specified and the new charter of the Siberian Department of the Russian Academy of Medical Sciences was discussed and approved.

The session indicated the basic directions of activity: the carrying out of the general supervision of scientific centers, contact with the medical higher educational institutions and other medical science organizations, which are located on the territory of the region; it elaborated a unified comprehensive system of the planning, coordination, financing, and control of scientific research. As well as the monitoring of the use of financial assets and the development on a contractual basis of social orders.

The system of the organization of the evaluation of scientific research on the basis of expert examination was also approved.

The Baykal Branch of the All-Union Scientific Research Institute for the Protection of Waters was reorganized into an independent institute of ecological toxicology with direct subordination to the Ministry of Ecology of Russia. V. Danilo-Danilyan, minister of the new Russian department, recently made such a decision on the basis of the appeal of the collective of the branch, as well as the petitions of the administration of Irkutsk Oblast, the oblast committee for ecology, and a number of scientific organizations.

In the 25 years since the organization of the ecological toxicological service at Lake Baykal this is the fourth stage of the transformation of this scientific institution, which began as an expedition of Petrozavodsk State University.

The presentation of the first polytechnical university in Siberia and the Far East took place in Tomsk.

Tomsk Polytechnical University was established on the basis of Tomsk Polytechnical Institute, one of the oldest technical higher educational institutions of the country.

Representatives of many cities of Russia, the republics of the CIS, Korea, China, the United States, Great Britain, and other countries were guests at the presentation. [passage omitted]

Tyan Shan Astrophysics Lab Threatened With Closure

927A0219A Moscow POISK in Russian No 22 (160), 23-29 May 92 p 3

[Article by POISK correspondent Svetlana Krymova (Alma-Ata): "A Requiem for Cosmic Rays?"—first paragraph is POISK introduction]

[Text] The Tyan Shan High-Altitude Station of the Physics Institute imeni P.N. Lebedev of the Academy of Sciences was threatened with closing.

This unique scientific facility has been operating since 1961 in the vicinity of Alma-Ata at an altitude of 3,340 meters. The basic directions of research of the station are nuclear interactions at superhigh energies and cosmic ray astrophysics.

But the high-altitude station is not only scientific research, but also a vast economy: premises for underground laboratories, which were cut in the rock, as well as surface premises—production buildings with the most complex equipment and a dormitory for 100. Following the disintegration of the USSR the fixed capital of the station, which is on the territory of Kazakhstan, was nationalized.

However, in the republic they understood that it is necessary to preserve the scientific institution, which holds the leading place in the world in cosmic ray physics, and to continue the research. The Government of Kazakhstan decided to reserve for the Physics Institute imeni P.N. Lebedev of the Academy of Sciences the right to use the station, the Scientific Council of the Russian Academy of Sciences for the Complex Problem "Cosmic Rays" adopted a decree on the advisability of organizing a joint scientific center (the cosmic ray station of the Institute of High Energy Physics of the Academy of Sciences of Kazakhstan is next to the station of the Physics Institute imeni P.N. Lebedev of the Academy of Sciences) with the prospect of opening the International Cosmic Rays Scientific Center, of which the two academies could become the cofounders. Such a version, it seems, suited everyone. But who will pay? Thus far this question has not been decided. As a result since the beginning of the year the station has been living in debt. Since February wages have not been paid to the associates. According to recent reports fuel has run out at the station, and this is nearly a catastrophe: At night at such an altitude there are real frosts.

However, in a conversation with a POISK correspondent the scientists expressed the greatest anxiety not about themselves.

"A unique collective, which was established over the years, is threatened with disintegration," said physicist Rashid Beysembayev, a veteran of the station. "Unique specialists—high-class mountain drivers, technicians, mechanics, and electronics experts—have gathered here. Under the conditions of autonomous existence—and due to heavy snowfalls we are cut off from the outside world for weeks—psychological compatibility is also of great importance. We scientists will not go anywhere. While if the people, who help us to prepare and conduct experiments, get their discharge, this will be equivalent to the loss of the station for science. And these specialists are already leaving."

...In Alma-Ata it is raining—this means that at the altitude of 3,340 meters there is again snowfall. The station, which is cut off from the world, awaits the settlement of its fate.

Intellectual Property Agency Established**Presidential Directive**

925D0608A Moscow ROSSIYSKIYE VESTI in Russian
30 Jul 92 p 3

["Instructions of the President of the Russian Federation 'Matters Pertaining to the Russian Agency for Intellectual Property under the Russian Federation President'"]

[Text] In connection with the formation of the Russian Agency for Intellectual Property under the Russian Federation President I decree as follows:

1. To confirm the proposed provisions on the Russian Agency for Intellectual Property under the Russian Federation President (RAIS).

2. To give RAIS the function of the abolished USSR State Copyright Agency in the collection, acquisition, distribution, and payment of authors' remuneration (royalties) as provided for by existing legislation of the Russian Federation, and in the publication of works, issue of works on gramophone records and other kinds of mechanical and magnetic recording media, and the use of works of applied decorative art in industry.

Users of works shall be obliged to provide RAIS on a gratis basis with the information required to carry out these functions.

3. To empower RAIS with the agreement of interested departments to represent the Russian Federation in the Intergovernmental Committee of the World Copyright Convention and other international organizations in the sphere of protecting copyright and related rights.

4. To confirm the maximum number of workers in the RAIS central apparatus at 257 (not counting security personnel and janitorial services) and the wages fund for the second quarter in the amount of 22,334,000 rubles, and also the maximum number of workers in regional branches of RAIS at 123.

5. To assign the Russian Ministry of Labor the task of submitting to the Government of the Russian Federation within two weeks information on conditions for wages for workers in the regional departments of RAIS. Together with the Russian Ministry of Finance RAIS shall within one week submit to the Government of the Russian Federation proposals on the wages fund for workers in those departments.

6. Henceforth the director of RAIS shall be known as the general director of RAIS. RAIS shall be permitted to have three deputies for the general director, including one first deputy, and a collegium made up of 11 persons.

7. To establish that the RAIS central apparatus and its regional departments shall be funded with appropriations used to maintain organs of state management as provided for in the republic budget of the Russian Federation.

8. To bring workers in the RAIS central apparatus into line with the working conditions for corresponding categories of workers in committees of the Government of the Russian Federation.

[Signed] B. Yeltsin, president of the Russian Federation
15 July 1992
No 367-rp

Statute on Functions

925D0608B Moscow ROSSIYSKIYE VESTI in Russian
30 Jul 92 p 3

["Provisions on the Russian Agency for Intellectual Property under the Russian Federation President as Confirmed by the Instructions of the President of the Russian Federation dated 15 July 1992 No 367-rp"]

[Text]

I. General Provisions

1. The Russian Federation presidential Russian Agency for Intellectual Property (RAIS) is a federal department that shapes and implements state policy in the sphere of protection of copyright and related rights. RAIS is subordinate to the president of the Russian Federation and accountable to him.

2. The purpose of the RAIS is to create favorable legal conditions for creative activity in the sphere of literature and the arts, science, and other intellectual activity, and also to guarantee copyright and related rights.

3. In its activity RAIS is guided by the Constitution of the Russian Federation and the laws and other legislative enactments of the Russian Federation, and international treaties of the Russian Federation in the sphere of protecting copyright and related rights, and also by these Provisions.

4. RAIS is a legal entity and has a seal showing the state emblem of the Russian Federation, and its own name and appropriate seals and stamps, and bank accounts, including hard currency accounts.

II. The Tasks of RAIS

5. The main tasks of RAIS are these: to devise and submit for review by the president of the Russian Federation proposals on the formation and implementation of state policy in the sphere of protecting copyright and related rights and improving legislation in this field; to coordinate the activity of central organs of executive power and cooperate with the committees on matters falling within the competence of RAIS; to ensure unity of legal protection of copyright and related rights on all territory of the Russian Federation; to help in the formation of societies to manage copyright and related rights on a collective basis, and also organizations (agencies) to confer and acquire copyright on an individual basis; to devise together with law enforcement and other state bodies measures to combat unlawful use of objects

covered by copyright and related rights; to promote the formation of legal standards in the sphere of protecting intellectual property; to help in expanding international cultural and scientific and technical cooperation and the exchange of cultural values; to participate in the work of international organizations in the sphere of protecting copyright and related rights.

III. Functions of RAIS

6. In accordance with the tasks assigned to it the functions of RAIS are these: to draw up draft laws of the Russian Federation, ukases and instructions of the president of the Russian Federation, and decrees of the Government of the Russian Federation in the sphere of protecting copyright and related rights; to prepare and submit for review by the president of the Russian Federation within the bounds of RAIS' competence conclusions and arguments for laws submitted for signature of the president of the Russian Federation, draft laws and decrees submitted to the president of the Russian Federation for submission to the Russian Federation Supreme Soviet as legislative initiatives, draft decrees of the Government of the Russian Federation, and drafts of international treaties and agreements of the Russian Federation in the sphere of protecting copyright and related rights;

to monitor observance of legislation of the Russian Federation on copyright and related rights for the purpose of protecting the interests of the creators of intellectual property; to cooperate with state bodies and organizations of the republics making up the Russian Federation dealing with matters pertaining to protection of copyright and related rights;

to draw up and submit proposals on international cooperation by the Russian Federation in the sphere of protecting copyright and related rights in accordance with established procedure in drawing up and entering into international treaties of the Russian Federation relating to the protection of copyright and related rights;

to draw up proposals on legal protection for the results of intellectual activity not protected by existing legislation of the Russian Federation;

to collect, acquire, distribute, and make payment in accordance with existing legislation for authors' remunerations for publicly used work, the issue of works on gramophone records and other kinds of mechanical and magnetic recording media, and the use of works of applied decorative art in industry;

to systematize information in the sphere of protecting copyright and related rights; to set up data banks and ensure access for interested people, institutions, and enterprises to the RAIS information system; to publish information bulletins, handbooks, and sets of legislative enactments;

to help holders of copyright and related rights to exercise their rights on an individual basis, provide Russian and

foreign rights holders and users with consultation services and legal aid in protecting copyright and related rights in the Russian Federation and abroad; to help in the training of skilled specialists in the sphere of protecting copyright and related rights and to participate in work to develop appropriate training programs for educational institutions in the Russian Federation; to study practice in the application of legislation of the Russian Federation and international experience in the field of protecting copyright and related rights;

to organize international conferences and symposia, fairs and exhibitions, festivals, and other scientific, cultural, and information events in the Russian Federation and to participate in similar events abroad;

to carry out functions based on legislation of the Russian Federation or stemming from the participation of the Russian Federation in international multilateral and bilateral agreements to protect copyright and related rights.

