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JPRS-UWE-87-002

26 FEBRUARY 1987

USSR Report

WORLD ECONOMY AND INTERNATIONAL RELATIONS

No 11, NOVEMBER 1986

DISTRIBUTION STATEMENT A

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26 FEBRUARY 1987

USSR REPORT

WORLD ECONOMY AND INTERNATIONAL RELATIONS

No 11, November 1986

[Translation of the Russian-language monthly journal MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA published in Moscow by the Institute of World Economy and International Relations, USSR Academy of Sciences.]

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PUBLICATION DATA

English title : WORLD ECONOMY AND INTERNATIONAL
RELATIONS No 11

Russian title : MIROVAYA EKONOMIKA I MEZHDUNARODNYYE
OTNOSHENIYA

Author (s) :

Editor (s) : Ya.S. Khavinson

Publishing House : Izdatelstvo TsK KPSS "Pravda"

Place of Publication : Moscow

Date of Publication : November 1986

Signed to press : 16 October 1986

Copies : 27,000

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"Mirovaya ekonomika i mezhdunarodnyye
otnosheniya", 1986

ENGLISH SUMMARY OF MAJOR ARTICLES

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11,
Nov 86 (signed to press 16 Oct 86) pp 158-159

[Text] The Issue in Brief

The article "Test of Historical Maturity" by A. Arbatov and V. Baranovskiy deals with the most urgent aspects of nuclear tests banning. A brief outline of the history of the matter is given. "The article points out the significance of the Soviet unilateral moratorium on nuclear explosions and considers the reaction of the U.S. Administration on this score. The authors refute as false the arguments that it is impossible to control such explosions. The influence of the U.S. military programs on the official American stand is exposed. The authors refer to the internal political struggle waged in the USA on the question of nuclear explosions and the reaction of world public opinion to the Soviet unilateral moratorium. The authors come to the conclusion that the ending of nuclear tests would simultaneously halt the further development of nuclear systems of different levels. The Soviet initiative is characterized as a vivid example of a new thinking in the nuclear age.

A. Babin in the article "Lessons of Aggression and Contemporaneity" tells the truth about World War II, the way it was kindled, who sponsored it, what class and political forces prepared it. The article discloses the motive force of the financial and economic aid given to Germany by the USA and other Western countries serving as one of the prerequisites of the preparation for World War II. The article makes it clear that the victory of the Soviet Union in World War II revealed the superiority of socialism as a social order and of its economic system. It also proved the vitality of the Marxist-Leninist ideology and demonstrated the inviolability of brotherhood and the friendship of the peoples of the USSR, not to mention the superiority of Soviet military science and art. The article emphasizes that the defeat of Germanfascism is a formidable warning to the aggressive forces who are plotting for a new world war. Particular attention is paid to the international strategy of the CPSU, its efforts to ensure the Soviet people a possibility to work in conditions of lasting peace and freedom. This is the target of the historical program of eliminating weapons of mass annihilation above all--the nuclear weapons.

The article "Transnational Monopolistic Capital and Developing Society" by I. Ivanov deals with an analyses of the role of transnational corporations and banks in advancing the capitalist mode of production in the economy of the

developing countries as well as maintaining an evolution of the neocolonial system of dependency and exploitation. While disclosing the peculiarities of the genesis of "periphery" capitalism in the former colonies and semicolonies the author studies methods used by TNC in manipulating the process of social changes in the developing countries. The author particularly brings to light the nature of the dependence of these countries which is defined as a complex social relation being incorporated both into the basis and superstructure of the present developing society. TNC and TNB reproduce such a dependence both on the level of world (transferred) capitalist relations of production and primary relations of production, fastening the mechanism of domination and subordination from "inside" the national economies of the developing countries. The author discloses the interaction between such dependence and transnational monopolistic capital exploiting the developing countries, points to the latest changes in the system of such exploitation and closely examines the peculiarities of each of its canals.

D. Kuzin in the article "Systems of Innovation Management in the Capitalist Firms" says that nowadays the main emphasis in the competition is placed on the R&D activity. That's why the organization of the interaction along the line science-production marketing on the corporate level acquires special importance. There are numerous attempts directed to create more flexible and complex systems of innovations management, to establish a new economic mechanism which would accelerate the introduction and commercialization of new products and processes. There are also shifts in organization structures planning personnel management, etc. The author accounts for all these changes, present his reasoning of the observed trends. He distinguishes two trends: first--the detachment of the corporate sections responsible for innovation and long-term strategy elaboration; second--increasing integration within the corporation. The setting apart of the R&D sections provides for the simplification of decision-making, planning and stimulation of speedy innovation due to specialization. The growing integration is aimed at raising the corporate overall efficiency level. Many corporations make good of the both trends giving the priority to one of them on the basis of profit considerations. The combination of these two approaches involves the combination of the two management types, i.e. R&D management and management of the established production. D. Kuzin outlines the new management experience when the innovator is given an opportunity to carry on his new idea through the stages of development, production and realization as a head of a separate (detached) group. The innovator is interested with the final results of his activity. Such stimulation of innovation is especially productive with the pioneer innovations. The practice of the internal ventures is widely spread by now. But decentralization of decision-making urges the strengthening the intramular links. This problem is also given a due study in the article. The margins of innovation management in capitalist firms are also examined.

N. Vishnevskaya in the article "Poverty in the Developed Capitalist Countries" examines the problem of poverty as a socio-economic phenomenon which has proved to be inseparable from the capitalist mode of production based on the exploitation of the labor force. It is said that the early 1980's were plagued by the further exacerbation of the socio-economic contradictions in the developed capitalist countries. The ruling circles were helpless in coping with mass and chronic unemployment. They strived to solve the urgent economic

difficulties at the expense of the working class reducing the social functions of the bourgeois states. These guidelines of the policy of "social-revenge" contributed to the drastic lowering of life standard. The growing polarization of the capitalist society is observed. The increasing portion of representatives of different layers fall into the category of the poor. Thus the problem of poverty appears to be among the most poignant problems of the contemporary capitalism. The author discusses the main causes that have brought about the aggravation of the poverty problem. It is emphasized that in historic retrospect the qualitative and quantitative parameters of poverty were assessed in different ways. Similarly the attitude of various social groups has been changing. Some bourgeois economists tried to show the poverty as a non-existent or rather exaggerated problem. The criticism of their views is presented. Further the shifts in the social composition of the poor is analyzed. The basic attention is paid to the new category of the poor namely the so-called "new poor". The author concludes with the investigation of the social implications of poverty. The existence of millions of the poor in the developed capitalist countries is the most convincing evidence that capitalism is incapable to provide for the normal conditions of living neither for individuals nor for the society as a whole. The mounting poverty urges the working class organizations to elaborate the realistic alternative to the policy of social revenge. The workers back their demands for the reduction of unemployment and poverty, for the liquidation of social injustice by massive actions.

V. Lukin the author of the article "The Pacific Region in World Policy" analyzes the reasons why in the mid-1980's the social and political problems of the Pacific region attract great attention and its essentially growing role in world economy and policy is widely spoken about. The group of countries situated in the Eastern part of Asia and the Pacific basin is in world political and economic literature ever more often and definitely associated with the notion of a region. The article focuses on the role of the region in the U.S. military and political strategy. The author notes that the speedy advancement of the region to the forefront of economy, science and technology is a reality which poses anew certain problems not only of world security, the development, character and forms of relations between the main powers but also of the interdependence of the region and the world at large. The author asserts that the growing role of the countries of the Pacific region on the world arena has undoubtedly been one of the most outstanding events in world economy and policy in the recent decades. The USSR as an Asian and Pacific power is an active participant in the given process. For our country active and effective participation in the process is a constituent part of a new political thinking, the principal elements of which were determined by the 27th CPSU Congress. The author says that it is necessary to intensify the collective efforts of all the countries concerned so that the Pacific region may become one of the most stable zones of our planet. The Soviet Union is ready to traverse its part of the difficult but necessary road of strengthening peace and security in Asia and of the Pacific basin.

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/9869
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TEST BAN PROPOSALS SEEN IN CONTEXT OF U.S. NUCLEAR STRATEGY

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11
Nov 86 (signed to press 16 Oct 86) pp 3-18

[Article by A. Arbatov and V. Baranovskiy: "An Examination for Historical Maturity (The Problem of Banning Nuclear Tests)"]

[Text] The unilateral USSR moratorium on nuclear tests expires on 1 January 1987. It came into force nearly a year and a half ago, on 6 August 1985, on the 40th anniversary of the dropping of the atomic bomb on Hiroshima. In his 18 August statement, M.S. Gorbachev, CPSU Central Committee general secretary, announced another, fourth extension of the moratorium's period of validity. The moratorium could become permanent if the United States joined in it. Such a step would be of decisive importance for stopping the nuclear arms race. (Footnote 1) (The share of the other nuclear powers in all tests carried out from 1945 to 1985 amounted to 13 percent. "World Armaments and Disarmament. SIPRI Yearbook 1986." Stockholm, 1986, pp 128-129).

The History of the Issue

In the international community, the problem of banning nuclear tests started being widely discussed more than 30 years ago, when the United States carried out the first experimental explosions of hydrogen bombs in the megaton class. The radioactive fallout caused by the test carried out in the area of Bikini Atoll on 1 March 1954 seriously affected the crew of the Japanese ship (Fukuru Maryu). For the world public, this incident has become the symbol of the threat concealed in the tests of nuclear weapons to the lives and health of people.

On 5 August 1963, the USSR, the United States, and Great Britain signed in Moscow a treaty banning tests of nuclear weapons in three milieus--in the atmosphere, under water, and in space. Subsequently, more than 100 states have joined this treaty, which in many respects has made our planet's air purer. (Footnote 2) (According to data published by the Stockholm International Problems Research Institute (SIPRI), nuclear weapons tests carried out before 5 August 1963 totaled 525, including 77 percent in the atmosphere. After signing the Moscow treaty, there were 63 tests in the atmosphere; they were carried out by France (before 1974) and China (before 1980) both of whom did not participate in the treaty. (See "World Armaments and Disarmament. SIPRI Yearbook 1986." pp 128-129).

One must keep in mind that underground nuclear tests also threaten places and people with contamination. The leak of radioactive substances following the 1966 test in Nevada, the United States, spread to five American states; as a result of a test carried out there in 1970, the level of radioactivity in the Montreal-Ottawa region, Canada, rose 20 times. In this respect, particularly dangerous are high-power nuclear tests. (Footnote 3) (The most powerful nuclear explosion (5 megaton) was produced by the United States in the Aleutian Islands in 1971 (see P. Craig, J. Jungerman, Nuclear Arms Race. Technology and Society, New York, 1986. p 387)).

But unlike the 1950's and early in the 1960's, the continuing practice of nuclear tests has now brought to the foreground different problems. The point is that these tests make up one of the most important sectors in the nuclear arms race, because without experimental blasts it is practically impossible to improve nuclear weapons [boyezaryady] or to develop new types of them.

The conclusion drawn from this is quite obvious: the cessation of underground tests could bar in a reliable way the qualitative modernization of the existing nuclear potentials, modernization which threatens to upset the military and strategic balance. Two Soviet-American agreements were important for achieving this goal, agreements which fixed the 150-kiloton power ceiling for underground nuclear arms tests (1974) and for underground nuclear blasts for peaceful purposes. The aforesaid restriction has been observed by both sides, although the treaties have been regarded as formally invalid because they have not been ratified by the United States.

At the same time, it is to be borne in mind that the 150-kiloton ceiling leaves very wide possibilities for nuclear tests, particularly in view of the trend toward reducing nuclear weapons in size and in power, and in view of the active practice of test grading [masshtabirovaniye], i.e. testing charges not set at the established full capacity. (Footnote 4) (Out of the 30 types of nuclear weapons in the U.S. arsenal, 17 have a capacity of up to 100 kilotons; this includes 5 with a capacity of 5 kilotons. See "Nuclear Weapons Databook," vol. 1, "U.S. Nuclear Forces and Capabilities," Cambridge, Mass., 1984, pp 7-9, 39, 126-127, 182-183, 200-201, 277-278, 279, 308). In essence, the ceiling set in the last decade does not substantially hinder the efforts to increase the effectiveness of nuclear weapons and to develop new types of them.

It is quite obvious that the complete ban of all underground tests would make it possible to a significant degree to reduce the possibilities to renew nuclear arsenals. In 1977, the USSR, the United States, and Great Britain began appropriate talks, and by the end of the last decade they considered that they were very close to the goal set. Only some problems (and relatively marginal at that) concerning control remained to be settled. However, R. Reagan's administration, which came to power, refused to continue the talks, and in 1982 officially stated that the conclusion of a treaty comprehensively banning nuclear arms tests was at present not in the interests of the security of the United States.

Washington's refusal to strive for a complete ban on nuclear tests was clear evidence of a negative turn taken in American policy with regard to the issue under discussion, the sharpest turn in the last quarter of a century. After all, since the late 1950's the United States officially supported the idea of banning tests, and in 1958-1961, along with the Soviet Union, observed a moratorium on nuclear explosions. In the aforesaid 1963 agreement, the United States, along with the other two initial signatories, announced its intention to "attempt the cessation of all experimental blasts of nuclear weapons for ever," as well as its "resolve to continue talks for this purpose." These theses were also repeated in the text of the 1968 agreement on non-proliferation of nuclear weapons. In other words, the United States as signatory to the treaties took upon itself the international legal obligation to strive for the aforesaid goal. This goal was also posed in connection with the tripartite talks held late in the 1970's. In this way R. Reagan's policy regarding nuclear tests has in essence cancelled the line adhered to by the United States under the six preceding presidents: D. Eisenhower, J. Kennedy, L. Johnson, R. Nixon, G. Ford, and J. Carter.

This abrupt turn was performed against the background of a significant change in interpreting the very problem of a nuclear tests ban. After all, until recently, this issue, even if it was not withdrawn from the agenda, has hardly been regarded as topical in the spectrum of various problems discussed in the context of arms limitation. The attitude taken toward the idea of giving up tests has been traditionally explained to a certain degree by the same considerations on which the concept of a "guaranteed mutual extermination" was based. If the further build-up of nuclear potentials was becoming pointless (Footnote 5) (The number of nuclear weapons in American arsenals reached its peak of 32,000 units in 1967, and by 1980 it had shrunk to 25,000. In the same period, 8 new types of nuclear weapons were added, and 18 were withdrawn from the effective strength for combat (taking into account modifications in various delivery systems). See "Nuclear Weapons Databook," pp 7-9, 15), the need to continue nuclear tests was also questionable. But since a test ban would not diminish the abundance (and overabundance) of nuclear arsenals, this measure itself was not regarded as something radical and capable of changing in principle the state of affairs in the field of limiting nuclear weapons.

Problems concerning the ban of nuclear tests has now shifted to the center of political struggle and has become an object of great attention.

In this respect, the active policy pursued by the USSR with regard to a test ban, and primarily the moratorium imposed by it on nuclear blasts, have undoubtedly played an important role. It is increasingly clear that what we mean is not some marginal problem, but an issue which is capable of radically effecting the development of some important military-strategic and military-political tendencies. Moreover, precisely a test ban would make it possible at the same time to restrict the development of nuclear systems of various levels--of strategic character, of medium range, and for operational and tactical purposes; the ban would make it possible to do this immediately, without drowning in the enormous number of military-technical, geostrategic, and political disproportions and complications. In this sense a test ban proves, without exaggeration, to be among the most fundamental and really feasible disarmament measures today.