IV. Rights of RAIS

7. In accordance with the functions and tasks assigned to it RAIS has the following rights:

to submit for review by the president of the Russian Federation and the Government of the Russian Federation draft laws and pieces of delegated legislation in the sphere of protecting copyright and related rights;

to publish in accordance with established procedure instructions and clarifications binding on all ministries, departments, and organizations, and also users of works and objects of related rights, for the purpose of ensuring uniformity on all territory of the Russian Federation in the application of legislation on copyright and related rights;

to obtain essential information from ministries, departments, organizations, and institutions of the Russian Federation in accordance with established procedure;

to monitor and check execution of decisions of the president of the Russian Federation and the Government of the Russian Federation in matters falling within the competence of RAIS, and to ensure with the agreement of interested departments participation by the Russian Federation in intergovernmental and nongovernmental international organizations dealing with copyright and related rights;

to participate in negotiations on the Russian Federation subscribing to existing conventions and agreements, and also in work on new international treaties in the sphere of protection of copyright and related rights; in accordance with established procedure to open its own representations abroad and to have regional departments within the Russian Federation;

to file claims in the courts to protect the rights and legitimate interests of authors and other right holders on their behalf;

to participate on the basis of the powers granted by the holders of copyrights and related rights in the conclusion of contracts concerning use of these rights in the Russian Federation and abroad;

to pay authors' remunerations received from abroad in hard currency in accordance with established legislative procedure;

to open accounts in banks, including hard currency accounts in banks empowered to do so, in accordance with established procedure;

to enter into cooperation agreements with appropriate organizations abroad engaged in matters pertaining to protection of copyright and related rights;

to engage in accordance with existing legislation in information and advertising and publishing activity in the Russian Federation and abroad, and to found mass media;

to create in accordance with established procedure enterprises and organizations, including foundations, to carry out within the limits of their competence the orders of creative and professional unions and other legal entities and individuals;

to participate in cultural, philanthropic, humanitarian, and other foundations both domestic and foreign;

to set up ad hoc creative collectives and other organizational structures to promote realization of the tasks and functions of RAIS; to recruit experts for consultation, including foreign experts, making use of budget and off-budget assets for this purpose;

independently to establish forms and systems for wages in RAIS, and to determine the size of increases, additional payments, bonuses, and other incentive payments, and also the structure and staffing without taking into account the relationship between the numbers of workers in various categories;

to have nonstaff inspectors to carry out particular tasks and functions of RAIS, and to determine their numbers and the procedure for and size of wages.

V. Organization of RAIS Activity

8. RAIS is headed by a general director appointed to and dismissed from that post by ukase of the president of the Russian Federation. The general director has deputies, including one first deputy, appointed to and dismissed from those posts by instructions of the president of the Russian Federation on the representation of the general director. Allocation of duties between deputies is done by the general director.

9. The general director guides the activity of RAIS and is personally responsible for implementation of the tasks and functions assigned to RAIS, and confirms the structure and staff of the RAIS apparatus within the limits established for numerical strength and the wages fund,

draws up and confirms provisions concerning the structural subdivisions of RAIS and institutions and organizations directly subordinate to RAIS, hires leading workers and experts for work, including on a contractual basis, and establishes norms for spending to carry out measures connected with RAIS' activity.

10. Within the limits of their competence the general director and his deputies issue orders, instructions, and other departmental enactments.

11. A collegium that is a consultative body is formed within RAIS. The collegium includes the general director (chairman of the collegium) and his deputies, and other RAIS workers, and also leading experts in matters pertaining to protection of intellectual property. Except for the members who are part of the collegium by dint of their duties, the members are confirmed by instruction of the president of the Russian Federation. The collegium reviews the most important issues stemming from the aims, tasks, and functions of RAIS. Resolutions of the collegium are adopted by simple majority and implemented by orders issued by the RAIS general director. An authors' council is set up within RAIS made up of authors and other rights holders to review matters pertaining to the collection and distribution of authors' remuneration.

12. Funding for the activity of RAIS is provided through assets from the republic budget of the Russian Federation and other sources that are not in contravention of existing legislation.

13. The size of commission payments in remunerations collected by RAIS in accordance with existing legislation and obtained through contracts on reciprocal representation with authors' societies abroad is determined annually by RAIS giving due consideration to decisions of the authors' council.

14. The material-technical base for RAIS is made up of fixed and circulating capital and other material values and financial resources. RAIS has a hard currency account formed from commission payments and other assets in foreign currencies obtained from Russian and foreign legal entities and citizens. The provision on the RAIS hard currency account is confirmed by the RAIS general director on the basis of decision of the collegium.

15. RAIS has the following:

a current hard currency balance sheet for economic activity calculated in hard currency and from which expenditures are made in a foreign currency to pay for the international activity of RAIS;

a current hard currency account for accounts in foreign currencies with foreign authors and holders of related rights through remuneration obtained from abroad and from Russian users;

a current hard currency account to which are transferred the limits of hard currency determined by the Government of the Russian Federation for accounts with foreign authors' societies under the terms of contracts and reciprocal representation of interests, and also for

accounts with foreign rights holders under the terms of contracts concluded with RAIS involvement.

16. The location and legal address of RAIS is 103670, Moscow city, Bolshaya Bronnaya ulitsa, No 6a.

Developments in Patent Legislation Efforts

927A0227A Moscow DELOVOY MIR in Russian
10 Jun 92 p 14

[Article: "The Second Line of Defense Is From the Market and Inventors. On the Possible Consequences of the Passage of the Patent Law of the Russian Federation"—first paragraph is DELOVOY MIR introduction]

[Text] Back at the beginning of February 1992 the Supreme Soviet of Russia adopted at the first reading the draft of the Patent Law. This is far from the first attempt to make inventors happy. The matter has dragged on for about 10 years. The latest version of the draft law before its approval by the supreme legislative body of Russia was concealed from the scientific and technical community. Meanwhile the favorable reaction of the deputies to the regular departmental creation is causing amazement and valid doubts: Does a general concept of legal rule making, which concerns some complex problems or others, exist? And will this standard act promote the introduction of promising developments?

Indeed, by what considerations were the initiators of the mentioned Law guided, having specially singled out invention and having detached it from other types of intellectual activity, which are connected with it—scientific, engineering, design, industrial design—and as a result from the development and use of new equipment and technologies? The syndrome of departmental parochialism, which at one time afflicted our economy, it appears, is also beginning to penetrate lawmaking. The passage of the Patent Law in its present form will be able to create a precedent for the appearance of a large number of narrow professional laws.

In the draft law it is recorded: The former State Committee for Inventions and Discoveries, which changed its sign, and now Rospatent [the Committee for Patents and Trademarks of the Ministry of Science, the Higher School, and Technical Policy of the Russian Federation] supposedly makes an examination of the applications for inventions. In reality a specialized scientific research institute is engaged in this. This casts doubt on the independence of the experts, considering their subordination. Thus, the bureaucratic department is trying to legalize its further existence, the necessity of which is very doubtful.

Other departments will also use creatively a similar perestroika innovation, one must suppose, in the name of survival. After the law being discussed laws on various sectors of industry, as well as on the activity of bootmakers, pastry makers, artists...may appear. One the first such portents is the draft of the law on the organization of scientific research in agriculture, which has been submitted to the Supreme Soviet of the Russian Federation.

The law being discussed, it would seem, should promote in every way the development of new equipment and technologies, that is, the production of a competitive

market product. However, the replacement of the goal by one of the means of its achievement in many respects gave rise to all the absurdities and contradictions of this law, while its passage will not benefit either society as a whole or inventors in particular. And here is for what fundamental reasons.

Although a lawyer and scholar, one of the initiators of the planned action, heads Rospatent, yet (legal nonsense!) in the draft law (in contrast, incidentally, to the former, old standard act) the object-invention proper is not defined, but merely its indirect features, the evaluation of which is very subjective, are indicated. The feature of novelty without such an integral criterion of the evaluation of an invention as the achievement of an increasing impact as compared with known solutions will provoke the development of "new," but one's own inventions. Ignoring the benefit, in a number of areas of equipment it is easy to do this. Thereby in the absence of norms of the qualitative improvement of inventions, which would orient their developers toward the increase of the impact for the consumer, and in the absence of competition on the market the monopoly producers will acquire the "legal" right for the further worsening of the consumer properties of goods. Given the fact that the items being produced may become more complicated and more expensive. The inventions needed by society as before will be rejected. While they will oppress obstinate inventors who wanted to acquire their own business, appropriating "according to the law" their intellectual product and having altered it slightly. If rules similar to the ones being discussed (about the qualification of an inventions and the rights to it) were used in evaluations of literary works, someone, having added one or two pages in any book, would become its new author with all the property and other privileges. For today legal norms of intellectual property and its protection are lacking. That this and other issues are ambiguously declared in the draft law being discussed will inevitably lead to arbitrary administrative actions and to numerous litigations. In provoking them, the authors of the draft envisaged at the same time the organization of a new judicial system—the patent court. I wonder where the numerous judges, who have two higher educations each—legal and technical—and surpass in intellect both the plaintiffs and the defendants, will be found for it? And how much will this cost taxpayers? If a precedent is created, will not other departmental courts also be needed tomorrow?

The proposed system of examination and the "protection" of inventors looks exceedingly like the second line of a defense disposed in depth, where other bureaucrats from science and technology, who of necessity are leaving the trenches of the first line, want to dig in. Is it not for further comfortable existence that they provided for numerous fees, which the applicants should now pay? The draft law is aimed, in essence, at the extortion of money from them. It is necessary to pay: when submitting an application (150 rubles [R]), for its correction, for the issuing of a patent (R400), for patent research on countries (hundreds and, perhaps, thousands of rubles),

for patenting abroad, the annual fees for a patent, for the registration of various contracts without fail in the patent office—otherwise the transaction will be “Illegal.” The last service obviously goes beyond the declared free market relations. Particularly for contracting parties who are thousands of kilometers from Moscow. Under present conditions such “cost accounting” has already led (an analogous law is in effect today) to the sharp decrease of both inventions and applications for them, first of all from young people. To which the nowise justified time of their consideration—from a year and more, as opposed to the former six months—is contributing considerably. According to some data, during the last year not more than 30,000 applications for inventions were submitted, while in the past on the average 250,000 were received annually.

[word(s) omitted from original] [Ros]patent, obviously, hoping to create a new source of “revenues,” prohibited Russian inventors henceforth to exchange their USSR inventor’s certificates for patents. Thereby, in spite of the law, several thousand people, who own approximately 1.5 million inventions that were not claimed by the departmental economy in past decades, were, in essence, robbed and deprived of the opportunity to turn the intellectual property that belongs to them into initial capital. Not only the antimarket essence of the intentions of the new owners of the patent office, but also their immorality appeared in this. Inventors, who are representatives of the scientific and technical intelligentsia, today proved to be most deprived materially. Only the disabled and retirees come after them. Being one of the most active parts of society and possessing, moreover, an intellectual commodity, they would be able to become genuine subjects of the market, but for someone this is unacceptable.

The recording in a single document of a limited term of effect (a patent) of copyrights and the right to the exclusive use of an invention, as well as the payment of annual fees will deprive the inventor of freedom of actions. He will be forced to become a hostage of another patentee, first of all the Federal Fund of Inventions, which is being newly established. With a thus far unknown charter. It is clear for what purpose the authors of the law rejected the possibility, which had existed previously in the USSR, of obtaining both an author’s certificate and a patent. Their successive issuing made it possible not to pay annual fees for who knows what when materializing an invention and preparing the corresponding commodity production.

Today under our conditions from three to 10 years are spent on this. Therefore, an inventor, without having initial capital, will be forced to turn the patent over to other people and subsequently to go with outstretched hand for the award. All this has already happened. And in the future of the effect of the draft law being discussed, if it is passed, such an outcome could prove to be not the worst one. However, taking into account the existing monopolism of the domestic producer, the commodity shortage, and the decline of commodity production, it is hardly possible to count on the appearance in the immediate future of a

domestic market of patents. Therefore, the eyes of inventors will be turned first of all to the Federal Fund of Patents. In contrast to the Law “On Inventions in the USSR,” which for the time being is in effect and allows the transfer to the now eliminated State Fund of any patents without payment for applications (this possibility with the arrival of the new managers at Rospatent was illegally abolished), the draft law being discussed orders the Federal Fund to pick inventions selectively. It is clear that there they will pick the commodity that yields an immediate profit. Given such an approach tens of thousands of inventions, which either are ahead of their time or require some time for introduction, will be unclaimed (a gentleman-farmer). And they will cease to draw up applications for them. But since the draft law grants legal protection to an invention only if it is industrially applicable, this drives the last nail in the coffin of the activity of many talented inventors, for the use of whose works industry for the present is not prepared. It is clear with what this threatens the future progress of Russia. If such a norm had existed in patent legislation in the past, society would have lost much. Perhaps, electronic television, for example, would have appeared considerably later. And how can one not recall the “raving” ideas of Tsiolkovskiy? One gets the impression that the authors of the draft law being discussed are not familiar with the history of science and technology. And as a whole the product of their semi-underground creativity resembles a mixed salad with ingredients that are hardly compatible in taste qualities. The instructions on the drawing up and examination of applications and individual norms of judicial, tax, and patent legislation have been lumped together.

What has been stated far from exhausts the list, to put it mildly, of negative aspects of the draft of the law. It is necessary, it seems, to write it all over again. Moreover, on a different conceptual basis, which originates from the set of interconnected legal problems of the development and use of new equipment and technologies, and not just inventions. Obviously, it should be a matter of a standard act that concerns general questions of patent legislation and the protection of intellectual property in the area of scientific and technical creativity.

It seems that the formal carrying over of the norms of foreign patent legislation (the law being imposed is also based precisely on them) to the present economic relations in the country can lead not only to the collapse of domestic invention. Domestic specialists’ lack of funds for the patenting of inventions is affording unlimited possibilities for the extensive patent expansion of foreign firms on our market and the establishment by them of a monopoly on intellectual property. While the monopoly possession of the imposed “truth” in the area of intellect will inevitably give rise to dictation from beyond the cordon with respect to the domestic products being made and trade in them. Many of our enterprises have already been faced with this problem on the foreign market. If they pass the draft law being discussed, it will provoke the development of the indicated negative trends, since the necessity of the emergence of domestic producers of goods is not taken into account in it.

Russian Institute for New Technologies Seeks Joint Projects

924A1657A Moscow IZVESTIYA in Russian 28 Jul 92
Morning Edition p 2

[Article by Boris Konovalov: "Independent Institute an Innovation in the World of Science"]

[Text] Independent, nongovernmental institutes are beginning to appear in Russia. If before, all of them were always trying to gain the protection and financial patronage of strong institutions—the Academy of Sciences, the branch ministries, higher schools, then now, for some it is turning out to be more advantageous to be independent organizations and to receive money from all possible sources, including those located abroad.

The first in the country to come to this realization were the staff of the Institute of New Technologies, headed by Academic A. L. Semenov. The forerunner of this institute was the provisional scientific-technical collective "Shkola," which functioned under the auspices of the USSR Academy of Sciences and the USSR State Committee on Science and Technology, as well as the Academy of Pedagogical Sciences. Later, it received the rank of Academy of Sciences institute, and, in this era of market relations, has now withdrawn from that membership to become an independent, nongovernmental organization.

For now, the institute is housed in accommodations spread over the entire city of Moscow, but it is hanging on by two "threads"—new technologies in industry and in education.

It receives money for actual projects from state and nongovernmental organizations, some of them foreign. The institute's academic council decides independently how much money to allot, determines the deadlines for a project and issues its leader a check book with "intra-institute" currency, while the leader, himself, decides how to compensate his colleagues for their labor.

The Institute of New Technologies has a double aim in its work—scientific-technical progress, and drawing Russia into the world community.

The institute gets Russian schools involved in two international projects, "Kidnet" and "Global Lab." The first of these is for children in the lower grades. They are given the opportunity to socialize with foreign children of their own age through a computer network where they

can tell about themselves and the place they live. "Global Lab" is for older school children. Here, a worldwide computer network serves to help children share in scientific research. All of the schools participating in the project are supplied with the same kind of equipment, so that they can conduct meteorological observations and ecological studies. These projects are financed by international organizations that are mainly American. On our planet, 200 schools are already participating in the "Global Lab" project, while "Kidnet" involves over two thousand.

The American foundations and organizations that run these projects pay for the work of Institute of New Technologies staff members who act as developers, methodologists and consultants. This is one of several examples of the direct financing of scientists working in Russia for a world community.

Within the institute, there is a center for educational computer programs. Moscow's department of education has already purchased several licenses for their legal circulation. In this way, expenses for their development are compensated by a government source. And further, at cost, the institute provides the schools with all the necessary materials and offers consultation for teachers.

Still, not everyone understands this kind of blend of a commercial approach with a noncommercial one that is essentially philanthropic. Our vigilant customs officials, for example, did not allow old computers collected by American universities in the state of Massachusetts for us as humanitarian aid to pass through free of charge. It turns out that dry milk is not subject to a duty charge, while computers are—without a doubt. No matter how much proof was shown that they were going to schools and scientific laboratories, it didn't help.

It is hard to be independent, but it is also interesting. The institute has chosen an excellent collective of like thinkers, and they are quite certain that they will survive under our difficult conditions. And the Leningrad branch of the Institute of New Technologies plans to go even farther.

—We intend to become the first private institute in Russia,—the director of the Leningrad branch of the Institute of New Technologies, V. Noskin, doctor of physics and mathematical sciences, told me.

Of course, one must understand that the scale of this institute is extremely modest—there are only about 30 staff employees.

Tajik Academy of Sciences Disrupted By Political, Economic Crisis

927A0236B Dushanbe NARODNAYA GAZETA
in Russian, 3 Jun 92 p 3

[Interview with Doctor of Economic Sciences Talbak Nazarovich Nazarov, vice president of the Academy of Sciences of the Republic of Tajikistan, by NARODNAYA GAZETA correspondent T. Karatygina, under the rubric "Our Interview"; date and place not given: "Save the Scientific Potential. Vice President of the Academy of Sciences of the Republic of Tajikistan T.N. Nazarov Answers the Questions of the Newspaper"—first three paragraphs are NARODNAYA GAZETA introduction]

[Text] "The house is burning, the clock is running," states a folk proverb. Thus in our present chaos, which is burning all and everything, science is continuing its onward march, although the obstacles for its normal development are innumerable.