It was precisely the radical character of such a step--a complete ban on nuclear tests--that has produced the "rejection response" on the part of the American Administration. Its official position is that a complete ban--in any case, within the foreseeable future--is impossible for two main reasons.

One--the point has been made that there were no sufficiently reliable verification measures of the appropriate agreement. In particular, it has been pointed out that it was impossible to tell a small-power nuclear blast from many strong and weak earth tremors registered each year with seismographs. References have also been made to various ways it is possible to conceal nuclear tests: by carrying them out against the background of earthquakes, by disguising them as explosions for peaceful purposes, and so forth. The report published in 1986 by the Arms Control and Disarmament Agency came to the unambiguous conclusion that "checking the observance of an all-embracing ban on nuclear tests, and particularly any moratorium on tests such as that proposed by the Soviet Union, is highly problematic."

Two--it has been argued that the cessation of tests would undermine the reliability of nuclear deterrence. And since big powers, the Americans argue, will build their military potential on the basis of nuclear weapons for a long time to come, experimental explosions carried out to ensure the reliability and effectiveness of nuclear weapons remain the guarantee of the security of states and of maintaining an acceptable global balance of forces a guarantee which is not subject to the statute of limitations. In this context, references have been made to the traditionally alleged Warsaw Pact superiority in armed forces and armaments, superiority which NATO had to "compensate for" by a nuclear threat.

However, an objective analysis shows that the two arguments are refutable by both logic and facts.

The Problem of Verification

The complexity and importance of the problem of verification must not be underestimated. This applies both to arms limitation as a whole, and to the concrete issue of banning nuclear tests. On this occasion M.S. Gorbachev emphasized, "...DISARMAMENT WITHOUT VERIFICATION IS IMPOSSIBLE, AND VERIFICATION WITHOUT DISARMAMENT IS SENSELESS." As in other aspects of disarmament, the following pattern most frequently proves to be valid here: the more radical the measures upon which the sides manage to agree are, the greater the demands made on verification. The observance of the 1963 Moscow treaty banning nuclear tests in the three milieus has been rather easily verified by national technical means.

For example, in 1963 the United States uses (on the highest circular orbits of 115,000 kilometers and with an inclination of 35 degrees) Vela-series artificial satellites with X-ray detectors and photometers to register nuclear blasts in space and in the atmosphere. In the future, these functions will be performed by more sophisticated instruments of the same type on the new American NAVSTAR navigational satellites (Footnote 6) (see A. Krass, "Verification: How Much is Enough?" SIPRI, London, 1985, pp 75-79).

The limitation of underground nuclear tests has raised more complex problems. The power ceiling has placed high demands on geophysical means of observation. They have to be sufficiently sophisticated to verify, by seismic vibrations transmitted thousands of kilometers through various geologic layers, that the power of the explosion did not exceed the ceiling set.

The renunciation of nuclear tests has first of all set the task of detecting prohibited explosions among about 20,000 earthquakes (seismic phenomena) of various intensity which occur each year in various parts of the planet. In the past, science and technology were unable to guarantee such identification with sufficient reliability. For example, one of the reasons the agreement on a full test ban was reached in 1963, was the fact that, as a result of a series of experimental explosions produced at the American nuclear testing grounds in Nevada, there were unexpected seismic waves of a definite type (the so-called "Love"-type waves) which, until then, were considered only characteristic of earthquakes. Subsequently, the reason was found: When a test is being carried out in layers which are in a state of tectonic tension, the subterranean cavity produced by the blast gives this tension an outlet and thus provokes a secondary earthquake which generates "Love"-type waves. If this phenomenon had been discovered earlier, the problem of a full test ban would possibly have been settled before 1963 and the entire development of subsequent events could have taken a different course (Footnote 7) ("Arms Control of the Arms Race. Readings from Scientific American," New York, 1985, pp 141-143).

In the opinion of many respected scientists, science and technology are at present sufficiently reliable to monitor a full cessation of nuclear explosions. This conclusion was confirmed additionally in July 1986, at the Moscow symposium of scientists from the USSR, the United States, West European countries, Japan, and other states. Of course, the problem must be treated in a realistic way, and the criteria of reliability must not be carried to the absurd. As noted, nuclear explosions in space and in the atmosphere can be relatively easily registered with the assistance of special satellites. Hydroacoustic waves produced by an under-water blast differ so markedly from the effects of an earthquake under the sea floor, that there is no problem in detecting a test. More than 90 percent of natural phenomena take place at a depth of more than 30 kilometers or under the ocean floor, and this makes it possible to confidently strike them off the list of possible nuclear explosions. The deepest artificial wells have at present not reached the 12-kilometer mark, and underground nuclear explosions have thus far been carried out at a maximum depth of 2 kilometers (Footnote 8) (Ibidem, p 141).

As a result of scientific-technological progress, they have been highly perfected. For example, modern seismometers are capable of registering earth vibrations with an amplitude below a nanometer (i.e. one-millionth of a millimeter), which is comparable to the diameter of an atom. Electronic computers allow one to identify with sufficient accuracy nuclear explosions among earthquakes by comparing the energies (magnitudes) of surface and deep seismic waves and by analyzing the four basic types of these waves which are to a different degree characteristic of explosions and of earthquakes. On the

whole, the authors of most geophysical research works agree that a nuclear explosion, even as small as 1-2 kilotons, is now detectable beyond any doubt (Footnote 9) (A. Krass, Op. cit., pp 67-68, 72).

Taking into account the high resolution capability of technical detection means, is it possible to conceal nuclear explosions? Among all test concealment methods imaginable, the specialists regard the so-called "decoupling", i.e. explosions carried out in big underground cavities, as the most probable. The shock wave caused by such an explosion is to a significant extent absorbed by the soil. People who are excessively demanding on the subject of verification argue that there is no way at all to register explosions below 1 kiloton. They point out that "decoupling" makes it possible to reduce the seismic signal of the test of a 1-kiloton nuclear weapon by a factor of 200, i.e. to make it comparable to the signal of an explosion with a power of 5 tons. And such explosions are being systematically practiced in mining industries, in construction, and in other economic activities performed by states (Footnote 10) (U.S. Congress House of Representatives, "Proposals to Ban Nuclear Testing, Hearings." Committee on Foreign Affairs. 99th Congress, 1st Session, February-May 1985, p 323).

However, this circumstance does not pose an insuperable obstacle for verifying a full cessation of tests either. To create cavities is a very labor-consuming process. For example, rocks extracted deep underground to fully "decouple" an 8-kiloton explosion would be equal in volume to the Pyramid of Cheops. It is difficult to conceal an operation of this kind, as it also is to conceal both preparations for and the explosion itself, when they are accompanied by measures characteristic of military tests and are appropriate in appearance. There is always the probability that the ground over the site of the explosion would sink and that radioactivity would leak through the cracks in the soil. These phenomena are detectable by various national means of verification, including those in space, which supplement and reinforce seismic methods.

It must also be borne in mind that, for military programs, the effect of one single low-power test, carried out secretly and at high expenses in secrecy, would be unduly small compared with the risk that the opposite side might detect the infringement. According to reliable sources, to develop most thermonuclear weapons, it is necessary to carry out explosions of at least 5-10 kilotons, which enable tests of the new designs of uranium and plutonium atomic detonators (Footnote 11) (Ibidem, p 323). Tests carried out in series are, from the military point of view, of practical interest, but the probability of their detection increases in geometric progression.

In addition, the latest investigations have shown that the effectiveness of the "decoupling" method could be seriously reduced, in particular, by optimizing sensitive seismometers registering oscillations in the frequency range over 30 herz. On high seismic frequencies, differences between an explosion and an earth tremor contrast particularly strongly, waves spread at significantly longer distances, and the intensity of natural and artificial noises in the background is weaker (Footnote 12) (see A. Krass, Op. cit., p 72).

The reliability of verification of the cessation of nuclear tests can also be fully ensured by some additional measures and agreements. For example, in the opinion of the prominent American seismologists, (L. Sykes and J. Averden), 15 automatic seismic stations located at determined points inside the territory of each big power and as many again located alongside the borders would practically rule out the probability that the agreement would be secretly violated (Footnote 13) ("Arms Control and the Arms Race...", p 147). In their February and April 1986 appeals, the "Delhi Six" offered their cooperation in monitoring a ban on nuclear tests, and in particular they proposed to deploy monitoring instruments in the countries close to the borders of the USSR and the United States. As is known, the Soviet Union has expressed its willingness to accept these proposals and has come out in favor of the most far reaching methods, including on-site inspections and the creation of an international supranational network for monitoring the discontinuation of tests.

The possibility of such steps was made clear by the agreement between the USSR Academy of Sciences and the American Natural Resources Council to deploy seismic equipment in the areas of nuclear testing grounds near Semipalatinsk and in the state of Nevada in order to check into geological structures. These data make it possible to accurately calibrate seismic equipment and to make it even more effective. The Soviet Union has proposed giving this agreement an official character in order to facilitate verification of the possible treaty.

In this way, there is every ground to assert that technical means of verification (both seismic and other ones) combined with accords on appropriate measures of confidence and cooperation in this matter--and this was stated in M.S. Gorbachev's interview with the chief editor of the newspaper RUDE PRAVO--would practically eliminate the problem of verification as an obstacle for an agreement on the full cessation of nuclear tests.

Test and Deterrence

As long as nuclear weapons exist in the world, it will be necessary to maintain the reliability of mutual nuclear deterrence. The program for nuclear disarmament, set forth by the Soviet Union in the 15 January 1986 statement, calls for the process of reducing nuclear arsenals at three stages and for their full elimination by the beginning of the next century. But therefore withdrawing these terrible weapons from military arsenals, states possessing nuclear potentials will continue to be interested in maintaining the reliability of these weapons at an adequate level to avert a possible nuclear attack on themselves or on their allies.

The Soviet Union is interested in that not a bit less than the United States--and, as a matter of fact, much more. The American strategic forces confronting the USSR are, in the number of nuclear weapons, superior to the Soviet ones. The USSR sees itself also compelled to reckon with American medium-range and forward-based nuclear weapons deployed in such a way as to keep the USSR within the range of fire. Neither must the nuclear forces of third countries, aimed against the USSR, be disregarded. Last but not least, the Soviet Union is far from indifferent to the circumstance that the military strategy of the

United States and NATO has been openly built on the principle of initiative in applying nuclear weapons at the early stage of an armed conflict, while the Soviet Union has taken upon itself the obligation not to be the first to use them.

Consequently, the question of whether it is necessary to maintain the reliability of nuclear deterrence is not the crucial question, but whether it is necessary to continue tests to ensure this reliability.

Out of about 1,500 nuclear explosions, only a few were carried out to check the reliability of ammunition accepted for service and deployed with troops. The objective of most experimental explosions has been to test the effectiveness of improvements constantly introduced into the design of weapons, including their reduction in size and weight, more thrifty use of materials in short supply, more reliability and durability in design, the application of new technologies in production and assembly, and so forth. Tests are even more connected with developing weapons intended for installation on the periodically introduced new generations of carriers and means of delivery, as well as adapted to new operational conditions for their application in accordance with changing strategic doctrines and concepts. Last but not least, certain series of experiments are being carried out to test weapons which are new in principle and radically differing in their working principles and striking effects (in the past, when atomic bombs were replaced by hydrogen bombs, and then by neutron ammunition, and at present, nuclear explosive pumped lasers). This is precisely why, M.S. Gorbachev emphasized, "as soon as the tests stop, the race will come to a standstill in the most dangerous field--in the field of developing new kinds of nuclear weapons with all their improvements."

Authoritative specialists, both Soviet and foreign, adhere to the view that there is no need to carry out test explosions to test the reliability of weapons which were tested before and are now in active service. For the production of a series of absolutely identical articles, materials, tools, and technologies have been standardized, and this guarantees their standard effectiveness without additional experiments. Fissionable nuclear materials (uranium or plutonium alloys) applied for the most part as detonators in thermonuclear weapons virtually do not disintegrate because the period of their half-life is very long. Some disintegrating components, such as tritium thermonuclear filling with a half-life of 12 years, or chemical detonating devices can be periodically removed from a weapon to be checked. For such a check there is no need to carry out an experimental explosion, as there is nothing to replace, if need be, the aforesaid components without changing the design of the weapon. Moreover, as the experts note, in the serial production of models which have already been tested it is even possible to make partial changes in design or in the technology of production without additional tests by means of an explosion (Footnote 14) (See "Nuclear Strategy and World Security. Annals of Pugwash, 1984," London, 1985, pp 61-63).

On the other hand, substantial innovations, particularly in developing weapons for new systems of carriers, sometimes require a large series of tests to check and to finish their design. This signifies, that, as far as the need for nuclear tests is concerned, the problem of maintaining the reliability of nuclear

containment is being held up by the following question: Are new systems of weapons necessary for a reliable deterrence, or are those which have already been deployed or are at the stage of deploying sufficient (i.e. they have already passed the stage of testing, including with regard to their weapons)?

This question has been raised repeatedly. It has been widely discussed by politicians and scientists in connection with the idea of "freezing" nuclear arsenals, an idea which in 1981-1983 turned into a slogan for a mass public movement in the United States and other Western countries. This idea has also been supported by the Soviet Union. The cessation of nuclear tests was part and parcel of "freezing." Reagan and his adherents opposing the "Freeze" even then argued that it was "necessary" to build up and improve nuclear means to "strengthen" deterrence. In particular, they alleged that new strategic weapons were necessary to eliminate the so-called window of vulnerability (Footnote 15) (What they had in mind was the theoretical vulnerability of land-based U.S. intercontinental ballistic missiles, vulnerability that was used by the U.S. leadership to justify several programs for strategic offensive armaments), and that these weapons would ensure a more stable strategic balance because they had a greater survivability, possessed a reliable control and communications system, a guaranteed effectiveness, and so forth.

For their part, the adherents of "freezing" argued that, with the existing enormous thermonuclear potentials, no additional military programs whatsoever were needed for deterrence. Indeed, it is sufficient to recall that in the mid-sixties, R. McNamara, then U.S. secretary of defense, came out with the concept that the loss of 70 percent of industry and 30 percent of the population would be unacceptable even for the most powerful states in the world. He estimated that losses of such proportions could have been inflicted by about 400 nuclear weapons within the megaton range exploded over the main administrative and industrial zones in each belligerent country (Footnote 16) (A. Carter, D. Schwartz. "Ballistic Missile Defense." Washington, 1984, pp 168-169). Only 5-10 percent of strategic nuclear means possessed by one of the two strategic powers would now be sufficient to cause such losses.

The excessiveness of global nuclear potentials is even more obvious when one bears in mind that, in addition to strategic forces, the USSR and the United States also possess medium-range systems and operational tactical means, and there are also third countries with nuclear forces. The number of nuclear weapons has reached a total of 50,000 and their total power, 18,000 megatons. The application of nuclear weapons would result in the destruction of human civilization. In such a war, victory is unthinkable and, as is known, this was confirmed during the Geneva summit meeting held by the USSR and the United States. For deterrence, there are now enormous surpluses of destruction power. There is no need for any additions.