Precisely science is called upon to suggest means, which are capable of getting the republic out of today's socio-political and economic crisis and of ensuring the increase of its spiritual and production potential.

"On what is the center of scientific and spiritual thought of the republic—the Academy of Sciences—living today, about what problems are scientists concerned?"—the interview of our correspondent with Doctor of Economic Sciences T.N. Nazarov, vice president of the Academy of Sciences of the Republic of Tajikistan, began with this question.

[Nazarov] The overall instability, of course, could not but also affect the atmosphere at the Academy of Sciences and its institutes, Talbak Nazarovich said. People are uneasy over the fate of science, which has been placed on the verge of survival, over their own fate and the fate of their children. It is such a complex tangle, which is typical, perhaps, of all labor collectives.

Today the main thing is the assurance of political stability in the republic, on which everything else depends. It is very important now to reassure people, to confirm their certainty of a peaceful future, which will enable them to work with full efficiency. The government, I think, should continually inform people through the mass media about what it is doing and what it intends to do for the stabilization of the situation in the republic.

This, so to speak, is a preamble to the discussion of the present state of science, which is truly critical. With the disintegration of the Union the academy lost the financing of scientific research from the union budget. The government of the republic took upon itself to see to the provision of scientists with wages, but only that. Of course, it is possible to understand the difficulties of the republic, which under present conditions has been forced to adopt an emergency budget, but it is also necessary to understand the position of the academy,

which has been deprived of the opportunity to replace the obsolete equipment of scientific institutes, which as it is are experiencing a shortage of instruments.

The transition period, about which people are talking at all levels, has dragged on, an example of which you will very likely not find in history. Our concern now is how to preserve the scientific potential and to keep it only at the former level. The potential, let us say frankly, is considerable. Scientists of adjacent countries are very interested in our research and would like to get much from us.

[Karatygina] The present misfortunes of science are an echo of the wild market, into which they dragged all of us. But, tell me, Talbak Nazarovich, did scientists predict such a course of events and in the government did they heed their voice?

[Nazarov] Unfortunately, the glorification of science, its proclamation as the motive force of scientific and technical progress, and so forth often were not supported by effective concern for it and by interested attention to the opinion of scientists and their forecasts. I will say that back when I was chairman of the republic State Planning Committee scientists expressed to the union government their apprehensions in connection with the hasty rush into a market economy and with the destruction of economic ties that were decades in the establishment. I was and remain a supporter of the transition to a market in blocks, as was done, for example, in China—at first the sphere of public dining was turned over to private entrepreneurs, then the sphere of personal services, local industry, and so on were.

They threw us into the market, without having provided preliminary preparation for this state, which is new for our society, and we are now experiencing the fruits of this ill-considered experiment. A market, which was regulated according to plan, gave way to chaos. We completely abandoned vertical ties, the hopes for horizontal ties were not justified. Inflationary processes started, medieval barter swept over the country.

Given a strictly scientific approach such a thing would not have occurred.

And the present government of the republic, of course, should rely more actively on scientists and take into consideration their advice and forecasts. I will say that economics scholars prepared many very productive developments, which at one time were taken into consideration when determining the prospects of the development of the productive forces of the republic. At the same time it is necessary to admit that, when directing attention to specific issues, such as, for example, demography and the distribution of productive forces, the leadership of the republic left in the background the global, large-scale problems raised by scientists. The same thing also happened with the leadership of the former Union.

As a result we have what we have—a ruined economy and destitute science, culture, education, and health care.

And, returning to the start of our conversion, I will again stress the idea of the necessity of preserving our scientific potential. First of all one must not allow the curtailment of basic research, which constitutes the base for new directions of scientific and technical progress. This is our priceless capital. I will note at the same time that with allowance for the transition to market conditions academic institutes embarked on the path of combining basic research with applied work.

[Karatygina] The scientific potential is first of all scientists themselves with the plans and accomplishments, this is the young scientific replacements, is that not so, Talbak Nazarovich? What are the status of the scientist and his social protection today?

[Nazarov] This is the most painful point. With bitterness I should admit that the prestige of the science worker, the scientist is decreasing. Both owing to his material troubles and owing to the present attitude toward science as a whole. I would not want to contrast occupations, but is it reasonable that the wage of a doctor of sciences is less than the wage of a trolleybus driver? True, there is the ukase of the President on the increase of the salaries of science workers, but for the time being it is not in effect.

The flow of scientists from academic institutes cannot but alarm us—many Russian-speaking highly skilled specialists have left the republic, some of the scientists in general have gone abroad, some have set out for various kinds of associations.

How is one to keep people? The combining of a job at higher educational institutions with other work, which was previously not encouraged, has been permitted, we have agreed to the establishment, where this is possible, of small enterprises, about which your newspaper has already written. In short, we are using every opportunity for the improvement of the status of scientists and the preservation of the scientific potential.

I should confess that the decline of the prestige of the scientist also affected the decrease of the influx of fresh forces into science. We are seriously concerned about the state of graduate studies and about the shortfall of the enrollment in them of capable young people. Here, take a look—in 1989, 49 people enrolled in graduate studies with a plan of 70; in 1990 only 50 of the 66 places were filled; in 1991 there were 41 people instead of 67.

Also alarming is the fact the the greatest shortfall of the enrollment of graduate students is in the fields of science, which determine the acceleration of scientific and technical progress—the chemical, physical mathematical, and geological mineralogical fields. There are obviously not enough economists.

[Karatygina] In not so remote times the practice of taking graduate studies at the most prominent scientific centers of the country existed. What is there now?

[Nazarov] There are also considerable difficulties here. At one time I participated in the work of the conference in Minsk, at which the draft of an agreement on the scientific and technical cooperation of the countries of the Commonwealth was prepared. The necessity of the cooperated training of graduate students was envisaged by it. But, alas, these conditions are not being adhered to, and now everything has been placed on a commercial footing. We are forced to incur considerable expenses, for we do not have the appropriate base for the training of specialists of a specific type.

There is much confusion with the system of the certification of scientific personnel of the highest skill. In former times all doctoral dissertations were approved in the VAK—the higher certification commission—which ensured a uniform scientific level of research.

No republic is able to ensure in all directions of science the certification of scientists and science teachers and, of course, a common center is necessary. There is no longer room here for ambitions, common sense should decide. In general I should say that science is the sphere, in which any political ambitions whatsoever are unacceptable, in which self-isolation on a national basis is destructive.

Understanding this, our academy and the academies of Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, and Azerbaijan concluded an agreement on scientific and technical cooperation. This will help all of us to some extent to find a way out of the present crisis, in which science has found itself.

[Karatygina] To what extent did the acquisition by the republic of sovereignty affect the scientific ties of the academy and change their orientation and reference points?

[Nazarov] Of course, the appearance of sovereign Tajikistan on the international arena signified the appreciable expansion of scientific ties. The traditional ties with scientific centers of Iran, India, the Republic of Afghanistan, China, and Pakistan grew stronger. Strong ties were established with scientists of the United States, Japan, Poland, Germany, Greece, Canada, England, France, and Turkey.

Such contacts promote the development of science research and strengthen the prestige of our science abroad.

But all the same the priorities in cooperation are being given by us to scientific centers of the CIS, with which we are linked by longstanding ties. I think that the combination of scientific ties with East and West and with the countries of the CIS will enrich our science and will extend its horizons.

[Karatygina] Concluding our conversation, Talbak Nazarovich, there is a question of the following sort: In the present chaos, in the tangle of political machinations and misadventures what do you feel like—an optimist, a pessimist?

[Nazarov] A realist. I look at things and events realistically, and I see a way out of the present state of science, the entire economy, and each of us in one thing—sensitivity, diligence, calmness. With reference to scientific collectives I see it in the increase of their contribution to science and the national economy and in tireless scientific inquiry.

[Karatygina] You are right, Talbak Nazarovich, common sense, labor, mutual understanding—this is what will help all of us.

Thank you for the interview.

Developments in Turkmen Academy of Sciences

927A0250A *Moscow RADIKAL in Russian No 23 (80), Jun 92 p 10*

[Article under the rubric "A Fact for RADIKAL"]

[Text] **They Came to an Agreement to Maintain Ties**

Two academies of sciences—of Turkmenistan and Russia—came to an agreement to maintain existing scientific ties. The agreement on cooperation, which was signed by the presidents of the academies of sciences of both states, specified its basic directions. Among them are basic and exploratory research in the area of the humanities and the natural and technical sciences and the scientific elaboration of socioeconomic problems that are of great importance for the economic and cultural development of Turkmenistan and Russia.

The President Supports Science

At the Academy of Sciences of Turkmenistan a meeting of republic president S. Niyazov with the scientific community took place. The conversation concerned the fact that with allowance for the peculiarities and needs of sovereign Turkmenistan it is necessary to form a new concept of the development of science.

The president reported that when formulating the three-year program of the development of Turkmenistan one of the sections will be devoted entirely to the tasks of science. Scientists also learned that a decree on the elimination of the tax on institutions of the Academy of Sciences of Turkmenistan will be signed. Basic science will be subsidized from the state treasury.

Economic Reforms Worry Scientists at Medical Research Institutes

927A0217A *Riga DIENA in Russian 2 Jun 92 p 6*

[Article by Vilnis Dzerve, head of the sector of science and education of the Department of Health of the

Latvian Ministry of Welfare, and Janis Kargs [Skargs indicated in footnote—translator], deputy director of the Latvian Institute of Cardiology, under the rubric "Science": "Who Will Pay for Human Intelligence?"—first three paragraphs are letter by Doctor of Biological Sciences P. Ozolins, associate of the Latvian Scientific Research Institute of Experimental and Clinic Medicine]

[Text] Among acquaintances we often ponder for whom it is most difficult of all in the present economic situation. Indeed, personnel of science, particular associates of medical scientific research institutes, at present are among the outcasts of life. Statements that it is necessary to dismiss half of the associates of scientific research institutes are incessantly appearing in the press. Understanding that the government does not have funds, we would agree to a little, but it is difficult to resign ourselves to the unknown—What will be? Representatives of the applied sciences have the opportunity to cooperate with production enterprises and to obtain orders and subsidies from them. Medical science does not have such opportunities, the only source of its financing is the state budget. Associates of medical research institutes in recent years have successfully cooperated with scientists from the Scandinavian countries: Thus, physiologists last year in Riga organized an international conference and gave reports at conferences in Uppsala and Lund. Junior scientific associates are doing practical studies at laboratories abroad, mastering methods and methodology. Our oncologists for many years have been cooperating closely with Finnish colleagues, testing a new effective anticancer drug. Moreover, they are developing and introducing new methods of the diagnosis of this disease.

Will we really have to suspend all this: to report to foreign colleagues that we will not continue our research, that we refuse henceforth to take new drugs, since we cannot test them? This means that hundreds of cancer patients will lose hope for recovery.

It is difficult for us, associates of the Latvian Scientific Research Institute of Experimental and Clinical Medicine, to understand why is the old system of financing being demolished, while a new one has not been established? It is also unclear why has a concept of the development of science in Latvia thus far not been formulated? Why in our small state has molecular biology been developed in a hypertrophied manner at the expense of other fields of science? Appeals have repeatedly been heard, following the western pattern, to concentrate science at higher educational institutions, while gradually breaking up the Latvian Academy of Sciences. At present the opposite—the consolidation of academic institutes—is being observed. It is obvious that the Latvian Science Council is not coping with its tasks. Is it perhaps because together with decent and disinterested representatives of Latvian science influential personages of the times of stagnation, who by reliable methods are able to "pull out" assets for themselves and their projects, are also sitting there? All these questions require an immediate response.

[Signed] Doctor of Biological Sciences P. Ozolins

In principle it is possible to agree with the greater part of the assumptions advanced by P. Ozolins. In spite of various restructuring measures in the area of science thus far it has not been formulated and has not been specified what medical science it, what directions of it should be financed from the state budget, and which of them satisfy the requirements of the development of the market economy.

For example, among the priority tasks of health care in all developed countries the combating of cardiovascular diseases (CVD's) holds first place. In order to understand the mechanism, which causes the development of these diseases, basic studies of the main laws of cardiovascular diseases are necessary. The second direction is applied science, which is also very branched. There belongs to this group, for example, research on epidemiology, which is conducted in order to understand the specific factors, which cause the high incidence of and death rate from cardiovascular diseases in Latvia and, thus, to create a basis for the formulation of preventive measures that encompass all strata of the population. It is also possible to rank among applied measures the scientific development efforts on the devising of new diagnostic and medical equipment, as well as new drugs. Basic research, just as a portion of applied research, does not promise an immediate economic impact, there will be results only after a relatively long period of time. Thus, the data of the epidemiological research on the combating of elevated blood pressure, which was conducted in the United States, yielded significant results only after 10-15 years. Basic research and applied research of a similar type in all countries are financed from the state budget. Primarily firms, which make pharmaceutical products and medical equipment, finance the development of new drugs and medical equipment. Unfortunately, the new Science Council, which has monopolized the distribution of finances among all directions and fields of science, is ignoring the above-mentioned peculiarities of science.

One should agree with the view of P. Ozolins that such monopolization in the distribution of finances has caused bewilderment among scientific associates. It is indisputable that the Science Council, even given the fact that the most prominent representatives of science have become members of it, under the present conditions of the specialization of science even with the help of expert commissions is incapable of establishing objectively the priority directions of financing. The main reason, so it seems, lies in the purely human lack of objectivity, since the Science Council and expert commissions consist of specialists, who simultaneously are the authors of scientific works and represent the clients of research.

It is clear that any competitive system can function productively only when the client is not simultaneously

the performer. Any competition jury should consist of specialists who personally are not interested in the distribution of finances.

We consider that the Department of Health of the Ministry of Welfare, the task of which is to determine the priority directions of the development of medicine, to specify the main tasks, and to organize open competitions within each program, should be the clients of applied research.

At the same time the task of the Department of Health is to promote the development of competitive programs within the Science Council. It is logical that such research programs, which satisfy the requirements of open competition, should also be formulated by the Science Council.

For each specific competitive program the amount of financing should be established in advance subject to the funds that are at the disposal of the client.

Such organization of the planning and financing of medical science is an absolute condition of the effective development of science in Latvia. One should also agree with the negative attitude of P. Ozolins toward the now fashionable complaints about the low level of Latvian science. As for medical science, the complaints meant for it are very groundless. Latvian medical science for decades was unable to break through the filters of Moscow. It was the only one who determined which of the scientists were to be given an opportunity to prove themselves on the world scientific arena. During the past year the names of Latvian scientists in the field of medicine have been in the programs of nearly all the most important international conferences.

Within this short article we have had the opportunity to touch upon only one of the problems of medical science in Latvia. However, other questions also require careful analysis. For example, what the role of sectorial scientific research institutes in the system of health care is, what the role of higher educational institutions in science is, the question of the attraction to scientific work of new, strong personnel. The last one in the future may play a decisive role, since the abilities of a person are one of the most promising "commodities" under the conditions of a market economy.

New President on Future of Academy of Sciences

*92UN1362A Vilnius TIESA in Lithuanian 17 Apr 92
p 1*

[Article by Raimonda Rameliene: "The Academy—Not a Club for Idle Conversation"]

[Text] Benediktas Juodka, an academician who holds a doctorate in chemistry and is Prorector of the University of Vilnius, has been elected the new President of the Lithuanian Academy of Sciences, as we have reported previously. The President graciously consented to an interview by this TIESA correspondent. But first, a few

biographical highlights. B. Juodka was born in 1943 and completed secondary school in Gargzdai. He studied in the Department of Chemistry at the University of Vilnius, and graduated from the University of Moscow, where he also completed a post-graduate research course of study. He defended his candidate's thesis in 1968. In 1971, he was appointed head of the Biochemistry and Biophysics Department at the University of Vilnius. In 1981, he defended his doctoral dissertation. He became a Corresponding Member of the Academy of Sciences in 1987, and a Member of the Academy in 1990. He has been Prorector at the University of Vilnius since 1991. His research has taken him to the U.S., Germany, Sweden, Belgium, and other countries. He is married and has a 14 year old son, Robertas.

[Rameliene] My question may lack tact, but why do you think that you, specifically, were elected to head the distinguished members of the Academy of Sciences?

[Juodka] One ought to ask those who cast the votes, it's difficult for me to say. They apparently discerned some points in my favor. One of the reasons might be that the Academy of Sciences has to be integrated with the higher educational establishments and scientific institutions and I am, after all, Prorector of the University of Vilnius. By the way, I do not intend to relinquish this post: I will have secondary duties at the Academy.

[Rameliene] Does Lithuania need the same kind of Academy of Sciences that it had up till now?

[Juodka] The type of Academy that was there two years ago, a department, a ministry of science with a huge apparatus, is now gone. I believe that it has even been reformed too much. However, the Academy should not be—as some people believe—a club for idle conversation where renowned scientists gather to philosophize. It ought to be a prestigious scientific institution that retains its independence but is financially maintained by the state. Scientific laboratories can be established in association with the Academy; one of these, the Lithuanian branch of the World Laboratory, is already in operation. The Academy also ought to render various levels of expert opinions, should have control of the publication of scientific journals, should organize international conferences, etc.

[Rameliene] Within what period of time will the Academy of Sciences become a prestigious institution?

[Juodka] This process has already started.

[Rameliene] Will the relationship of the Academy of Sciences to scientific institutions and universities change? And, by the way, don't you think that we have created too many of them?

[Juodka] You can't write "university" on every barn and then believe that this is what it is. Three requirements must be met before an institution of higher learning can call itself a university: it must have prepared three generations of specialists, must have a library, and must

prepare doctoral candidates. Are there many such schools in Lithuania? No. You can't just close your eyes and insist patriotically that the more universities there are, the greater will be the competition and the higher the quality of the specialists. That is just theory. We ought to have a few good, well-supported universities and it will be enough. Otherwise we will waste our money and be impoverished.

[Rameliene] Sir, we congratulate you once again on your distinguished new duties. The best of luck in your function as President....

Tajik Academy of Sciences Struggles for Survival
927A0236A Dushanbe NARODNAYA GAZETA
in Russian 7 Apr 92 p 3

[Article by T. Karatygina under the rubric "From the Annual Meeting of the Academy of Sciences": "In Search of a Way Out of the Crisis"—first five paragraphs are NARODNAYA GAZETA introduction]

[Text] Will science survive in the present chaos, will its mighty shoots—the scientific centers of yesterday's Soviet republics, including the Academy of Sciences of Tajikistan—retain their hardiness?

The question is not rhetorical and not idle, as might seem at first glance. From "a productive force," "a motive force of progress" it suddenly turned into a stepdaughter of society.

The drama of the country, yesterday still our common homeland, but today a conglomerate of sovereign states, the number of which continues to increase, also deeply wounded science and placed it on the verge of survival.

With the collapse of the structures of the former Union, which led to the elimination of the USSR Academy of Sciences, of which the Tajik academy was also a component, confusion formed in economic and scientific relations, the danger of unpredictable consequences for science arose.