On the contrary, new systems of nuclear weapons upset the stability of the military-strategic situation. The point is that practically all successive generations of nuclear weapons and the systems of their combat control and communications are being adapted to some variety of the concept of a "limited nuclear war" at the global or the regional level. In the paradoxical world of nuclear strategy, the theory of a "limited nuclear war" is tied up not to a limited number of these weapons, but on the contrary, to their enormous surpluses exceeding any rational criterion of sufficiency in destructive power (like, for example, McNamara's "level of losses").

When the number and striking power of nuclear arsenals reach such proportions that operational plans for nuclear attacks exceeds many times over targets of real value for the state (large and medium-sized localities, industrial enterprises, and centers of the economic infrastructure), the further stepping up of nuclear potentials becomes senseless. By the end of the fifties, this situation was called "overkill." Search for a way out from this deadlock has brought the United States in its military-technological development and strategic thinking to the invention of various concepts of a limited application of nuclear weapons. All of them are based on the scholastic premise that when all vitally important values of the opposing states are each other's hostages, the possibility emerges to striking on a wide range of selected military and economic targets. Such an operation would allegedly make it possible to win a substantial strategic advantage or even to "triumph" in the war, without stepping over the extreme line--the total annihilation of the population. This is precisely the line allegedly separating a "thinkable" nuclear war from an "unthinkable" one. This kind of logic was built into the American strategic concepts of "counterforce," "damage limitation," "target designation," "counterrecovery" [kontrovoostanovleniye], "counter-C3" [kontrupravleniye], "limited" and "prolonged" nuclear war, as well as of various concepts of a selective application of nuclear arms in the theater of military operations and of an "escalation domination," all developing since the early sixties.

No matter how dubious and impracticable these ideas are, they contain--from the point of view of the military-industrial complex--an obvious "advantage": they open the path for endless improvements in nuclear arms and in their combat control systems, and for endless competition to increase their survivability and striking power (the optimization of precision and power), varied options for use, flexibility in targeting, and so forth. Moreover, increasingly complex operational plans dictated by new doctrines and concepts make ever higher demands on military equipment. In this strategic context, a deadlock is out of the question; what matters is to keep new weapons systems abreast of increasingly refined military tasks.

Although the concept of a "limited nuclear war" is very far-fetched, the danger of them is fully real. When the nuclear deadlock of "overkill" has been widely realized both by the specialists and the wide world public--at first late in the fifties when the American territory proved to be within the range of thermonuclear weapons, and then late in the sixties when military-strategic parity began to emerge between the USSR and the United States--the development of the theory of a "limited war" reanimated the thermonuclear arms race and turned its curbing by means of agreements into a more complex problem. A serious threat is also concealed in the psychological "submission" to nuclear weapons, in the illusion that their "selective" application is drawing ever closer to the application of conventional armed forces both in combat objectives and in destructive effects. And also in practice nuclear weapons are every more closely interlaced with conventional and chemical weapons both technically (multi-use carriers, deployment and storing), and operationally (striking targets, operational tasks, the stages and sequence of application).

The magnitude of this danger becomes quite obvious when one realizes that various versions of the concept of a "limited nuclear war" are now a long way from the fancy ideas of armchair strategists; they are an objective reality that have materialized literally with "iron-like" tangibility in combat equipment and weapons, a reality programmed in onboard computers on aircraft and missiles, as well as in computers at control centers, a reality approved in operational plans by commanding staffs and headquarters.

Political logic, psychological patterns, as well as many special research work on nuclear weapons, themselves suggest that, if started, the application of these weapons cannot be governed by any rational rules and be restricted in its character. It will lead--and very quickly--to a total and ungovernable thermonuclear slaughter, to the suicide of human civilization. And in this sense it would be pure illusion to expect that the concepts of a "limited nuclear war" could be realized in practice from the beginning to the end. The main danger consists in the fact that these concepts facilitate the first nuclear move, in a critical situation push toward the fateful verge beyond which any control over events would be inevitably lost.

In developing the concept of a "limited nuclear war" in order to adjust nuclear strategy to the principles of traditional warfare, one more "bottleneck," possibly the last one, was overcome when President Reagan's notorious "Strategic Defense Initiative" has emerged. SDI has offered truly limitless scope to the confrontation of both offensive and defensive--including nuclear--arms both in space and on earth. Anti-missile space systems threaten to make the strategic situation even in less predictable, and the unleashing of a global conflict much more sudden, quick, and ungovernable than predicted in all hypothetical scenarios.

The problems discussed above are most directly related to a full ban on nuclear tests. Without realizing this relation it is impossible to explain why, late in the fifties when the nuclear deadlock dawned, the idea of reaching an agreement on this issue was shifted to the plane of practical policy. But as preparations for talks on the full ban of tests or talks themselves were going on, it was increasingly obvious that there were obstacles connected not with the technical problems of control, but with the evolution of nuclear strategy. These opposing factors made themselves fully felt in the mid eighties. The firm adherence of the Soviet Union to the idea of a comprehensive test ban, manifested in its 18-month moratorium on nuclear explosions and in its far-reaching proposals concerning verification, has definitely revealed the military-political essence of the issue.

Now it has become quite obvious that a comprehensive nuclear test ban was not a marginal or partial measure on the list of possible ways of disarmament, but an issue directly touching upon the crux of the present strategic situation, to an enormous degree determining the further evolution of the entire global military situation, the ways of developing strategic concepts and military programs, as well as prospects for a dialogue in the field of arms limitation and of disarmament.

Military Programs and Nuclear Tests

The Soviet moratorium and proposals concerning a comprehensive nuclear test ban caught the United States in the midst of another cycle of renewing its nuclear arsenal and of developing a new generation of nuclear weapons. In the eighties and nineties, the United States is planning to put into active service 29,000 nuclear weapons which, taking into account the withdrawal of obsolete systems, will increase the total number of U.S. nuclear weapons (strategic, medium-range, and tactical) from 26,000 to 30,000-odd units. In this way the United States is planning to increase its nuclear arsenal by 20 percent in 15 years, and at the same time to renew approximately 90 percent of it (Footnote 17) (Calculations made in accordance with "Nuclear Weapons Databook," vol. 1, U.S. Nuclear Forces and Capabilities, pp 14-15).

The development of new nuclear weapons which need tests is an integral part of this activity. Some 13 types of nuclear weapons are either at the stage of production and deployment in the U.S. armed forces, or will be put on the assembly lines in the very near future. These are thermonuclear warheads for land-based MX ballistic missiles, ballistic missiles for Trident-I submarines, land-, air-, and sea-based long-range cruise missiles, Pershing II medium-range ballistic missiles, nuclear weapons for two types of aviation bombs, two types of anti-submarine missiles, a general-purpose maritime anti-aircraft missile and an anti-ship missile, and two types of artillery projectiles in various calibers. In total, the program calls for the production of about 16,000 nuclear weapons ranging between 1 and 500 kilotons, intended for these systems of strategic, operational-tactical, and medium-range weapons.

The distinctive features of the present generation of weapons are miniaturized component parts, more thrifty use of materials in short supply, an increased reliability and durability, the application of electronic control systems, and, in many cases, switch-regulated explosion power adapted to the improved targeting precision of all carriers.

It must be pointed out that most of the aforesaid types of weapons have already been fully tested, and any further explosions would only be useful for introducing partial improvements in their design.

In the next 5-10 years, nuclear tests will be much more connected with developing weapons for systems which are at the development stage and are to be put into service late in the eighties or in the nineties. These are, for example, two alternative types of warheads for Trident-2 submarine launched ballistic missiles, a light and mobile intercontinental missiles of the Midgetman type, improved systems of long-range cruise missiles, and a new generation of air-to-surface, surface-to-surface and air-to-air operational-tactical nuclear weapons. This program calls for testing 9 types of nuclear weapons and for producing nearly 13,000 units of them (Footnote 18) (see Ibidem, pp 14-16). In case an agreement is concluded on the full discontinuation of nuclear tests, the implementation of the aforesaid plans would be hampered and, in many cases, would be impossible.

In addition to improved nuclear warheads for new carriers for various purposes, the American test program attaches much importance to the development of nuclear weapons that are new in principle, of the so-called third generation (the first being atomic, and the second, hydrogen or thermonuclear). It is planned to develop weapons with selectively increased striking factors, for example, by means of x-rays or neutron radiation or by an electromagnetic impulse. The third generation of nuclear weapons has now been predominantly linked with the Reagan administration's "Strategic Defense Initiative."

SDI calls first of all for developing an x-ray laser with nuclear pumping to intercept ballistic missiles when they emerge from the atmosphere, to destroy satellites and other space objects, as well as to distinguish real warheads from decoys in the middle sector of the ballistic trajectory (Footnote 19) (See "S.D.I.: Progress and Challenges. U.S. Congress Staff Report." Washington 1986, pp 43-45).

In addition, a new generation of neutron weapons is being developed. In particular, they can be used to equip improved Sentry anti-ballistic missiles intended to intercept the adversary's warheads in the final sector of the trajectory, in the last, land layer of the defense. Lastly, nuclear weapons detonating high in the atmosphere and creating a strong electromagnetic impulse are intended to upset electric circuits in the adversary's control and communications systems (Footnote 20) (See "Nuclear Weapons Databook," p 29). It is absolutely impossible to develop the third generation of weapons without continuing tests for the coming 10-15 years.

In this way, Washington's refusal to adhere to the line of discontinuing nuclear tests has been prompted first of all by the aspiration to keep its hands free for implementing extensive military development programs. It is precisely the administration's attitude toward a moratorium that very clearly--and better than other logical and theoretical arguments--refutes the guidelines officially professed by the Americans in their military policy; and primarily it denies the thesis that the United States aspires to "free" mankind from nuclear weapons by changing over from deterrence based on the threat of nuclear retaliation to deterrence based on a reliable defense. Also the lofty phrases about the intention to create, with the assistance of SDI, a non-nuclear umbrella prove to be groundless. In rejecting the idea of banning experimental nuclear explosions, the American leadership itself has removed propaganda covers from its policy in the field of armaments and has laid bare the true essence of this policy.

Political Struggle Around Moratorium

In light of the facts referring to long-term U.S. plans and programs, it is quite natural to ask: Is it possible in any way to expect a change in the present American attitude toward the issue of banning nuclear tests? The partisans of the arms race resist the ban so strongly, precisely because it would radically freeze, and in a number of spheres completely check, these plans and programs. At the same time it is to be noted that, in the United States and other Western countries, opposition to the arms race has recently been spreading in public circles and among soberly thinking representatives of ruling circles. The SDI program has run into a growing criticism and opposition, and Congress

each year has been cutting ever larger slices from allocations for the "Star Wars" system. Also, programs for offensive nuclear armaments are to some degree an object of internal struggle. But support for the idea of a comprehensive nuclear test ban has won support in the West particularly noticeably recently. The 18-month moratorium in the USSR was a decisive catalyst of this trend.

After all, it is obvious that the unilateral renunciation of nuclear tests by the Soviet Union cannot go on indefinitely. Since the United States, during the moratorium, detonated more than 20 devices, demonstratively refusing to adhere to the Soviet initiative, the USSR has got more than sufficient grounds to resume nuclear tests. The American side obviously calculated that, in the issue of nuclear tests, the situation which existed before and fully suited it would be simply restored. The political self-control and the feeling of great responsibility for the destinies of the world, manifested by the Soviet Union, have upset these plans. The White House has again proved to be in the position of a "pleader." It had to repeat again the formula, which has already become a liturgical ritual, that the moratorium "did not meet the interests of the security of the United States, its allies and friends."

But the way this formula is being perceived today differs from that prevailing only a year or a year and a half ago. Public polls show that the Soviet initiative is gaining the support of more and more Americans. And what explains this fact is primarily the fact that the nuclear test ban proposed by the USSR is a measure that is completely unequivocal, intelligible, and at the same time the least vulnerable to both honest and dishonest criticism, which only looks for arguments in favor of the arms race. Also the time factor plays an important role: while at the beginning it was possible to some extent to hush up the Soviet initiative or to present it as a brief propaganda action to fill up the interval between the planned underground tests with a "political offensive," after the third extension of the moratorium (in May) and the fourth one (in August) any attempts to substantiate assertions of this kind appeared to be quite groundless.

Finally, the number of adherents to serious restrictive measures in this field is increasing even among those who accept the arguments in favor of tests carried out to check the reliability of nuclear weapons which are in active service. In particular, proposals have been made to lower the threshold of tests to several kilotons, to reduce their annual quota to a minimum, as well as to put into effect appropriate confidence-building measures facilitating verification (notifications on planned explosions, information about the power of tested weapons, and so forth). At the same time, it has been emphasized that if the power threshold of underground tests were brought down to one kiloton and the annual quota reduced to one test, the situation would hardly differ from a full ban of nuclear experimental explosions.

At the Reykjavik meeting, the USSR delegation proposed that the U.S. President agree to talks between representatives of the two countries on a ban on nuclear explosions. "Our attitude was flexible," M.S. Gorbachev pointed out at the press conference, "and we stated that we regarded this as a process in the course of which it would be possible at some stage--or maybe even immediately--to examine the issue of both the power "thresholds" and the annual

quota of nuclear explosions, and the fate of the 1974-1976 agreements, and in this way we would progress toward working out a full-scale agreement on the full and definitive ban of nuclear explosions."

But also partisans of a limited settlement of the nuclear tests problem are in favor of prolonging the Soviet moratorium, considering that it is important on the level of providing conditions for reaching an appropriate agreement between the USSR and the United States. It must be borne in mind that moods favorable to reaching such an agreement have also been reflected in Congress, and that these moods were gaining grounds in Congress as the political effect of the Soviet initiative was strengthening. Last year, only a few congressmen in the House of Representatives called on the U.S. Government to declare a moratorium, but last summer their number rose to 150. In August, when the attention of the international public was riveted on Moscow in connection with the expiring annual term of the moratorium, even the Senate, controlled by the Republicans, called on the President to immediately resume talks on a full and general ban of nuclear arms tests. The House of Representatives, by a convincing majority of 234 to 155, spoke out in favor of introducing, as of 1 January 1987, a moratorium on nuclear tests over 1 kiloton (provided that appropriate measuring instruments are placed on the territories of the USSR and the United States, and that tests are carried out in each of the two countries only on one testing ground).

This kind of signal from the Capitol Hill irritates the administration very much (Footnote 21) (Evidence of this are the accusations that Congress was "playing into the hands of the Russians." "The House of Representatives is actually tying the president's hands when it is necessary to strengthen his positions for talks with the Soviet Union" (quoted from a statement made by the White House in connection with drafting a bill on allocations for defense needs). "The Soviet delegation to arms talks should be surprised that the American legislators in Washington conceded what it was unable to get in Geneva" (quoted from R. Reagan's 16 August 1986 radio message). But the chief executive cannot disregard these signals because the financing of any military programs depends precisely on Congress. It is sufficient to recall, for example, that in fiscal year 1986, Congress prohibited the allocation of funds for testing anti-satellite systems against real targets in space, and in this way significantly upset the Pentagon's plans. The government has to think how to neutralize the opposition of the liberal and moderate conservative part of Congress and what concessions must be made to it. The "interest" deliberately manifested by the administration recently in the problem of control over the observance of the restrictions set forth in the 1974 and 1976 agreements can be regarded precisely in this context. Thus, the internal political pressure, which cannot be disregarded even by the partisans of a rigid line in U.S. leadership, is becoming an increasingly serious factor in American policy, including on the issue of banning nuclear tests.