The general annual meeting of the Academy of Sciences of the Republic of Tajikistan was held against this complex political and economic background. The anxiety of scientists about the fortunes of science determined the entire course of the meeting.

The main thing is to preserve the scientific potential, not to let the most abundant longstanding developments turn to dust, to place them at the service of the national economy of the republic in order to help it overcome the crisis—this idea was heard in the opening speech of President of the Academy of Sciences S.Kh. Negmatullayev, in the report on the results of the scientific and scientific organizational activity during 1991, which Corresponding Member of the Academy of Sciences G.Kh. Salibayev, acting chief scientific secretary of the presidium of the Academy of Sciences, delivered, and in the statements of the meeting participants.

The past year, when the Academy of Sciences was deprived of the assistance of the all-union fund and the republic, which itself is in a difficult position, took upon itself the financing of basic research, was for it a serious test.

It was important to keep established scientific collectives intact and to help new scientific research institutes get on their feet: the institutes of written heritage and the humanities, the Khudzhandskiy Base of the Academy of Sciences, which was established for the purposes of the coordination of scientific research and close interaction with the educational institutions of Leninabad Oblast.

In the search for a way out of the crisis the academy turned to the establishment of small enterprises and joint ventures on the basis of individual scientific institutions in collaboration with organizations and enterprises. The scientific results, which were acquired by enterprises and departments and which under the conditions of the market became a commodity, constituted an additional source of financing.

As before, economic contractual jobs contributed to the replenishment of the budget. One hundred thirty two economic contracts in the amount of 2.8 million rubles were fulfilled, mainly by institutions of the physical and mathematical sciences and chemical sciences departments. Twenty developments were introduced in the national economy.

Of course, this did not signify the halt of basic research, which was conducted within the framework of state scientific and technical and all-union programs.

The priority of basic research, which provides the base for new directions of scientific and technical progress, is indisputable. Acknowledging this axiom, Vice President of the Academy of Sciences T.N. Nazarov and Academician of the Republic Academy of Sciences G.A. Aliyev at the same time noted that in the present crisis the combination of basic research with applied operations and the turn to the requirements of the national economy of the republic are necessary for the survival of science.

Scientists have something to offer production. Experienced workers appreciated the methods of increasing the seismic stability of a dam and the seismic protection of an earth dam, which were developed by seismology scientists; the importance of the research of chemists for mining, metallurgical, and textile enterprises and in the area of the protection of metals against corrosion and the development of new biologically and physically active substances is great. Physicists obtained crystals with preset properties and developed a number of new instruments.

The comprehensive forecast of the scientific, technical, and socioeconomic development of the Republic of Tajikistan under the conditions of the transition to market relations, which was developed by social science

scholars, and the studies of the problems of the formation of a market economy in the republic satisfy the needs of the day.

But an active interest of ministries and departments and of managers in the implementation of the recommendations of scientists and their introduction in production is needed. The underrating of scientific and technical innovations and the reluctance to spend money on their introduction in the end can turn for enterprises into fatal consequences and make them uncompetitive.

The lack of a claim for inventions and discoveries is doing harm both to production and to science. The market, it would seem, should induce production workers to pursue innovations. In this respect it would not hurt our managers to learn from western entrepreneurs, who instantly perceive the importance of new inventions.

The developments of chemical scientists, about which U.M. Mirsanidov, director of the Institute of Chemistry imeni V.I. Nikitin, told, promise the national economy of the republic a significant gain. The methods proposed by them make it possible to obtain from the production waste of the Tajik Aluminum Plant, the Vakhsh Nitrogen Fertilizer Plant, and the Yavan Electrochemical Combine such scarce products as water glass, soda ash, and various coagulants. The institute has developments for obtaining ultrapure gold. But an active interest of production for the present is not evident.

Today, in order to survive, science should earn, this is indisputable. But commercialization has made the question of the ethics of the scientist urgent. Anxiety that a portion of the scientists had rushed to various kinds of cooperatives, unions, and associations, had diverted their attention from scientific activity, and had engaged in commerce and the fulfillment of outside orders, using institute equipment, instruments, and compounds, was heard back at the last annual meeting.

The illegal actions of individual cooperatives, which did material and moral harm to the scientific institutions, on the basis of which they had appeared, required their shutdown.

Perhaps, the most complicated question, with which science, which up to now constituted an integral system and a single living organism, has been faced, is the disintegration of the continuous front of scientific research. Now relations with the scientific centers of the sovereign states have to be set up within the framework of international cooperation.

But integration is necessary. There is nothing more destructive for science than self-isolation on a national basis. Realizing this, the academies of six republics—Tajikistan, Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, and Azerbaijan—concluded an agreement on scientific cooperation and scientific and technical cooperation. This agreement, President of the Academy of Sciences of Tajikistan S.Kh. Negmatullayev noted,

was dictated by the desire to find a way out of the crisis, into which the republic academies had gotten after the destruction of the unified scientific space. The priority directions of scientific activity and scientific and technical activity will be specified by the agreement and interacademy programs will be formulated. Mutual assistance, the sharing of scientific information, and the creation of the conditions for the practical training of scientists are the basis for the relations of the parties to the agreement.

Mutually advantageous research with scientific institutions of Russia, Ukraine, and Byelarus has been preserved, although the market has introduced the spirit of commerce in the interrelations of the partners.

The appearance of sovereign Tajikistan on the international arena and its recognition by more than 100 states confirmed the policy of equal involvement in world science and afforded new prospects in the expansion of international scientific ties. Research is being conducted with foreign scientific centers on the basis of bilateral and multilateral cooperation. Strong ties have been established with scientific organizations of the United States, Japan, Germany, Poland, Greece, Canada, Finland, and the Republic of Cuba.

The contacts with the scientific centers of adjacent countries, particularly Iran, Pakistan, the Republic of Afghanistan, India, and China, are acquiring a new content. In the near future a delegation of Tajik scientists is leaving for Iran to conclude a scientific agreement.

Proposals on joint research have been received from American colleagues. The interest in science of Tajikistan is attracting newer and newer partners.

In connection with the stepping up of research on the prospects of the development of the productive forces of the Pamir Mountains and with the development here of

a significant scientific base scientists of the world community are stating their desire to repeat the famous expedition of O.Yu. Shmidt, which was undertaken in 1928 with the participation of well-known foreign figures of science.

The future of science and its fertilization with new ideas are governed by the influx of young daring forces. But the situation with scientific personnel, which has formed today, is far from satisfactory. The outflow of highly skilled specialists to higher educational institutions, business, and other republics and the "brain drain" abroad have made a noticeable breach in a number of scientific directions. The enrollment in graduate studies of capable young people is decreasing—owing to the decline of the status of the scientist and poor material supply. Moreover, the market with its mercantilism and the requirement of payment for all and everything, including doctoral dissertations, is becoming an obstacle on the path to science. In the opinion of Vice President of the Academy of Sciences T.N. Nazarov, it is necessary to retain the former procedure of defending doctoral dissertations through the Higher Certification Commission in order to ensure the proper level of training of scientific personnel of the highest skill.

The status of the scientist, his position in society, and social protection are the most painful points. On the eve of the annual meeting the republic committee of the trade union of workers of the Academy of Sciences addressed an open letter to the President of the republic—"Science Sends an SOS"—with a statement of the vital needs and problems of scientific collectives and scientists, who have found themselves in a tight material position. And the annual meeting showed the validity of this appeal.

Science cannot live without state support. But this support is mutually important. Having felt it, the Academy of Sciences will become the intellectual vanguard, which will help the republic to get out of the vicious circle of crisis and science itself to become more firmly established in the world scientific community.

Russian Academy of Sciences Election Mechanism Criticized

927A0237A *Moscow RADIKAL in Russian No 22 (79)*,
Jun 92 p 1

[Article by Marina Lapina: "The Fifth Point for Academicians"]

[Text] The results of the extraordinary election of full members of the Russian Academy of Sciences, which was held last week, proved to be simply crushing for the academy. For four—of the 18—departments not one (!) academician was elected. The general meeting "slated" all the candidates nominated by the departments: nuclear physics; philosophy, sociology, and law; economics; problems of world economics and international relations.

The results, rather, their lack, for the last three departments are explained in part by the fact that this time a purely narrow-minded approach came into play. They voted not against so-and-so, but against philosophy, economics, and political science in general. However, skepticism, even though not void of grounds, is incompatible with objectivity. The excess of the former turned into the lack of the latter. Both President of the Russian Academy of Sciences Yu. Osipov, whom, in his own words, "the results staggered" (which one can readily believe, inasmuch as they showed that the president is absolutely not in control of the situation) and other members of the academy—both physicists and lyric poets—spoke about this during the brief final discussion of the election results.

The unprecedented situation forced even academicians to ask themselves the question, How irreproachable is the traditional and until recently trouble-free election mechanism? For me it always remained a mystery, What considerations force a philosopher to vote for a chemist, who is unknown to him, and not to vote for a biologist, who is just as unknown to him? Obviously not professional ones. Even during the preliminary elections in the departments colleague physicists, biologists, or historians have at times very vague ideas of the scientific services of the candidates. Therefore, it is not clear by what they can be guided when voting, except for intuition, rumors, or someone's suggestion. In the closing speech of the shaken president, who, it is true, made a slip of the tongue—"I am speaking simply as a member of the academy"—the idea of confining oneself to elections in the departments and of leaving the procedure of approving candidates at the general meeting, if it is to be left, as a purely formal procedure was heard. The subsequent course of the discussion showed that this was a proposal more of an emotional than a practical character.

As for the reasons, by which the majority of members of the academy were guided when voting, I would not reduce all the explanations only to the rejection of some sciences or others. Nuclear physics does not fit into the humanities yoke that causes irritation.