In the Interests of General Security

The political effect of the 18 August 1986 statement goes far beyond the problems of the underground tests of nuclear weapons. The USSR initiative is convincing evidence of the principled and purposeful Soviet line with regard to the issues of war and peace. Our state's patience and persistence in

pursuing the line aimed at the complete discontinuation of the nuclear arms race refute the speculative fabrications alleging that the character of soviet policy is determined by the situation or even by propaganda considerations. The unilateral moratorium on nuclear tests has impressed the world so much that there is every reason to regard it as a model of policy which does not need any advertising or any special propaganda undertakings, because it is primarily its substance that appeals to worldwide public opinion.

The prolongation of the Soviet unilateral moratorium on nuclear tests is also called upon to improve the general climate in Soviet-American relations. Unfortunately, since the Geneva meeting in the fall of 1985 there have been no substantial improvements in these relations. Moreover, the line of invigorating military preparations, initiated by the right-wing, militarist group in the United States, and power policy methods practiced by Washington in various parts of the world are creating new sources of tension in Soviet-American relations. Under such conditions, it is highly important to be guided not by momentary emotions, but by a sober evaluation of the fundamental and lasting interests of guaranteeing both national and international security.

The USSR has manifested its readiness to seek compromise solutions for problems which might bring about contradictions, controversies, and mutual suspicion in Soviet-American relations. This has been attested to, in particular, by the maximally constructive position assumed by our country on the issue of verification. Clear proof of Soviet goodwill is also the fact that the USSR had introduced the moratorium unilaterally without setting any conditions and without making it dependent on an agreement reached previously with the United States in this respect. In this context, it would not be out of place to also refer to the following fact: The aforesaid discussion on a moratorium took place in a subcommittee of the House of Representatives, which examined the draft bill containing the request to the President to suspend for three months, as of 6 August 1985, all tests of nuclear weapons, but only provided the Soviet Union would take an analogous step (Footnote 22) ("Proposals to Ban Nuclear Testing," pp 163-166). In other words, the USSR initiative was much bolder in its character.

Most states have favorably responded to the Soviet move. It has been fully in the spirit of many resolutions adopted by the UN General Assembly on banning nuclear tests, and was highly evaluated at the eighth conference of the heads and governments of nonaligned countries in September 1986. The moratorium on underground tests has also joined in the efforts made in a number of regions all over the world to create zones free from nuclear weapons.

In particular, it is to be noted that the step made by the Soviet Union has contributed toward the consolidation of the system of nuclear weapons nonproliferation. It is known how long and difficult the drafting of the agreement on nonproliferation of nuclear weapons was. Quite a few states based their reserved attitude toward the very idea of adopting a nonproliferation system on the reluctance to consent to what they considered as the division of all countries into two unequal groups not enjoying equal rights--of those who "managed" in time to provide themselves with nuclear weapons, and of those who did not possess them. For this reason the assent of the latter to renounce the possession of nuclear weapons was compensated for by the appeal set forth

in Article VI of the agreement to take effective steps toward nuclear disarmament. Naturally enough, this appeal was addressed to nuclear powers. At Sweden's proposal, to strive to cease all experimental explosions of nuclear weapons was noted in the preamble.

However, all three conferences on the effects of the agreement--and they are held every 5 years--noted that these precepts had not been complied with. But since all orders of the agreement are not being fully observed, some of its non-nuclear signatories might be tempted to regard themselves as free from the requirements of the agreement! And on the other hand, since some states in possession of nuclear weapons as useful for themselves from the political or military point of view and do not intend to give them up, it would not be strange if some countries, thus far non-nuclear, felt attracted by the same possibility. The more so, since the agreement is to expire in 1995. In other words, to increase the reliability of the nonproliferation system, it is absolutely necessary to embark upon the process of getting rid--at least slowly and gradually--of nuclear weapons, and of curbing their role in diplomacy and military strategy. In this sense, the cessation of nuclear explosions would become an important practical measure hindering the dissemination of nuclear weapons both vertically (in the sense of building up and improving the existing nuclear arsenals) and horizontally (among countries deprived of the technical possibility to produce them).

The decision adopted by the Soviet leadership to prolong the moratorium on nuclear tests has clearly manifested our state's adherence to the imperatives of a genuinely new way of thinking based on the awareness of the realities of the nuclear and space epoch, and on the realization of the fact that guaranteeing security cannot be regarded today as a primarily military or military-technical problem. A basically different attitude is needed, an attitude whose main substance is to seek political solutions for existing problems, solutions guaranteeing security in a more reliable way and at significantly lower financial, material and intellectual costs. The moratorium on nuclear tests convincingly shows that the USSR also considers it necessary to adhere to this attitude toward the problems of limiting arms, to military planning as a whole, and to problems concerning international life in the broadest sense of this term.

What has been said above does not imply any disregard for the security of the Soviet state. Naturally enough, our decision to introduce the unilateral moratorium was complex, very responsible, and even difficult. And the Soviet people are, of course, worried that the nuclear explosions, continued in the United States while the USSR does not carry them out, might prove to be seriously detrimental to our security.

But the difference between Soviet and American policy consists precisely in the fact that the USSR does not reduce its security only, or even first of all, to the opportunity to build up and to improve nuclear arsenals. The USSR treats the security problem more broadly and deeply. It proceeds from the fact that the nuclear arms race with nuclear tests as an integral part of this race does not strengthen, but undermines both national and general security. On the contrary, a full cessation of nuclear explosions could make peace stronger, and the security of all participants in the international community much more reliable.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

TECHNICAL R&D SYSTEMS IN CAPITALIST FIRMS EXAMINED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11,
Nov 86 (signed to press 16 Oct 86) pp 44-54

[Article by D. Kuzin: "Systems of Innovation Management in Capitalist Firms"]

[Text] Currently the accent in the competitive struggle is shifting increasingly to the S&T sphere. This is making big changes to the organization of the interaction of science, production and marketing in the basic production component of the capitalist economy--industrial concerns. Attempts at the creation of a more flexible and comprehensive system of the management of innovation processes and a new economic mechanism oriented toward the development of advanced products and a rebuilding in organizational structures, planning and stimulation, the placement of personnel and the style of management are being observed.

"Whereas 10 years ago it was not difficult delimiting the companies oriented toward innovations," the journal INTERNATIONAL MANAGEMENT asserts, "from those which attached to them no special significance, now everyone considers innovation activity natural. The difference in firms now is that some know how to operate, while others aspire to activity in this field, but do not know how to accomplish this."¹ The appearance of such statements in the 1980's, when considerable experience of innovation management has already been accumulated, is no accident. Increasingly complex problems of a refinement of the organization of the innovation process are arising as S&T progress accelerates. Various paths are being used for this. Organizational forms and methods which stimulate the creation of novelties and provide for the comprehensive management of innovation processes from the emergence of ideas through their realization are being adopted. Conditions are being created for the integration of efforts and the cooperation of various functional subdivisions of the firms. Finally, new channels of interrelations with the consumers are being established.

Reasons for the Reorganizations

Industrial concerns in the developed capitalist countries are powerful scientific-production associations. Many of them incorporate research centers and laboratories with several thousand employees and annual budgets running into hundreds of millions of dollars, dozens of industrial enterprises and planning-finance, marketing and other specialized subdivisions. However, in

terms of the goals and orientations of industrial R&D, the methods of its financing and stimulation of the workmen and professional composition the head research subdivisions differ appreciably from the production subdivisions. In addition, contradictions frequently arise between them, which complicates intra-firm relations and application of the results of innovations. This has a negative effect on the operation of the firms. For this reason refinement of the organization and management of innovations is seen as an important means of maintaining activeness in assimilated fields and expanding in new areas. In some cases this is achieved by way of the diversification of production and the strategic reorientation of the corporations, in others, is the result of the adoption of measures to reduce and optimize the cycle of the passage of a new idea from the research stage through sale of the commodity on the market and reduce the as yet quite high percentage of unsuccessful innovations, and in yet others, is a step toward the surmounting of conservatism in the style and methods of management.

Not finding ways to reorganize, many corporations of the United States and West Europe have begun to perceive the pressure and then superiority of Japanese competitors. The influence of the managerial factor has been reflected here together with the effect of general economic and political factors. This has been connected mainly with the procedural imperfection of the management principles and instruments employed by many Western firms and also miscalculations in their practical use.

The majority of major American corporations is distinguished by complex management structures (17 management levels in the American Ford Motors, in the Japanese Toyota, 5) and swollen R&D services divorced from production. Vertical lines of accountability predominate in them; traditional rationalist tenets--stability, abandonment of risk-taking and an endeavor to preclude mistakes; high degree of formalization of management; and so forth--flourish. This is objectively contrary to the principles of rational innovation management, which demands dynamism, creativity and a swift reaction to change.²

For example, despite its strong S&T facilities, the management of the research subdivisions in the General Motors Corporation was until recently limited in its choice of directions of R&D. This was largely explained by the fact that production and financial problems had taken pride of place. The research subdivisions, on the other hand, were assigned the role of "fault correctors" and not the creators of new products.³

The positions of the American and a number of European firms on the innovations market proved to be undermined to a considerable extent owing to the orientation toward short-term results of activity and the predominance of financial instruments of control. As a director of the TRW Corporation observed, "America is engaged in managing finances and not production."⁴ The broad wave of mergers and takeovers in the United States, which even acquired a special name--"paper enterprise"--not only has not increased the efficiency of innovations but, on the contrary, has created a number of serious problems in the management thereof.

Also material is the fact that specialists in finance and administrative and legal matters and business school graduates predominate on the boards of directors of many major American companies. They consider it more profitable to

engage in financial transactions and deals and not undertake long-term capital investments, which are attended by risk, what is more, in the development of new products. According to certain estimates of Japanese experts keeping an attentive eye on their main rival, at the end of the 1970's only 9.7 percent of the top managers of leading American firms were specialists in the field of modern technology.⁵ The majority of managers have practically no links with production. They are insufficiently knowledgeable with regard to the technical possibilities of the proposed plans and are for this reason incapable of evaluating their outlook. Many Japanese firms, on the other hand (Sony, Matsushita, Honda), and also a number of American firms (IBM, Dana, Emerson) have gained their positions precisely thanks to technically competent managers.

In addition, a kind of "fashion" of the superficial application of various managerial methods has taken shape. Frequently such work becomes an end in itself, divorced from practice, which leads to mistakes in the evaluation of the market potential of this new product or the other and does not contribute to the increased efficiency of production and management.

Innovation management systems demand precise leadership on the part of the top "echelon" and the presence therein of people capable of being clearly expressed leaders. For this corporation managers need profound theoretical knowledge pertaining to economics and engineering and an ability to see the long term, determine specific goals, select competent personnel and so forth. Far from all managers possess such qualities. Moreover, the situation itself and practice frequently orient them toward evolved behavior stereotypes. Whence mistaken initiatives, for example, in respect of a stimulation of innovations, attempts to foresee in detail the entire course of the innovation process and notions thereof as being strictly linear and unidirectional.⁶ "Many people who in all other respects are knowledgeable and understanding in business operate by relying on a theoretical base which is already simply outdated," T. Peters and R. Waterman assert.⁷

Finally, the reasons for the failures of innovations in a number of cases are brought about not only by the economic "climate" surrounding the firms, the complexity of the assimilation of advanced technology or a mistaken market strategy but also internal organizational barriers: frequently the absence of unanimous support for the innovations by the employees, shortcomings in the coordination of the work of the subdivisions and so forth. The sum total of these circumstances has been reflected negatively in the competitiveness of American companies in the high-science sectors. Nonetheless, a number of important firms has been able to carry out appreciable reorganizational restructuring.

The commercial assimilation of new products and their profitable production was and remains the main purpose of innovation processes in the industry of capitalist countries. At the same time, however, specific "ways" of capturing the lead in a market and methods of organizing production are dissimilar. What is common, however, is the fact that bourgeois theorists and businessmen assign an important place among the factors determining the introduction of novelties to integrated systems of innovation management and new mechanisms of the stimulation of innovation activity.

Approaches to the Organization of Innovation Management

The specific features of the management of innovation activity demand more flexible and at the same time effective organizational forms providing for application of the results of R&D. Two varidirectional trends have been discerned in the practice of intra-firm management.

One is connected with the isolation of the subdivisions engaged in innovations and long-term problems of the firm's development.⁸ This has been dictated not only by the new conditions of management but also an endeavor to simplify the decision-making process and the system of planning and stimulation and speed up the development of novelties thanks to specialization. The other trend reflects the need for interfunctional interaction in the course of innovation and a highly efficient mechanism of the subdivision's integration.

The majority of corporations is adopting both directions simultaneously, but giving priority here to one of them. Furthermore, they are combining two types of management--of assimilated production and innovation activity. The main thing, as P. Drucker, a prominent theorist of American management, believes, is that "the application of innovations is not episodic activity but a systematically controlled process."⁹

The practice of the functioning of a number of companies occupying a leading position on the innovations market (the American IBM, Texas Instruments, General Electric and Minnesota Mining and Manufacturing, the Japanese Matsushita Electric, Mitsubishi Electric and Sony and others) shows that their successes are connected with the development precisely of such a system of control. A special innovation culture is being created in these firms, preliminary plans for technological development are integrated in the overall strategic plans and the policy of growth is directly linked with the constant development of promising advanced products and the penetration of new spheres of business. They are characterized by a decentralization of the control of creative activity and extensive application of the principles of small business, albeit within the framework of a big organization.

The movement of novelties by stage of the research--production--sales cycle was long regarded as a linear process. In other words, the concept of a product, engineering-production forms and records pertaining to its development and prototypes were transferred from one specialized group to another with the successive enlistment of new personnel which did not participate in work at the initial stages. Responsibility for the development, production and sales of the novelty passed from some groups or subdivisions to others. This approach was a reflection of the high specialization of intra-firm activity.

However, the need for an acceleration of the innovation process and the greater integration of all its participants is manifestly contrary to the practice of the separate planning, financing and stimulation of various intra-firm services. The so-called "entrepreneurial" approach to innovation management, whereby the inventor of-enthusiast behind a new product (more often than not a research worker or engineer) becomes the leader of a group, subdivision or new firm even which has split off from the main one (such a

phenomenon has come to be called "spin-off"), whose mission is introduction of the said novelty, has become quite widespread under these conditions. This approach was born of the most acute competition in the technology sphere and the risk of operations in new fields of economic activity. A considerable role is performed by the race for personal gain and prestige. But this principle has its rational aspects also. Its advantages are that the innovator directly embodies his idea, the procedure of decision-making and the coordination of work is simplified and the need to pass on the results of research or developments to new groups of specialists disappears. The principle of "comprehensive innovation management"¹⁰ realized in practice makes it possible to economize on resources considerably and materially interest the innovator in the introduction of the novelties.