They spoke about the causes of the failure in the election of physicists only in the lobby. During the final discussion almost nothing was said about this. Only L. Abalkin made it understood that these are motives of an obviously nationalistic nature. "One must not when voting be guided only by the selection of surnames," the academician correctly noted. The point is that of the four candidates submitted by the department three were Jews and one was Russian, but he was a minister (of atomic power and industry of Russia). Incidentally, this time the academic community did not admit to its ranks a single candidate who has a portfolio in Russian power structures. The number of "black balls," which were received by other candidates (not only physicists), whose surnames confirmed their non-Russian origin, also testifies to the nationalistic motives of voting. Even for those who made it through the sieve of selection the level of negative evaluations reached the maximum permissible point.

The nationalistic trend in an election to the academy most likely had never appeared so obviously. It is all the more sad that this happened in the first election that was held after the merger of the USSR Academy of Sciences and the first membership of the newly established Russian Academy. In general this circumstance influenced the course and results of the election, apparently, to a greater degree than could have been anticipated. The representatives of the old academic guard regarded this extraordinary election in part as a compensatory election: They tried to eliminate the disbalance of forces, which had emerged as a result of the election of the first membership of the Russian Academy of Sciences, which was held without their participation.

The results of the election, which were unexpected and disappointed everyone, showed that it did not succeed in completely solving this problem.

Kazakhstan Forms Higher Certification Commission

927A0220A *Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 20 May 92 p 1*

[Ukase of the President of the Republic of Kazakhstan "On the Higher Certification Commission Attached to the Cabinet of Ministers of the Republic of Kazakhstan" of 17 May 1992]

[Text] For the purposes of the pursuit of a state policy in the area of the training and certification of scientists and science teachers of the highest skill, the awarding of academic degrees and the conferring of academic titles, and the increase of the intellectual potential of the republic with allowance made for the prospects of the development of science, the higher school, and the sectors of the national economy of the Republic of Kazakhstan I resolve:

1. To form the Higher Certification Commission of the Republic of Kazakhstan attached to the Cabinet of Ministers of the Republic of Kazakhstan (the HCC of the Republic of Kazakhstan);

2. To specify as the basic tasks of the HCC of the Republic of Kazakhstan:

the supervision of the certification of scientists and science teachers of the highest skills and the assurance of the unity of the demands on the candidates for academic degrees and academic titles; the monitoring of the quality of dissertations, their scientific and practical value;

the legal support of interstate and international cooperation in the area of the certification and recertification of scientists and science teachers, the nostrification of diplomas and certificates on the awarding of academic degrees and the conferring of academic titles.

3. To grant the HCC of the Republic of Kazakhstan the right within the limits of the functions, which have been assigned to it, to make decisions that are mandatory for fulfillment by ministries, departments, scientific research institutes, higher educational institutions, enterprises, and organizations.

To establish that the HCC of the Republic of Kazakhstan makes the final decisions on the awarding of academic degrees and the conferring of academic titles at scientific organizations and higher educational institutions of the republic.

4. The Cabinet of Ministers of the Republic of Kazakhstan:

is to decide the questions of the size and the financial, material, and technical supply of the HCC of the Republic of Kazakhstan;

is to approve the statute on the HCC of the Republic of Kazakhstan.

[Signed] President of the Republic of Kazakhstan N. Nazarbayev

Alma-Ata, 17 May 1992

CIS-Wide Higher Certification Commission Recommended

927A0220B Moscow POISK in Russian No 21 (159),
16-22 May 92 p 3

[Interview with Academician Nikolay Beklemishev by POISK correspondent Svetlana Krymova (Alma-Ata); date not given: "The Higher Certification Commission Has Died—Long Live?"—first two paragraphs are POISK introduction]

[Text] In Uzbekistan by an ukase of the republic president the Higher Certification Commission has been established under the cabinet of ministers. Similar documents are also being prepared in other republics. In the

present situation such steps at first seem justified. The opinion exists that the Higher Certification, which transferred to the jurisdiction of Russia, "without looking," approves "foreign" dissertations. In one of his speeches President of Kazakhstan N. Nazarbayev called such a situation the undermining of national science and even sabotage. He considers that it is necessary to prohibit defense of this sort and to establish his own Higher Certification Commission, which is principled and exacting.

Is everything like that in reality and is there certainty that the republic is capable of establishing its own standard of scientific knowledge, which corresponds to the world level of the development of science? Are there a base and personnel for this? Finally, is this the only solution of the problem? Academician Nikolay Beklemishev expressed his anxiety in this regard in a conversation with a POISK correspondent. He is the author of 17 monographs on problems of immunology and allergy and since 1953 has been a permanent member of the council for the awarding of the academic degrees of doctor and candidate of medical and biological sciences.

[Beklemishev] In recent months it has all the same begun to get across to politicians that the recovery from the deep economic crisis of each of the states of the CIS is possible only with the preservation of the unified economic space. However, economic development and the fundamental reorganization of production relations rely without fail on the use of the latest achievements of basic and applied science. Moreover, the achievements of scientists of one republic should be accessible to scientists and entrepreneurs of all the others. They understood this well in the countries of the EEC: In January of this year the governing bodies of the Community made the decision on the recognition of the validity of diplomas, which were issued in one country, on the entire territory of the EEC.

By contrast with this in the states of the CIS the trend toward fragmentation and the aspiration to have everything that is one's own, regardless of the actual possibilities, are appearing. In practice the unified system of the conferring of academic degrees and titles is being eliminated. The organization of an interzonal structure or even an independent structure in each state, which is similar to the USSR Higher Certification Commission, is being proposed in return. The implementation of such projects will lead to the decrease of the skill of scientists, the drastic degradation of science, and the worsening of the quality of instruction at higher educational institutions. In no state of the CIS, with the exception, perhaps, of Russia, is there an adequate scientific potential to ensure the evaluation of dissertations in all the numerous specialties and to preserve objectivity when awarding academic titles. The giving of the functions of the Higher Certification Commission to institutions of the individual republics will inevitably lead to the decrease of the demands on dissertations and the skills of the people who aspire to the titles of professor and docent. The republic commissions of experts themselves

will be with respect to many specialties much weaker than the Higher Certification Commission was. For example, in Kazakhstan in some specialties there are only one or two doctors of sciences—you cannot organize even a council! Inevitably the evaluation of works will be biased and one-sided. Moreover, given the necessarily narrow composition of the commission of experts the conditions are created for abuses and nepotism. The number of candidate dissertations will increase sharply, then quantity will turn into quality, but with a minus sign. And the establishment of the Higher Certification Commission under the cabinet of ministers is in general a bureaucratic escapade. The same professors will sit in session there as in the council and they themselves will check themselves.

The authority of the former Higher Certification Commission, I think, declined because it literally choked on candidate dissertations and in recent times released them from control. It is more advisable to entrust the approval of candidate dissertations as a whole to scientific councils for defense, but on two conditions. First, the list of specialties, which was developed over the years, should be retained and changes in it should be made only with general consent. Second, the personnel of the councils for defense should be approved not locally, but in an interrepublic organ. This will make it possible to avoid the establishment of numerous small and insufficiently strong councils in the individual republics.

As to the training of doctors of sciences, here it is necessary to support a common level for the entire Commonwealth. This will protect the scientific elite when moving from state to state and when changing one's place of work within one republic. Therefore, in addition to the preservation of the high demands on the composition of doctoral councils, interrepublic checking is also necessary. It is desirable, for example, to preserve expert councils, which will evaluate doctoral dissertations, but it is necessary to enlist more extensive on them representatives of the different republics.

The stated proposals do not predetermine the location of the institutions that are common to the CIS. Inasmuch as in several republics the very mention of Moscow evokes negative emotions, the Higher Certification Commission, in my opinion, could be located, for example, in Kiev. While libraries of foreign literature on specific specializations should be established on the basis of the head institutes, regardless of their location. The Higher Certification Commission could probably operate on the principle of cost accounting. In short, painstaking work on each proposal is necessary. I want to warn against the application to science of the principle which has already brought us so many misfortunes: First raze to the ground, then build one's own world.

'POISK' Science News Briefs 16-22 May 92

927A0221A Moscow POISK in Russian No 21 (159),
16-22 May 92 p 2

[Article]

[Text] Figure

The RAS [the Russian Academy of Sciences] will receive 475 million rubles [R] in accordance with the plan of the financing of institutions of the academy in May 1992. This sum was determined on the basis of the budget of the first quarter (R300 million) plus compensation for two months (R175 million).

Quotation

"If two combined teams of the world made up of the best representatives of basic science were put together, they would appear under our and the American flags."

Chief Scientific Secretary of the RAS I. Makarov

Fact

The session of the general meeting of the Russian Academy of Sciences for the election of full members of the RAS (academicians) will take place on 11 June 1992 at the Moscow House of Scientists.

- **The results of the experiment conducting during 1990-1991 on the use of contractual forms of the hiring and remuneration of labor were summarized at a joint meeting of the collegium of the Ministry of Science, the Higher School, and Technical Policy and the Ministry of Labor.**

Academic and sectorial scientific research institutes, higher educational institutions, planning and surveying organizations, and engineering centers participated in the experiment.

The greater impact in the use of the contract system was achieved in VUZ science, as well as at budget-carried scientific research institutes.

The joint collegium considered it expedient to continue the experiment until the end of 1992 in order to develop the basic principles of the performance of research and development and standard forms of individual contracts.

- **But meanwhile at the RAS, as POISK already reported, the Model Statute on the Organization and Remuneration of the Labor of Workers of Scientific Institutions of the Academy on the Basis of Individual Contracts was adopted.** In conformity with it the amount of the wage under contract will be established before the start of work without the restriction of the maximum amount. Indexing with allowance for inflation may also be envisaged.
- **To execute the ukase of President of Russia B. Yeltsin "On Particularly Valuable Objects of the National Heritage of Russia" the Museum of Anthropology and Ethnography imeni Petr Velikogo (the Kunstkamera)**

will be organized on the basis of the St. Petersburg Branch of the academy's Institute of Ethnology and Anthropology imeni N. Miklukho-Maklay—the presidium of the Russia Academy made such a decision.

Doctor of Historical Sciences Aleksandr Mylnikov was appointed acting director of the museum "with subsequent election as director."

The presidium of the RAS considers it necessary to petition the government of Russia for the provision of assistance in ensuring the normal operation of the museum.

- The theoretical science conference "The Intelligentsia in the Political History of the 20th Century" was held at Ivanovo University. Fifteen doctors and more than 70 candidates of sciences from higher educational institutions of Russia, Byelarus, Ukraine, and Uzbekistan and scientists of China and the United States displayed interest in the scientific forum.

The conference participants worked in three sections: "The Search for Ways of Developing Russia and the Intelligentsia," "The Revolution, the Civil War, the Totalitarian System of Rule, and the Intelligentsia," and "The Intelligentsia and the Present."

At the conference it was noted that recovery from the crisis, which has now enveloped our society, is impossible without the social elevation of the intelligentsia and the overcoming of the strict class approach to it. The decision on the establishment on the basis of the chair of political history of Ivanovo State University of the "Intelligentsia, Culture, Power" Federation was one of the results of the work of the conference.

- A conference of prorectors of higher educational institutions of Moscow was held in the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy. Questions of the admission of students to higher educational institutions of the capital during the new academic year were discussed.

In conformity with the decree "On Urgent Measures on the Economic Protection of the System of Education" higher educational institutions have the right to additionally admit students under contracts with enterprises. A separate competition will now be held among these candidates for admission.

The terms of the admission of citizens of states of the Commonwealth have been left to the discretion of the scientific councils of higher educational institutions. Many of them have already made the decision to admit students from the neighboring independent states on the same basis as everyone else. In connection with the strikes of medical personnel the admissions commissions have agreed to accept documents from candidates for admission without medical certificates. But those of

the school children, who due to the teacher strike did not receive certificates of completion, will not be admitted to the entrance examinations.

- The presidium of the RAS charged the leadership of the medical association of the academy to formulate the concept and structure of the association and the statute on its work "with allowance made for the prospect of activity."

The medical association was restored with the approval of the government of Russia at the request of the leadership of the RAS. It will replace the Main Medical Administration of the USSR Academy of Sciences, which was eliminated earlier.

'POISK' Science News Briefs 23-29 May 92

927A0221B Moscow POISK in Russian No 22 (160),
23-29 May 92 p 2

[Article]

[Text] Figure

Only nine of the 270 official proposed amendments to the Law on Education were adopted by the Supreme Soviet. In all more than 1,000 amendments were considered.

Quotation

"In our times, when 25 percent of the budget of the school is spent just on feeding students, all educational institutions are bankrupt. And the state should pay their bills!"

Minister of Education of Russia E. Dneprov

Fact

The Supreme Soviet adopted an amendment to the Law on Education, which states: "Minimum rates for pedagogical personnel of educational institutions are established in an amount that is greater than the average wage in industry of the Russian Federation." In the text of the draft law there was: "greater than the average wage of the Russian Federation."

- Questions of the methods and information support of the teaching of the humanities were examined at the meeting of the collegium of the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy. The existing scientific methods and information base, it was stressed by the meeting participants, does not corresponding to the new goals of humanities education.

The main efforts, as follows from the adopted decree, will now be aimed at the preparation of a new generation of textbooks and reference literature and the development of the information environment: data banks on humanities disciplines, complexes of information services. Advanced information technologies of humanities education, which are based on the use of computer and

audio-visual equipment, will be developed. Subsequently the formation of programs in the area of the methods information support of humanities education together with the member states of the CIS and foreign partners is proposed. The programs "The Scientific Methods Support of the Teaching of Humanities Disciplines" and "The Informatization of Humanities Education" should be approved and modified by 1 July 1992.

- **The Committee for Science and Public Education under the Supreme Soviet of Russia has received three drafts of the new Law on Higher Education, which should supplement the Law on Education, which has already been passed by the parliament.** The first draft was prepared in the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy, the second was prepared by a group under the supervision of V. Lunin, a deputy of the Supreme Soviet of Russia, a corresponding member of the RAS [the Russian Academy of Sciences], and a professor of Moscow State University. The third draft was produced by a group of scientists from St. Petersburg.
- **The first defenses of works for a baccalaureate were held at faculty of physical mathematical and natural sciences of the Russian University of Friendship of Peoples.** Four years ago by a decision of the Council of Ministers the University of Friendship of Peoples was permitted to change over to a two-level system of instruction. This week 60 percent of the fourth-year students will receive a baccalaureate. The other, most capable ones after two years of studies will defend works for a master's degree. Already today we can verify how effective the two-level system, the decision on the changeover to which was made by the Committee for the Higher School of the Ministry of Science, the Higher School, and Technical Policy just on 13 March 1992, will be.
- **Within the framework of the Holiday of Slavic Literature and Culture the holiday Cyril and Methodius Readings were held at Moscow State University.**

- **A conference of rectors of Russian higher educational institutions was held in St. Petersburg.**
- **The International Congress of Slavic Cultures has concluded in Moscow.** Its guests from various countries and all interested people were able to participate in the work of sections and round tables: "Sources of the Spiritual Life of the Slavs" (the publishing office of the Moscow Patriarchate), "Economic Problems and Enterprise" (the parliamentary center of the Russian Federation), "The Cyril and Methodius Tradition in East Slavic Literature and Culture" (the Institute of the Russian Language of the RAS), "The Slavic World: The Spiritual State and Value Orientations" (the Institute of World Literature of the RAS). The section "Education and the State System" did work. A round table on problems of education was held at the parliamentary center of the Russian Federation within the framework of the International Congress of Slavic Cultures.
- **From 28 to 31 May the Institute of Management and Marketing (Austria) is holding in Moscow the working seminar "Days of Austria for Managers in Moscow,"** the goal of which is the establishment of direct business contacts between Russian and Austrian firms and individual businessmen in the area of applied electronics, medical instrument making, the chemical industry and construction, the development and processing of agricultural products.

Twenty leading specialists from Austria, who will display the latest technologies in the area of management, marketing, and management training, will take part in the work of the seminar.

After the meeting is over a portion of the participants, who underwent competitive selection, will receive invitations to take a 28-day course of instruction in Austria with the receipt of the corresponding international certificate.

Order Form for Who's Who in Russian Science

927A0251A Moscow BLOKHIMIYA in Russian Vol 57
No 3, Mar 92 p 481

[Advertisement: "The Scientific Elite of the Country:
Who's Who"]

[Text] The Nauka Publishing House and the Glasnost
Journalistic Agency have begun the publication of the
four-volume reference work *Nauchnaya elita strany: kto
yest kto (The Scientific Elite of the Country: Who's Who)*.
The first volume is devoted to academicians and corre-
sponding members of the Russian Academy of Sciences.
Detailed information about the most prominent figures
of Soviet science is included in it: the path in life, the
main directions of scientific research, basic works,
awards and honorary titles, interests, addresses, and
telephone numbers.

The sectorial academies of sciences will be represented
in the second volume, the republic academies will be
represented in the third, while the most prominent
scientific research institutions of the country and higher
educational institutions and their leading scientific per-
sonnel will be included in the fourth. The subscriber as a
result will receive an entire reference library, the likes of
which we never had.

The first volume will be published during the first half of
1992. The price is contractual. We ask those wishing to
acquire it to send an order to the address indicated
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Boris Georgiyevich Saltykov

927A0252A Moscow RADIKAL in Russian No 21 (78),
Jun 92 p 9

[Article under the rubric "People"]

[Text] Minister of Science, the Higher School, and Technical Policy of Russia Boris Georgiyevich Saltykov has been appointed vice premier of the government of the Russian Federation.

He is 52 years old. By education he is a physicist. In 1964 he graduated from the Moscow Physical Technical Institute, while in 1967 he completed graduate studies at this institute. From 1967 to 1986 he was a junior, then a senior scientific associate and headed a laboratory, then a division at the Central Mathematical Economics Institute. During 1986-1991 he was the head of a division of the Institute of Economics and Forecasting of Scientific and Technical Progress, then the Institute of National Economic Forecasting of the USSR Academy of Sciences.

Since 1991 he has been deputy director of the Analytical Center of the USSR Academy of Sciences for problems of socioeconomic and scientific and technical development. Since November 1991 he has been the Minister of Science, the Higher School, and Technical Policy of the Russian Federation.

B. Saltykov has shown himself to be a staunch supporter of the market. He supports the idea of changing the system of the financing of basic science by establishing a network of foundations that distribute grants on a competitive basis. He is exerting efforts for the attraction of funds for the financing of Russian science from abroad. On the initiative of Saltykov the Debt Forgiveness Program, a joint program with the United States, was formulated. The essence of the project is that the American side will cancel (in ruble equivalent) that portion of the debt, which Russia spends on the development of science, on the condition of the bilateral use of the obtained results. Saltykov does not dramatize the problem of the "brain drain" to the West. He considers that at the same time as the improvement in Russia of working conditions and the remuneration of scientists it is necessary to establish a well thought-out system of the regulation of migration processes.

Saltykov is a supporter of the granting of internal autonomy to higher educational institutions with the partial retention of centralized financing. He has come out in favor of fruitful cooperation with scientific circles of all the states of the CIS and was one of the active organizers of the Russian Basic Research Fund and the Technological Development Fund.

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