This principle reflects attempts at a decentralization of intra-firm management and the creation of small flexible subdivisions with individual systems motivating the development and assimilation of novelties. An organization created for the development of pioneering novelties is never originally big. In such firms as IBM, Genentech, AT&T, Merck, Sony and Matsushita use is made for this purpose either of basic research groups (10-15 persons) or subdivisions for the development of new spheres of business (up to 400 persons) uniting all the basic stages of the scientific-production process. The latter are now enjoying increasingly great development. Eleven subdivisions, which select production and marketing strategy usually without coordination with headquarters, operate in IBM. The magnetic memory group of the Intel Company (a group engaged in the development of new types of memory) has become the main small semi-autonomous firm with its own financial base. In 1985 General Motors formed the analogous Saturn company for the purpose of creation by 1987 of a new economy car model. It was initiated in 1982 by an engineering design. Two years later General Motors effected the biggest breakup since the war of an inefficient and complex structure slowing the process of the renewal of products and lowering their quality and competitiveness. Of the 5 branches, 2 groups--big and economy cars--were formed. For the integration of databases and all information equipment and the creation of new telecommunications systems another semi-autonomous firm--Electronic Data Systems--was opened.¹¹

The purpose of the reorganization was not simply the manufacture of a new automobile with the aid of modern technology. It was also an experiment in management--the establishment of new horizontal relations, rebuilding of the sales network and the system of stimulation of the personnel and so forth.

The most striking example of the progressive organization of innovation activity is provided by the Minnesota Mining and Manufacture Corporation, which has been diversifying production for almost 30 years now. It seeks to increase profits and expand production thanks to the development and stimulation of "internal ventures". A particular feature of this company is the establishment of so-called "business development centers" regardless of the main areas of its activity. In other words, ideas are not necessarily confined to the sectors in which the firm's positions are strongest. Innovation culture is manifested in the high degree of support for the development of innovations on the part of the top management and the creation of an atmosphere of "seeing" problems. Indicators of economic activity which at the first stage of a product's introduction point in the direction of the capture of a certain share of the

market are determined for the "centers". It serves as the basis for the expansion of sales. The new products¹² must account for no less than 25 percent of aggregate sales. The system of stimulation and promotion of the leaders of the "centers" and also the "product teams" and individual employees here depends on final commercial results, while commercial failures connected with the pioneering risk do not usually entail administrative penalties or fines. Personnel for the "centers" are selected by way of hire and not appointment. Such a system on the one hand serves as a certain indicator of the outlook of ideas and develops the interest and increases the responsibility of the employees and, on the other, makes it possible to exploit more fully and subtly their intellectual potential, encouraging competition and creating additional incentives to independent decision-making. Theorists of the firm believe that it is more profitable to incur additional expenditure (in connection with the parallel development of projects by small groups, risk compensation and so forth) in the course of the precommercial phase than to incur bigger losses given the unsuccessful appearance of a product on the market.

Many Japanese firms also organize their work on similar principles. Ideas for the creation of VCR's are being studied in parallel by the Sony company in 10 fields. In Toray groups of developers examined 1,000 alternative combinations of materials for the manufacture of contact lenses. Personnel of Matsushita Electric are remunerated even in the event of failures of projects which required considerable creative effort.

All these examples testify to one thing. An active strategy of the conquest of new markets for the sale of high-science products is being realized with the help of a comprehensive organizational-economic mechanism linking reorganization with changes in financing, personnel selection and the stimulation of both entire subdivisions and their employees.

However, the mechanism of the use of internal ventures in large firms is by no means without shortcomings and contradictions. Thus the incomplete consideration of the consequences of the strategic reorientation of big firms brought about by, for example, technologically disconnected diversification increases considerably the likelihood of failure. In addition, the viability of ventures under the conditions of the intra-firm competition of the subdivisions for funds, personnel and resources largely depends on the presence or absence of support for certain innovation projects by the company's top management and specific forms of their organization, financing and motivation.

According to a survey of the 700 leading U.S. industrial companies conducted by the Booz, Allen and Hamilton consultants, almost one-half of the companies employ mixed organizational structures and an aggregate of various approaches to management of the process of the creation and assimilation of new products.¹³ Distinguished among them are autonomous subdivisions subordinate in many cases directly to the highest level of management of the corporations (in 37 percent new subdivisions with permanent personnel, in 13 percent, internal ventures); and groups set up in functional services and relying on other departments in the solution of this problem or the other in the creation and introduction of innovations (46 percent of companies had such in their marketing services, 39 percent in R&D services, 35 percent in engineering-design departments and 11 percent in planning departments).

An analysis of the activity of 173 large and mid-sized Japanese firms showed that in 59.6 percent of them temporary planning groups had been created; permanent groups in 62.7 percent of them; and internal ventures in 14.1 percent. In addition, 48.8 percent of the firms had corporate advanced development services, 34.1 percent had analogous marketing department subdivisions and 45 percent had the corresponding product branch services.¹⁴

A number of conclusions may be drawn on the basis of this information. First, increasing attention is being paid to the problem of technological development and innovation management. Second, the services and departments engaged in this work are distributed throughout the organization, and a system of interrelations has been established between them. Third, the modern technologically advanced firms have quite a flexible organizational structure, whereby the stable organizational "nucleus" of the companies is surrounded by various temporary, special, "buffer"-type formations. They are used on the one hand for the efficient organization of creative research, the development of advanced products and their delivery to the market and, on the other, as a channel of communications with the external environment, via which information concerning the actions of competitors is received. In the colorful expression of an American theorist, J. Quinn, the organization of innovation management in large firms is "controlled chaos".¹⁵

Intra-Firm R&D Communications Services

A particular feature of the modern innovation management systems in industrial companies of capitalist countries is the creation of a special mechanism for transferring developments from the internal R&D services to the production branches. Changes both in the services themselves and in the forms of coordination of research, production and marketing activity are occurring here. "As there is clearer recognition of the importance of the creative development of new commodities--development based on a company's in-house technology," the Japanese expert Y. Hiroshima observes, "there is a change in the very attitude toward the subdivisions engaged therein. Today it is determined by the need for a comprehensive approach to innovation activity. And it is no longer rare to hear that a development service encompasses the entire sphere of a company's activity."

Particular significance has been attached to the solution of problems of intra-firm relations in recent years since not simply the search for and development of new advanced ideas but their rapid conveyance to the stage of industrial assimilation and sales have become the guarantee of success in the competitive struggle. Attempts to control firms' future development and create S&T process stock for the subsequent generation of products, frequently without a sufficient idea of the specific paths of their assimilation, have led to many large companies paying increased attention to fundamental science. The restructuring of R&D services and an increase in the volume of their financing to 3-10 percent of the sales volume testify to this.

A reorganization of R&D services on the eve and at the outset of the 1980's was conducted by, for example, leading Japanese firms (Hitachi, Toshiba, Nihon Electric, Matsushita Electric and others). They set the task of the

accelerated development of the promising areas of S&T progress, the creation of advanced technology coordination committees, the allocation of basic research groups among research with varying time levels (from 2-3 years to 10 years and more) and the creation of special laboratories for problems of the industrial assimilation of new technology and personnel retraining.

The new tasks which have been set the R&D services entail changes in the system of communications of various laboratories with other firm services, mainly with the production-marketing departments. This, in turn, demands on the one hand stricter regulation of the functions of the head and sectoral R&D laboratories and, on the other, new ways of organizing the communications and interaction of services in all links of the scientific-production-marketing chain. "There has been in the economy of the industrial capitalist countries since the war," the Soviet expert V. Martsinkevich writes, "on the one hand an increasingly distinct structuring of types of activity related in terms of their reproduction role in isolated groups with clearly expressed goal-oriented specifics and intrinsic unity. On the other, there has been an intensification of their intergroup integration, and the comprehensive nature of the task of securing S&T and, as a whole, qualitative changes in the economy has been increasingly distinct."¹⁶

Disregard for these circumstances by the management of a number of companies led to appreciable miscalculations even by such "authoritative" corporations as General Motors, Digital Equipment and Texas Instruments. The trend toward the decentralization of branches engendered in the latter an endeavor to seek the maximum autonomy, which weakened their ties to the central R&D services. The experience of many other corporations testifies that close interaction between the centralized R&D services and the branches consuming their products is not established automatically--the conditions, goals and motives of their activity differ too much.

These circumstances demanded the creation of new technology-transfer mechanisms. Extensive use is being made for this of intra-firm special organizational formations: various engineering services (the AT&T, General Motors, Nihon Electric and Toshiba corporations), technical centers and services for communicating with regional branches (Dow Chemicals, General Electric and Ford Motors) and special temporary technical (IBM) and planning groups. The mutual exchange of personnel and the temporary duty of managers and specialists of certain research fields in the production-marketing branches and at the plants and joint consultations are one of the "easiest" ways of organizing communications between research and production workers. In some companies (Eastman Kodak, for example) a certain percentage (5-10) of the research personnel of the central laboratories which is transferred for a time to other subdivisions of the corporation, including applied research labs, is determined.

Importance in the creation of the mechanism of the transfer of technology to production is attached to the formation of innovation stimulation funds. A number of problems arises here. Thus in General Electric R&D of significance for the activity of the whole company is financed from centralized funds (part of profits). "Venture" capital also is created from these resources, which subsequently could be of interest for narrow areas. The centralized funds thereby tie the new projects to the firm's overall strategy.

On the other hand, the branch funds stimulate R&D of an applied nature connected with their requirements. Although such funds help the branches incorporate S&T programs in their plans more actively, they at the same time limit research work appreciably, orienting it toward short-term results. The existence of such sources of financing could complicate considerably the "alignment" of R&D with general corporation goals and cause contradictions and conflicts. On the other hand, the financing of applied research and measures pertaining to the technical assistance of the enterprises from the budgets of the production branches permits the establishment of direct financial control and the participation of their personnel in R&D projects from the very outset.

Thus under the conditions of the various target and value tendencies of the subdivisions the very position of capitalist firms' research services is dual and contradictory. On the one hand they have to preserve a certain independence and serve as a "barometer" and conduit of change, on the other, they have objectively to abide by the strategy of the firm as a whole. These subdivisions are forced to constantly strike a balance between the servicing of new (advanced) and "old" business, considering the limited nature of disposable resources.

The interests of the R&D services and the production branches are also coordinated by way of the joint discussion of ideas, planning and evaluation of S&T plans.

The practice of joint discussion by representatives of different services is employed particularly extensively by Japanese firms. Two principal goals are pursued: first, taking advantage of the knowledge and experience of the consumers of the results of R&D; second, facilitating the process of the transfer of R&D to the branches, that is, increasing the efficiency of the stages of the introduction and assimilation of novelties. The activity of special analysis groups (so-called soft science groups) of the Mitsubishi Electric Corporation, which include researchers, managers and representatives of functional subdivisions, may serve as an example of such an approach. Their activity is connected with the forecasting of the development of technology and the demand for new products, determination of advanced ideas, the establishment of research topics and the coordination of the work of scientists and engineers from the production branches within the framework of the special projects. These groups act as consultants on the broadest range of questions of scientific activity and production. Engineers from the production branches conduct special courses of instruction therein.

A particular feature of the integration of science and production under the conditions of the capitalist economy is the ever increasing orientation of R&D toward the market and the increased influence of market factors in the determination of corporation strategy. However, many firms developing and assimilating new types of products are encountering considerable difficulties when organizing the research subdivisions' relations with the marketing services. This is manifested particularly distinctly in American and West European companies.

The prerequisites for such interaction arose in the 1960's-1970's--in the period of greatest prevalence of the divisional product organizational structure concept, in accordance with which R&D and sales services specialized in particular commodity groups were formed within the framework of "product" branches at the middle management level. Subsequent development led to the horizontal integration of the R&D, production and sales subdivisions. Acquisition by the production-sales branches of the status of centers of profit and the formation of the internal functional structure of the latter, including R&D, production, marketing and other departments, required the even greater coordination of work both between these departments and the functional groups (analysis and conquest of new sales markets, study and development of new products, for example) incorporated therein.

Another important area of the structural reorganizations corresponds to the general trend of efficiency promotion of the system of intra-firm management and is connected with the development of innovation structures. It is a question of the creation at the top management level in practically all the major corporations of the high-science sectors of boards, committees or work groups for the development of S&T policy and the evaluation, selection or elaboration of the key R&D areas and projects. As a rule, such committees and groups include representatives of production branches, marketing services and research subdivisions. The tasks and status of these committees may vary depending on the problems being tackled.

However, the top-level coordination bodies cannot in themselves solve all problems of the various services' interaction. The establishment of contacts at lower management levels and also between specialists directly is necessary for this. Many companies adhere to precisely this principle. Thus engineers and technicians starting work at the Japanese Sony firm initially undergo qualification apprenticeship in the marketing subdivisions. A program for the qualification apprenticeship of research workers in the production branches and the Western Electric daughter company was drawn up similarly to this in the American AT&T company.¹⁷

As a whole, however, despite the development of various mechanisms for the coordination of R&D, production and marketing, the problem of organization of their interaction is still far from solved.

Interaction With the Consumers

The increasing market orientation of capitalist firms' innovation activity is also being manifested in the spread of the practice of the participation of the consumers of the high-science products in their development and assimilation at various stages of this process. This participation has been brought about on the one hand by the producers' endeavor to secure a stable sales market and permanent clients and uphold the prestige of the firm. On the other, certain benefits accrue to the consumer firm also since it may not only initiate innovations but also monitor the entire course of development and industrial assimilation of the novelty. The role of the client himself may vary here--from negligible participation, when he merely "sees" the problem or technical assignment, through direct work on its solution,

determination of the specifications of the new product and the creation of the prototype thereof. In the last case stable relations with the producer are formed and consolidated. The manufacturer, on the other hand, is increasingly becoming not simply the supplier of a particular product but an economic subject whose activity is oriented toward the requirements of a specific consumer.

The enlistment of consumers in the development of new products is regarded in the practice of management of capitalist firms as a principal factor of the stimulation of innovations. This is confirmed by a number of surveys conducted in various spheres of modern technology (instrument making, electronics) in the 1960's-1970's. Recent polls of more than 200 Japanese large and mid-sized firms showed that among the key factors determining the success of the development of new products the largest number of firms distinguished satisfaction of consumers' requirements and comprehensive market research. Some 34 percent of these firms here pointed to ideas received from clients concerning new products.¹⁸

There are also many examples from other spheres of the inter-firm cooperation of, for example, instrument makers and aircraft designers and machine-tool and automobile manufacturers, when the consumers (clients) of a new product have exerted a considerable influence on the research and production programs of the firms supplying the equipment, aligning them with their innovation process. In the course of a survey of 13 American companies which are principal suppliers of equipment and components for the auto industry it was established that the greatest influence on the innovation process of the latter is exerted by the auto manufacturers' decisions to use their innovations.

A major survey of leading machine-tool-manufacturing companies of Great Britain and the FRG ascertained that the British firms' lag in the competitive struggle had been brought about not only by the orientation of market strategy toward price competition to the detriment of product quality but also by inadequate consideration of consumer requirements, particularly in the sphere of innovations. In the West German firms, on the other hand, the planning engineers have considerably greater direct contact with the clients, from the inception of the idea through the creation and evaluation of the machine-tool prototypes.

Joint work with the consumers of new products is catered for by means of a certain adaptation of the organization of the R&D, production and marketing of the producer-firms to the conditions of consumers' more assertive participation in the innovation process. This is expressed, first, in the supplier-firms' endeavor to develop regular and direct contacts with the consumers and create special subdivisions for this. Second, there is a change in the role of the R&D subdivisions, which are becoming transformers, as it were, of the ideas and developments which have emanated from the consumers into specific products. In turn, the marketing branches become centers of commercial research and the transmission element of information from the consumers to the management of the producer-firm for the further evaluation, development and commercialization of the new products.

The practice of the creation of services for the exchange of information and the servicing of individual consumers has also gained a certain prevalence. Such major corporations as the American IBM, General Electric, General Motors, Proctor and Gamble and Whirlpool and the Japanese Matsushita Electric, Sony and Toyota are expanding and perfecting consumer-service systems. They regard use of the network of these services as a key instrument of marketing strategy and a channel of information.

Surveys of various new product markets have shown that consumers' behavior is subject to change in line with their familiarization with a product, the accumulation of experience and knowledge concerning its properties and qualities, the possibilities of competitors and so forth. The leading firms organizing relations with consumers employ under these conditions a quite flexible strategy of marketing high-science products. Thus when introducing pioneering technology and products IBM makes use of an evolved system of permanent consultations with consumers. As experience of the use of new computers was accumulated IBM and Apple Computer increased their emphasis on certain specifications of the product and increased its differentiation and specialization. Finally, to protect their market positions suppliers may use pricing strategy also. All this points to both close joint work with the consumers and the multilevel nature of the very organization of innovation management.

The establishment of the interaction of the R&D and marketing services and also firms' diverse relations with the consumers of their high-science products is not only becoming a source of the acquisition of new ideas but also shaping the feedback mechanism and helping in the search for sales markets. There exists a whole system of measures which ensure a certain balance of firms' market and technological orientation and increase their capacity for developing and assimilating competitive technology or products. This very process represents an interaction of producer and consumer, where the position of the latter plays a far from insignificant part.

The adoption in firms of integral scientific-production-marketing systems is under modern conditions becoming a decisive component of work on the realization of innovations. The degree of development of these systems in different companies is dissimilar: the particular features of the interconnections of different stages of the innovation process and the organizational mechanisms providing for the intra-firm transfer of new technology may differ appreciably. However, major corporations can no longer manage without the creation of such systems.

Study of the practice of capitalist firms shows that bourgeois management has been able to elaborate and introduce a number of original organizational approaches capable of enhancing innovation efficiency. The latter, however, is in many cases limited by the orientation toward short-term profitability inherent in the production mode based on private ownership. Preserving its controlling role, the market often limits science, subordinates it to itself and deprives it of prospects and initiative. For this reason the orientation of R&D toward requirements which is in itself objectively conditioned and logical under the conditions of S&T progress is transformed into a market orientation introducing an element of instability and contradictoriness to the innovation processes.

The search, on the other hand, for integrated and flexible innovation management systems represents an attempt to adapt to the demands of the modern capitalist economy, where the formation of organizational-economic management mechanisms providing for the development of innovations and their rapid conveyance to the market is becoming an increasingly important factor of efficiency and competitiveness.

FOOTNOTES

1. INTERNATIONAL MANAGEMENT, February 1986, p 38.
2. See T.P. Peters, R. Waterman, "In the Search for Efficient Management," Moscow, 1986, pp 80-81, 105-106.
3. RESEARCH MANAGEMENT No 5, 1982, pp 11-19.
4. BUSINESS WEEK, 11 March 1985, p 47.
5. M. Moritani, "Japanese Technology. Getting the Best for the Least," Tokyo, 1982, p 73.
6. See HARVARD BUSINESS REVIEW No 3, 1985, pp 76-77; RESEARCH MANAGEMENT No 4, 1986, pp 36-45.
7. T. Peters, R. Waterman, Op. cit., p 128.
8. See L.I. Yevenko, "Organizational Structures of the Management of U.S. Industrial Corporations," Moscow, 1983, pp 85, 87.
9. HARVARD BUSINESS REVIEW, May-June 1985, p 67.
10. See INTERNATIONAL MANAGEMENT, January 1983, p 11.
11. See TIME, 4 February 1985, pp 22-23.
12. Products no "older" than 5 years pertain to the new category.
13. See INDUSTRIAL MARKETING, May 1982, p 58.
14. "Innovation and Management. The First International Symposium on Management," Kobe, Japan, 2-3 April 1986, pp 314-314.
15. HARVARD BUSINESS REVIEW, May-June 1985, p 76.
16. ROBOCHIY KLASS I SOVREMENNYIY MIR No 6, 1984, p 18.
17. HARVARD BUSINESS REVIEW, May-June 1985, p 78.
18. INNOVATION AND MANAGEMENT, pp 310-312.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

IMPORTANCE OF PACIFIC REGION IN WORLD AFFAIRS STRESSED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 67-74

[Article by V. Lukin: "The Pacific Orientation of International Politics"]

[Text] M.S. Gorbachev's speech at the solemn meeting devoted to the presentation of the Order of Lenin to the city of Vladivostok marked a decisive turn by the country to processes that are taking place in a very vast area of the world, which has been labeled by political geography as the "Asian-Pacific region."

This, of course, does not mean that we had previously ignored the circumstance that two-thirds of our country's territory is located in Asia and that its Pacific shoreline is one of the most extensive. The heroic traditions of the development of the country's eastern regions is well-known. The Soviet state's economic and defense capability and its science and culture firmly and inseparably include the "eastern component." Great significance has always been attached to relations with Asian-Pacific countries, primarily neighboring ones.

Life, however, does not stand still. It frequently outstrips the set concepts that have an impact on plans and forecasts, and especially on their implementation. The basic spirit of the Vladivostok speech is its urgent appeal to break stereotypes of thinking, to have a creative and innovative view of the tumultuous changes taking place in the Pacific region, and to take into account these changes in our domestic and foreign policy activity within the framework of the general strategy of acceleration put forward by the 27th CPSU Congress.

"The Pacific Age": Realities and Illusions

It was K. Marx and F. Engels who predicted that "...the Pacific Ocean will play the same role that the Atlantic Ocean now plays and that the Mediterranean Sea played in antiquity and in the Middle Ages." (Footnote 1) (K. Marx and F. Engels: "Works," Vol 7, p 233) A.I. Gertsen wrote in "My Past and Thoughts": "The Pacific Ocean is the Mediterranean Sea of the future. In this future the role of Siberia, the country between the ocean, southern Asia, and the European part of Russia, is extremely important." (Footnote 2) (A.I. Gertsen: "My Past and Thoughts," Moscow, 1945, pp 136-137).

Why is it that precisely now, in the middle of the 1980's, the economic, social, and political problems of the Pacific region are attracting such attention? Why is the substantial increase of its role in world economics and politics being discussed everywhere? After all, few of the events that abound in the contemporary political life of the Near East, Latin America, and Africa and that every day rivet the attention of readers, radio listeners, and television viewers throughout the world have taken place in recent years in this vast region of the planet, where about half of its population lives (of course, in comparison with certain other regions; at the same time, everybody remembers the situation in Indochina, the sociopolitical explosion in the Philippines, and so on).

However, other processes, less noticeable to the eye of the unprofessional observer and less dramatic, but in-depth, substantial, and long-term, were particularly intensive. One of them was the gradual shaping of Pacific regional commonality.

Indeed, until very recently the concept "Pacific region" contained a certain affectation and artificiality, if one proceeds on the basis of traditional notions. For instance, the European or Latin American regions are such primarily by virtue of geographical compactness and a common cultural-historical legacy. It is sufficient to glance at a map of the world for it to be clear that this is lacking in the case of countries connected with the Pacific Ocean. They are separated by enormous distances and are very different historically and culturally. There are states there that are the natural habitat of Buddhists, Confucians, Muslims, and Hindus and that also have significant elements of a European cultural legacy. The region's countries substantially differ in the level of economic development and sociopolitical structure.

Why is it that the sum total of states located in the eastern part of Asia and the Pacific basin is increasingly and definitely associated in world political and economic literature with the concept of a region? This is connected with important circumstances that merit careful attention and serious comprehension.

First, due to the achievements of scientific-technological progress, from a "great divider" of countries and peoples, the Pacific Ocean has turned into a kind of "great unifier." New transport and communications systems have made it possible to sharply expand intra-Pacific contacts and have created material-technical prerequisites for the qualitative growth of the interdependence of states.

Second, very dynamic economic development is an important factor in shaping regional ties, so dynamic that the thesis of the east Asian and Pacific region reaching the forefront in the world economy and, in the long term, in politics has become particularly widespread in the Western political and economic literature of the last decade. In striking journalistic language it is expressed thus: "The 21st Century--the Pacific Age."

Thus, the total share of Japan, Australia, and New Zealand in the GNP of developed capitalist states has increased from 7 percent in 1950 to 20 percent at the beginning of the 1980's. Among Canadian provinces, the Pacific ones are outstripping the others in economic growth rates and are beginning to take part more and more actively in the life of the region.

In the last 15 years developing countries and territories have also increased their economic potential considerably quicker than the developing world as a whole. A group of so-called new industrial countries (South Korea, Hong Kong, Singapore, and Taiwan), which have drawn near to developed capitalist states in their economic and scientific-technological level, has taken shape in the region. The prerequisites are taking shape for Indonesia, Malaysia, Thailand, and the Philippines to follow a similar path. The United States and other capitalist states, which are pursuing the goal of strengthening their position in the developing world, are striving to promote the creation of a relatively developed capitalist economy there.

The economic dynamism of the states, countries and territories of the Pacific region is not just growth rates. Thus, the attainment by the leading countries of Asia and the Pacific basin of foremost positions in the sphere of the particularly promising areas of scientific-technological progress (the production of microprocessors and industrial robots, the development of technologies to exploit the wealth of the world ocean, and space research) is an important factor of world and regional development.

Intraregional economic ties are being activated. At the beginning of the eighties the Pacific basin accounted for 50-80 percent of the foreign trade volume of the overwhelming majority of the states located there. A striking example of this is Australia. Until quite recently its foreign orientation was "European," with emphasis primarily on the former mother country. Subsequently, it became "American" to a certain extent. In recent years Australia has declared itself an Asian-Pacific country: Its economic interests turn out to be increasingly associated with Japan and Southeast Asia, particularly with the "new industrial states."

Thus, a unified, vast region is taking shape, a region which in the future could attain foremost positions in the economic and scientific-technological spheres and, thereafter, from all appearances, in the political sphere as well.

Developed capitalist countries are preparing in advance for such important and far-reaching changes. From the end of the 1970's the idea of a "Pacific community" began to be implemented, which is considered as a group of capitalist and developing countries and is designed to coordinate economic, scientific, cultural, and other contacts. In the process it is proposed to directly or indirectly isolate our country and a number of other socialist states from basic regional processes.

Playing a very active role in this is the United States, in whose global strategy the importance of the Pacific zone, particularly in the eighties, has grown substantially. The reason for this is quite a number of factors--both objective and subjective. Among the former is the circumstance that the "wind of the Pacific" is more and more noticeably affecting the state of

affairs in the largest imperialist state. There is a long-term trend of more rapid economic and scientific-technological development by California, Oregon, Washington, Alaska, and other Pacific states as compared with the average for the whole country. American scientific literature even voices an opinion about the decline of the economy of the northeast and the boom of the Pacific west and south. Every year the latter play an increasing role in the country's political life. Proclaiming the "new Pacific doctrine" in 1975, the then U.S. President G. Ford said: "The center of America's political might is increasingly shifting from the east to the west of our country." (Footnote 3) (DEPARTMENT OF STATE BULLETIN, December 1975, p 914). The very close ties of Presidents R. Nixon and R. Reagan with the influential circles of the Pacific coast are well-known.

The movement of the country's economic and political interests to the west is associated with the rapid development of U.S. foreign economic ties with the region's states. In the 1970's and 1980's they grew at a substantially more rapid rate than similar ties with the foreign world as a whole.

In November 1983 the prominent American political figure M. Mansfield, U.S. ambassador to Japan, stated: "...At present east Asia is the largest U.S. trading partner. It is precisely there that we obtain maximum profit from American capitalist investments. I think that all trends indicate that in the future there will be a decline of interest in states lying on the opposite side of the Atlantic and an increase of interest in states of the Pacific basin." (Footnote 4) (THE NEW YORK TIMES, 19 November 1983).

There has been a gradual increase in the Pacific basin's role in American military-political strategy. Over its enormous area the United States has deployed its powerful navy, which has bases all the way from its west coast through strategically important island possessions (Micronesia) to countries immediately adjacent to the Asian Continent (Japan, the Philippines). American strategists consider naval supremacy in the Pacific Ocean as a cornerstone of the country's global policy.

Of growing importance to Washington is the system of allied relations with the region's states. In first place here is undoubtedly the American-Japanese alliance. Until recently secondary attention was devoted to it as compared with relations within the NATO framework. Now the situation is rapidly changing. The enormous degree of economic interdependence between the two major imperialist states, together with the increased significance to them of the Pacific region, helps to consolidate military-political ties in spite of increasingly acute foreign trade conflicts.

The increasing opportunities of the "new industrial states" in the economic and scientific-technological spheres enhance their value to Washington within the framework of its global and regional strategy. This particularly concerns South Korea. Until recently it was totally "in America's tow," but now there are serious projects to bring relations with Seoul practically to the American-Japanese level and to create a Washington-Tokyo-Seoul triangle.

American-Chinese relations are particularly important for the United States. Beginning with President R. Nixon, a number of Washington administrations have turned the "Chinese factor" into an essential element of their global strategy. And although R. Reagan's administration is not emphasizing this as energetically on the doctrinal level, in practice the Chinese orientation continues to be a paramount one in American foreign policy.

In particular, the rapid economic development of the PRC in the 1980's is viewed as the "third wave" of the region's modernization, after the so-called Japanese economic miracle and the appearance of "new industrial states." Washington would like the involvement of China in the Pacific economic process, within the framework of its "open door" policy, to have political consequences favorable to the United States.

Therefore, a definite shift has been planned toward stepping up the Pacific orientation of U.S. foreign policy, which has become particularly evident during the term of office of the current administration. However, this shift is not associated with quests for constructive solutions to the region's pressing problems, but with the course toward intensifying military-political confrontation with the Soviet Union and other countries in Asia and the Pacific basin which for one reason or another are objectionable to Washington. The United States is seeking to involve as many states as possible in carrying out this strategy and, by constantly intimidating them with the "Soviet military threat," to turn them, officially or de facto, into their "junior partners" in military-political blocs.

The Soviet Union is by no means against active U.S. participation in Pacific political and economic processes. We well understand that without a major Pacific power such as the United States, it is impossible to solve problems of security and cooperation in the region. It is also time, however, for Washington to comprehend that the most important Pacific problems cannot be solved only in the American way, without the participation of other countries and, particularly, against their will. "For the time being," it was noted in M.S. Gorbachev's speech in Vladivostok, "unfortunately, Washington is not showing a readiness for this and is not even contemplating serious discussion on the subject of the Pacific."

The process of shaping (by no means complete yet, but advancing at a very rapid pace) an economically powerful Asian-Pacific zone is a long-term objective phenomenon, a result of the process of decolonization. The "Pacific age" is, of course, an illusion. However, the region's accelerated movement toward foremost economic and scientific-technological frontiers is a reality. And it raises anew a number of problems associated with international security, development, the nature and forms of relations between major powers, and regional and worldwide interdependence. In light of the increased role of the "Asian-Pacific factor," certain very important issues of our country's long-term foreign policy strategy acquire particular relevance and a new significance.

The Way to Regional Security

The Vladivostok speech stressed with particular acuteness the need to develop, through collective efforts, an approach that is integral and oriented toward the future and that primarily concerns regional security.

This task, of course, is not easy. So as to better understand the specific nature of the Pacific situation, it is appropriate to compare it with the European one. In Europe there is, on the one hand, direct military confrontation of million-strong armies and the presence of enormous arsenals of various types of contemporary weapons, and on the other, relative political stability. Of course, there also one can only talk about the beginning of a mechanism to maintain regional security. The Helsinki process continues. However, it is functioning irregularly and by no means as efficiently as one would like. But it is nonetheless operating, and this positively affects the situation in Europe.

The picture is completely different in the Pacific region. The political tones are less contrasting and the watersheds, although deep, are less distinct. Despite all the efforts of the current American Administration to reproduce there a football field situation, on opposite sides of which it would like to arrange all "its own" and "the other" players, it turns out that this is not that easy, primarily because many of the region's countries by no means always display an inclination to take part in the "American game" and seek an independent role.

The other distinguishing feature is that the Pacific region as a whole is not yet as strongly militarized as the European one. However, the danger of the intensification of militarization is extremely great and increasingly real, particularly since the second half of the 1970's, when the United States began a new phase of the arms race, including the nuclear one.

On the initiative of and under pressure from Washington, Japanese-American relations are being militarized. The buildup of military capability and the increase of arms expenditures in many of the region's other countries gives rise to growing concern. All this not only negatively affects their socioeconomic development, but exacerbates local conflicts. The latter are also an important difference between the Pacific and the European regions, not to mention the fact that it was precisely here that American imperialism waged the largest wars since 1945--in Korea and Indochina.

Of the three nuclear powers of the region, only two--the USSR and the PRC--have declared that they will under no circumstance be the first to use nuclear weapons. The United States resolutely refuses to make this commitment and, in building up its nuclear capability, has in addition brought nuclear weapons into one of the most critical conflict zones of the region--the Korean Peninsula. The situation is being complicated by the fact that unlike Europe, there is no mechanism in the Pacific region for discussing the pressing issues of strengthening peace and security.

All this creates a very complicated and largely contradictory situation. On the one hand, there is quite a wide "window of opportunities" in the area of

discussing the urgent problems of peace and security, with prospects for shaping a reliable and stable regional structure in the interests of all Pacific countries, without exception. On the other hand, time does not wait: The continuation of militarization, the exacerbation of some local conflict and the involvement in it of major powers could lead to the "window of opportunities" being shut and the region's peoples running into extremely serious dangers. That is why one must begin acting on the shores of the Pacific Ocean, acting immediately and energetically.

M.S. Gorbachev's speech in Vladivostok sets forth the Soviet plan for precisely these--immediate and comprehensive--actions aimed at involving the Asian-Pacific region in the general process of creating an all-embracing system of international security.

The USSR appeals primarily for resolving the issues of regional settlement. Among them are the resolution of the conflict situation around Cambodia, normalization of Chinese-Vietnamese relations, the establishment of mutually acceptable relations between the countries of Indochina and ASEAN, and removal of the dangerous tension in the Korean Peninsula within the framework of dialogue proposed by the DPRK.

Proceeding on the basis of seeking to accelerate a political settlement and to give it more impetus, the Soviet Union took a very serious step--it announced its decision to withdraw from Afghanistan, before the end of 1986, six regiments from the limited contingent of Soviet troops located there at the request of the DRA government. The troop withdrawal began on 15 October.

The Soviet Union has confirmed a commitment not to increase medium-range missiles in the Asian part of the country. It has advocated banning the proliferation and buildup of nuclear weapons in Asia and in the Pacific Ocean. The USSR has supported the proclamation of the southern part of the Pacific Ocean as a nuclear-free zone and has called on all nuclear powers unilaterally or multilaterally to guarantee its status. Implementation of the DPRK proposal to create a nuclear-free zone in the Korean Peninsula would also provide a serious contribution. The idea of creating such a zone in Southeast Asia is attracting deserved attention.

It is proposed to begin talks on restricting the activity of navies in the Pacific Ocean, primarily of ships armed with nuclear weapons, and to hold talks on restricting submarine activity, particularly in certain zones of the Pacific Ocean. An appeal has been addressed to the United States on mutually renouncing the military presence in a number of regions. The USSR also advocates the resumption of talks on turning the Indian Ocean into a peace zone. Major significance is attached to the radical reduction of armed forces and conventional arms in Asia to a limit of reasonable sufficiency. In this context a readiness has been voiced to discuss with the PRC concrete steps on a proportionate reduction of ground forces.

The time came long ago to shift onto a practical plane the discussion of confidence measures and the nonuse of force in the region, particularly measures on the security of sea communications in the Pacific Ocean, as well as the prevention of international terrorism.

The Soviet Union is also ready to take an active part in discussing the idea of developing and strengthening Pacific economic cooperation and to make a contribution to it.

The Soviet concept of Pacific security proceeds on the basis that in proportion to the implementation of the above-mentioned and other possible initiatives, conditions will develop to convene a Helsinki-like regional conference with the participation of all states adjacent to the Pacific zone.

Promoting the development of multilateral contacts, the USSR also intends to impart dynamism to its bilateral relations with all the region's countries, without exception. The Soviet Union considers its friendship and diverse ties with the Mongolian People's Republic, the DPRK, the SRV, the Lao People's Democratic Republic, and the People's Republic of Kampuchea as a component of Asia-wide and Pacific security. For instance, under investigation at present, together with the leadership of the Mongolian People's Republic, is the issue of the withdrawal of a significant proportion of Soviet troops from Mongolia.

Friendly relations between the USSR and India have become a stabilizing basis on an international scale.

Our country's largest land border is, as you know, with China. In the last few years the situation on it has substantially improved, which can only be pleasing; after all, until recently many false prophets in the West considered this development of events as impossible. However, this is only the beginning of the process that must help to turn the border connecting our countries into a border of peace and friendship.

After a prolonged standstill certain signs have developed of a turn for the better in relations with our other major Pacific neighbor--Japan. So that this turn actually occurs, it is necessary to create in them a new atmosphere, being guided by the principle: "Less arguing and more building."

The Soviet plan of action formulated in Vladivostok proceeds on the premise that one cannot close one's eyes to the enormous real difficulties hindering the transformation of the Pacific region into a stable, secure, and prospering world zone. It is necessary to look at them objectively and in an unprejudiced way, to frankly discuss them, and to begin to overcome them gradually and consistently. The main existing problem is the accelerating arms race. If it is not stopped, the settlement of other issues will also turn out to be very difficult.

"Shorten the Time for Solving Problems"

The Vladivostok speech directly and precisely pointed out the need to abandon outmoded notions about the place of the Far East region in the Soviet economy and set the tasks of working out a fundamentally new concept of its long-term development. The pivotal idea of this concept, which will be given concrete expression in a comprehensive program, is the "creation in the Far East of a highly efficient national economic complex, which is organically included in

the system of the nationwide and international division of labor, with its own resource and science-and-production base, an optimal economic structure, and a developed social sphere." Incorporated in the new concept is a close interconnection between the accomplishment of intraunion national economic tasks and the course toward significantly invigorating our country's participation in the regional economic cooperation taking shape in the Pacific zone of the division-of-labor network.

Work in this direction presupposes energetic measures to overcome the narrowness of the current export base in the Far East and presupposes a wide range of forms of foreign economic cooperation--both those already being used by other socialist countries and new, not yet officially accepted ones. One of these forms is mixed enterprises.

To turn to the Pacific region, its present, and its past on no account means that it can henceforth be viewed as some sort of special world region, as an exceptional object of our country's foreign policy activity. The illusions and realities are incompatible. The journalistic cliches often found in foreign literature, that we are on the threshold of the "Pacific age," are, of course, no more than exaggerations, illusions. At the same time, the enhancement of the role of Pacific countries in the international arena, the shaping of a more or less distinct regional commonality of states, and the intensification of their interdependence is one of the most significant phenomena in world economics and politics in recent decades.

Our country, as an Asian and Pacific power, is an active participant in this process. For us, energetic and effective involvement in it is a component of developing and implementing in practice the new political thinking whose elements were defined by the 27th CPSU Congress.

It is necessary as early as today to orient the collective efforts of all interested countries so that tomorrow the Pacific region becomes one of the more stable zones of our planet. The Soviet Union is ready to traverse its part of the difficult but necessary path of strengthening peace and security in Asia and the Pacific basin.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

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CSO: 1816/3

DEREGULATION, PRIVATIZATION POLICIES IN WESTERN STATES VIEWED

United States

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 75-89

[Discussion under the general heading "State Regulation and Private Enterprise in Capitalist Countries: Evolution of Mutual Relations"]

[Text] The journal continues publication of material of the discussion.* The problems of state-monopoly regulation raised in the articles of V. Kuznetsov and V. Studentsov are examined in this issue with reference to individual capitalist countries.

T. Krasnopol'skaya

A distinguishing feature of the economic policy of the present U.S. Administration is the so-called deregulation of a number of sectors of the economy whose activity was previously subject to strict government control: transportation, the credit-monetary sphere and the securities market, energy, certain types of communications and so forth. The nature of these measures may be illustrated in the example of transportation. Deregulation of air transport began back in 1978 and was followed in 1980 by that of motor and railroad transport. The adoption of these measures was connected with the fact that in the 1970's transportation had become a kind of bottleneck of the economy: proportional aggregate expenditure on the storage and shipment of commodities in the GNP was rising. The inefficiency of the sector had been brought about by the fact that the government regulatory bodies had been too rigid in their regulation of tariffs, areas of capital investment and other parameters of the transport companies' economic activity and had also pursued a policy of limiting the number of firms. As a result competitive struggle was slack,

* Continuation. For beginning see MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 10, 1986.

and the operating companies enjoyed the privileges of monopolies. This afforded them an opportunity to limit the volume and range of services and compensate for the high costs with high tariffs.

The laws which were enacted authorized the creation in all branches of transport of new companies and the free determination of tariffs. As a result in air transport, where since 1938 the founding of new companies had been prohibited, 26 have emerged since 1978.

Deregulation of transportation bore certain fruit: there was a marked reduction in tariffs, the range of services expanded, the quality of service improved and labor productivity increased. Despite the reduction in tariffs, the transport companies' profits grew. At the national economic level, as of 1981, aggregate costs of the storage and shipment of commodities began to decline, and not only in absolute terms, what is more (which could have been explained partially by the impact of the 1980-1982 economic crisis), but also relative to the GNP. An exception was 1984, when costs rose somewhat in connection with the general increase in commodity-material stocks and expenditure on their storage as a consequence of the rise in interest rates.

However, the efficiency promotion in transportation has had negative consequences also. Thus, for example, there has been a reduction in the transportation services offered the inhabitants of small population centers, service of which is unprofitable from the viewpoint of the "deregulated" companies. There has been a sharp increase in the number of accidents on air lines belonging to the "novices," and the position of the workers and employees in the transportation companies has deteriorated.

Nor has deregulation been removed from the agenda in the United States today even. Next come agriculture, the transactions of financial institutions and energy (decontrol of gas prices is scheduled).

In recent years the process of a winding down of the traditional forms of government intervention in the economy has been supplemented by the privatization of part of government property. Compared with deregulation this measure has encountered a more active protest on the part of public forces, primarily the unions. When, in 1982, the Reagan administration submitted to Congress a plan to sell off government assets to a tune of \$9 billion, it was essentially rejected (in fact the sales constituted less than 5 percent of the amount scheduled originally).

By the mid-1980's the situation had changed appreciably: the growth of the budget deficit had become one of the country's principal economic problems. In 1985 Congress passed the Gramm-Rudman Act, which plans the elimination of the deficit by 1991. Right at the start of 1986 the administration proposed a wide-ranging plan for the selling off of government property, proceeds from which are to provide the Treasury with a total income of \$850.4 billion. The present seriousness of the deficit problem is reason to suppose that this bill will encounter considerably less opposition than previously.

Administration representatives emphasize that the privatization program has in addition to the short-term goal of a reduction in the budget deficit a long-term goal also--an increase in the efficiency of the American economy as a whole. Of the assets intended for sale, the biggest are five power systems in the south and west of the country. It is also contemplated transferring to private hands certain oilfields and the Conrail railroad company and 10 types of credit, including Small Business Administration loans and housing construction loans. The leasing of major airports and the privatization of the federal postal system are planned.

The plan also contains points which can hardly be attributed to privatization in the direct meaning of the word. It is contemplated saving a substantial amount (from \$3.8 to \$6.8 billion annually) from ending government-sponsored low-cost housing construction.

The reaction of public circles to the government's actions is eloquent. Appreciable results from the viewpoint of budget economies will hardly be achieved inasmuch as in many cases the one-time reduction in the deficit will result in a subsequent reduction in government revenues. There are doubts also to the expediency of many of the measures proposed for achieving the declared long-term goal--increased economic efficiency.

Let us cite a specific example. The sale of the Conrail railroad freight shipment company (85 percent of its stock is owned by the government, 15 percent, by its personnel), which occupies practically a monopoly position in the New York area, is being prepared at the present time. This is a profitable company, whose profits have been growing since 1981, and the professional qualities of its managers are evaluated quite highly. The need for its privatization is thus not connected with low efficiency. The company board and also the union advocated the sale of Conrail stock on the stock market, which would produce approximately \$1.4 billion in net proceeds. The public sale of the stock was at first also proposed by investment bank experts, who consulted with Treasury Secretary E. Dole. However, the secretary's position was different. She believed that the company had to belong to one owner. Of the 15 companies which offered to buy Conrail, the administration opted for one of its competitors--the Norfolk Southern railroad company. As a result Norfolk Southern will be the monopoly owner in the northwest of the country. The government gives as its reasons for this step the fact that otherwise Conrail could end up in the hands of investors interested only in making a quick profit and not in organizing railroad transport. However, in this case, seemingly, there is no need to sell a company which has been functioning comparatively successfully. If, on the other hand, the main purpose of the plan is a reduction in the budget deficit, a financially more favorable alternative should have been chosen. The point being that Norfolk Southern is offering only \$1.2 billion, and government representatives are accepting this offer, declaring that the present value of Conrail stock is overpriced inasmuch as its revenues have been swollen thanks to tax and other privileges which private owners do not enjoy. In this case we are clearly dealing with an interweaving of economic, political and ideological factors.

In addition to the officially declared goal--leading sectors important for the economy out of stagnation and reducing the federal budget deficit--the deregulation and privatization program is geared to an enhancement of the role of the private monopolies. Also material is the fact that reduced government intervention in the economy has traditionally been an important point of conservatives' economic platform. In this connection the privatization program acquires an ideological resonance.

Japan

Ye. Leontyeva

The privatization of a number of the biggest state-owned enterprises which has begun in Japan is a most important component of the administrative-financial reform being carried out in the country.* The Denden kosha telephone and telegraph corporation was declared a private enterprise as of April 1985, and the privatization of the Sembai kosha state monopoly of the production and sale of tobacco products, salt, alcohol and camphor had begun even earlier. It is planned to begin the transfer to private ownership of the Kokutetsu state-owned railroad corporation in April 1987 and the Japan Airlines international company in March 1988.

The legal status of the first three enterprises is public corporation. This means that their entire capital belongs wholly to the government, but they operate on the basis of autonomy from the main account of the national budget and finance capital investments thanks to their profits or loans. They lack operational-economic independence: their budget, wages and also the prices of their products and service tariffs are established by parliament. Besides, they are prohibited from investing their resources in any other types of activity. The Japan Airlines company is a joint-stock enterprise, in which 35.3 percent of the capital is owned by the government. These four enterprises account for approximately 4 percent of government capital invested in the business sector and quite a small proportion of government property. Privatization has not affected either the network of government financial establishments, the system of mixed construction firms nor a number of regional development corporations.

Nonetheless, the privatization of the three public corporations and the Japan Airlines company was a major event in the postwar history of Japanese state-monopoly capitalism--not only because they are the principal commercial enterprises in the government enterprise system. The point is that they all--Denden kosha, Sembai kosha and Japan Airlines--have fully monopolized the markets of telephone and telegraph services, tobacco products, salt and alcohol and international air traffic respectively. The Kokutetsu accounts

* For more detail see MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 11, 1984, pp 73-85.

for 23.3 percent of railroad passenger transportation, including all transportation on the Sinkansen high-speed lines. There is no similar market monopolization in Japan's private enterprise sector, and even a share of 23 percent is a rare exception.

What dictated the Nakasone government's decision to liquidate government sectoral monopolies which had been in existence for almost 40 years? It should be mentioned that the privatization which has been announced represents as yet a formal act to a considerable extent since it is planned to issue these enterprises' securities on the market gradually. What is the explanation for this caution?

The enterprises about to be privatized had been placed under different functioning conditions within the market economy framework. The Kokutetsu's competitors were private railroad firms and also companies engaged in other forms of transportation; the competitors of the Sembai koshu and Japan Airlines were only foreign firms, while Denden kosha was practically predominant in its sector. Therefore there is a particular explanation of the privatization for each of these enterprises. But there is a common reason also. This is the economic weakness of an unduly big, unduly centralized sectoral enterprise set within the framework of strict bureaucratic control and artificially protected against market competition, which has become particularly apparent under the conditions of the acceleration of S&T progress.

The most striking example of the inefficiency of bureaucratic management is the activity of the Kokutetsu. The cumulative total of its chronic indebtedness covered by the government with the aid of budget subsidies, bonds and loans from the postal savings system was put in 1985 at 21.8 trillion yen or \$109 billion. Labor productivity on the state railroads is on average one-third lower than on the private lines. The rapid development of motor transport also has caused a deterioration in the corporation's competitive positions. Of the four Sinkansen high-speed lines built by the corporation, two (commissioned in 1982) have yet to recoup expenditure. A number of local lines cannot compete with the private railroad firms, which have created for the passengers a network of the most varied service enterprises (large department stores, bus lines, taxicab fleets, hotels, excursion bureaus and so forth).

In April 1987 it is planned to break up the Kokutetsu corporation into six regional government-private companies with their subsequent transfer in full to private ownership. It is contemplated to create special companies for managing the Sinkansen lines and for freight transportation and closing down a number of unprofitable local lines. The corporation's debt is to be paid off partially by way of selling off areas of land which belong to it. The Government Railroad Workers Union and the Japanese Socialist Party are opposed to the program for the reorganization of the Kokutetsu since its realization provides for a reduction in company personnel of 93,000 persons. At the same time, however, the new railroad companies will have the opportunity to invest capital in other sectors also--trade and services.

As distinct from the Kokutetsu, the Denden kosha Telephone and Telegraph Corporation was profitable. Its privatization was brought about by the failure of strict centralized management to correspond to the tasks confronting the economy given the mass application of computers and fiber optics communications facilities. Computerization and the development of new hardware components are increasing considerably the demands made on the services of the telephone system, which is becoming the base of communications between computer centers and acquiring an opportunity for a giant increase in its capacity. The creation of computer communications between credit and insurance establishments and industrial, trade and transport enterprises permits the organization of direct orders of industrial products and priority freight delivery by motor transport.

In addition, the telephone and telegraph system represents a most promising market for the manufacturers of telecommunications equipment, for American firms also, which are hoping specially for the lifting of the regulation of supplies which has existed in the Denden kosha.

This corporation, which provides the technology base for the information servicing of the private enterprise sector and the public, has taken the path of the formation of a large network of daughter enterprises specializing in different types of high-tech services: data processing, computer-aided design, information services for the public (the CAPTAIN system), experimental production of microelectronic instruments and so forth. Based on the Denden kosha, it is planned in the next 10 years to create approximately 500 specialized enterprises. The point being that this corporation employs the method of organization of the latest sectors characteristic of Japan not in the form of branches of a big corporation but on the basis of gemmation--the organization of a system of relatively independent daughter enterprises. This ensures a flexible response to demand and a relatively great dispersal of risk. The profitability of many types of the latest computer services is as yet problematical. Thus, according to Japanese press reports, the widely heralded CAPTAIN system has proven unpopular with subscribers. It is precisely market uncertainty, apparently, which has brought about the fact that the privatization of the Denden kosha is being carried out gradually.

The purpose of the privatization of the government commercial enterprises being carried out in Japan is, having put them in conditions of market competition, to eliminate their loss-making nature and make full use of the possibilities afforded by technical progress. A more wide-ranging program of reorganizing state-monopoly regulation is appearing on the agenda, however.

The insufficiently high investment potential of the economy is a phenomenon common to all the developed capitalist countries. Even Japan with its high growth rate is no exception in this respect. The country is confronted in the 1980's with the task of raising investment demand on the domestic market, stopping the outflow of capital attracted to U.S. markets by the difference in the loan interest rate levels and seeking to ensure that the leading force of economic growth be internal capital investments and not foreign trade expansion increasing currency instability accompanied by endless trade

conflicts. In setting the task of raising investment demand the Japanese Government is moving to remove the barriers to the intersectoral transfer of capital contained in the principles of sectoral regulation. For this reason the privatization of the government commercial enterprises and the relative deregulation of private enterprise are links of a single process and measures with a common goal.

Speaking of deregulation, it is necessary to dwell on the particular features of the system of the normative regulation of private enterprise. This system, which emerged at the start of the postwar period, is highly complex and incorporates rules of various purpose and historical "developments". There is a number of socially conditioned norms such as production safety standards, sanitary rules, ecological restrictions and so forth. There is general economic regulation of competition (antimonopoly legislation) equal for all areas of economic activity. A specific feature of Japan is developed selective sectoral regulation ("industrial policy") based on so-called "temporary laws" which have created privileged conditions for this length of time or the other for the priority sectors. Besides tax incentives and cheap credit, the privileges include certain restrictions on competition: the temporary authorization of cartels, the licensing of activity and regulated specialization and sometimes direct tariff and price regulation. At the expiration of the timeframe of the "temporary laws" the tax and financial privileges and also the legal cartel practice are abolished, but other types of regulation remain in force. Of the 1,500 legislative instruments in force in Japan, 221 laws contain this rule of economic regulation or the other. According to parliamentary commission data, the number of requests concerning every conceivable kind of authorization sent by private business to the government administrative authorities constitutes approximately 100,000 per year. Alongside this system of sectoral regulation the "public corporations" represented, as it were, the pole of the highest regulation of activity on the part of the administration and parliament.

Government regulation of credit and insurance institutions and companies dealing with securities transactions based on the strict reservation for them of certain types of activity and administration regulation of deposit and loan rates will become a private house. Prior to the start of the 1980's only call-account credit had been regulated in Japan by market conditions. Given the high growth rate and constant shortage of monetary resources in the private enterprise sector, this system made it possible to maintain artificially low loan interest rates compared with the conditions of the market and channel monetary resources into the priority sectors. Furthermore, it suppressed the development of the capital market and served as a nutrient medium for the development of permanent partner relations and the grouping of major corporations around the commercial banks and group coordination of their investment policy.

From the mid-1970's through the mid-1980's the lack of financial resources was replaced by the overaccumulation of monetary capital, and the tasks of preferential financing of the priority sectors were largely accomplished. The "financial liberalization" currently being pursued by the Japanese

Government is transferring interest rate regulation to a purely market footing. Private business is hereby being secured great freedom of choice of terms and methods of financing, extensive opportunities for transactions on the capital market and, correspondingly, great independence in the adoption of decisions of both a short-term and long-term nature.

The "financial liberalization" will have far-reaching consequences, which are as yet difficult to foresee, for the entire system of economic relations in Japan--a system which is relatively exclusive and which blocks the actions of foreign capital on the country's domestic market. The deregulation of private finances is being carried out under considerable foreign pressure.

A few words further about the connection of privatization and deregulation with the demands of the modern productive forces. The latest technology, electronic particularly, is distinguished by an intersectoral nature of application, and access thereto is sought by the capital of various sectors. This fact explains the lifting of the regulation of access to the sectors and choice of partners and methods of financing. The strong fragmentation of the commodity structure of production and segmentation of demand require the decentralization of economic decisions. The new economic relations emerging between the sectors based on the use of the latest technology will continue to require the removal of barriers in the way of the intersectoral transfer of capital.

FRG

V. Zaikina

The specific features of the problem of privatization in the FRG are determined by the singularities of its state sector, primarily the absence of nationalized sectors. The target of privatization here are the state-owned enterprises which were created throughout the history of German imperialism.

As of 1984 H. Kohl's conservative-liberal government has embarked on the partial privatization of a number of state-owned enterprises.* This is the second privatization campaign in the FRG's short history. In the period 1959-1965 some of the stock of three state-owned concerns was sold off under the demagogic slogan of "property formation" among the working people. This was a purely ideological measure, the economic aspect of which was not considered by the government.

The present privatization, whose supporters constitute the majority of the ruling coalition, reflects profound changes in contemporary state-monopoly capitalism, which have put at the center of attention questions of the efficiency of state participation in the economy and its place in the system of production relations.

* For more detail see MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 7, 1986, pp 111-119.

The privatization process is conditioned by political, economic and ideological factors.

Privatization is an important aspect of the so-called "policy of order" (Ordnungspolitik) geared to the preservation of the existing system, primarily the "social market economy" with its private ownership of the means of production. H. Kohl is presenting it as a factor of the strengthening of market forces contributing to the solution of the problems of employment, economic growth and state finances.

However, powerful factors are countering the limitation of the economic activity of the state and its return to "economic tasks proper". These include the S&T revolution, the growth of the international division of labor and the internationalization of the economy requiring increased state participation. For this reason the government is attempting to compensate for the expansion of the state's economic functions in a number of spheres of the economy by a narrowing of its activity where, it believes, it is possible "without detriment to state interests" to change the correlation between the private and state sectors in favor of the first.

It has to be noted that the results of the conservative turn of H. Kohl's policy are much more modest than his election promises, and the privatization campaign, by virtue of its obviousness, is performing important propaganda and ideological functions, demonstrating the tilt of economic policy in the direction of the market. Besides, the sale of the stock of state-owned enterprises is being used to extol the proposition concerning the so-called formation of property among wage workers. It is this, we believe, that is an important factor of the privatization.

Economically the said process is being justified by the unprofitability of the state-owned enterprises, which is allegedly leading to additional budget expenditure. This argument is groundless primarily because it is only the profitable enterprises which are being privatized, while the loss-making ones are not to be transferred to private monopolies before they begin to make a profit as a result of modernization.

As is known, the unprofitability of state enterprises is frequently determined by no means by low efficiency but the unfavorable conditions of the reproduction of capital. The unprofitable ones, as a rule, are those which operate in "structurally weak" sectors or regions and perform social functions like, for example, the Salzgitter and Saarbergwerke mining industry companies. It is not legitimate, consequently, regarding the profit which such enterprises make as an indicator of their national economic efficiency. The fiscal motive, which long played an essential part in state enterprise, was long since relegated to the background by other tasks. State-owned enterprises stimulate, regulate and control the activity of individual spheres of the economy, are used actively to tackle many tasks of the state's economic policy, regional and structural particularly, and contribute to the solution of employment problems. In addition, the sectors of social use, this important sphere of state enterprise, have always played a big part in the state's social policy.

Functioning in the traditional capital-intensive sectors with a long time-frame of the capital turnover rate, the state-owned enterprises impede its outflow from spheres which are of no interest to private businessmen, contributing to the balanced nature of the structure of the economy. A comparison, on the other hand, of federal enterprises of a commercial orientation with private enterprises functioning under identical conditions does not reveal a lagging of the state-owned enterprises. Many of them are among those that are flourishing and have highly qualified and efficient managerial personnel.

As far as privatization as a source of covering government debt is concerned, this motive withstands no criticism since the amounts obtained from privatization are too insignificant compared with the magnitude of the debt.

A particular feature of the present campaign is that the demands for privatization are extending to the state service sphere also--utilities, transport and communications enterprises. Occupying a monopoly position in these sectors, the state exerts a decisive influence on price-forming and the tariff system, catering both for the accomplishment of social tasks and the profitability of the entire sphere as a whole with the aid of compensation for the losses of some enterprises thanks to the profits of others. Privatization in the services sphere means a winding down of the state's social functions and a direct offensive against the working people's vital interests.

Privatization has become an arena of acute class struggle. The bourgeois journal WIRTSCHAFTSWOCHE even carried a discussion on the privatization of enterprises in the social services sphere under the heading "New Class Struggle?" Defending the interests of the working people, the leadership of the trade unions and the SPD believes that privatization of this sphere will lead to the domination here of a narrow circle of private monopolies. Whereas the state proceeds from the recoupment of costs in the services sphere on average, the aim of each private enterprise is profit. Therefore, M. Wolf-(Matis), chairman of the Civil Service, Transport and Communications Workers Union, concludes, in the event of privatization, services will become more costly, their quality will decline and many workers of the social services sphere will lose their jobs.

The privatization of state enterprises both of a commercial and noncommercial orientation, particularly in the services sphere, is not justified economically and is not brought about by the interests of society. Nor should the state itself essentially have an interest therein. In the system of modern state-monopoly capitalism state-owned enterprises are an essential sector of the economy. Solution of problems of the modern economy demands the active participation of the state and its control of the commanding heights--transport and postal and telegraph services--and also the social use sectors. State-owned enterprises are an important component of the mechanism of state-monopoly regulation. They are, G. Ambrosius, professor at Marburg University, believes, compatible with the market economy and have regulating potential, of which active use should be made. And the West German economist H.-D. Bamberg believes that "capitalism is in need of increasingly lengthy, strong and specific state intervention and not general denationalization."

It is unlikely, in our view, that an FRG government, even the most conservative, would consent to a radical privatization of its enterprises. This obviously explains the very modest scale of privatization under the conditions of the wide-ranging campaign which has been initiated in support thereof. Furthermore, it is a question merely of a reduction in the state's share of the capital stock of the enterprises given preservation therein of the predominant influence of the state.*

Although the bourgeois state is designed to uphold the interests of monopoly capital, it has to a certain extent become isolated as an independent economic force. The part of the managerial machinery which is directly linked with the state-owned enterprises and is represented on their boards and supervisory councils has no interest in privatization. It includes influential retired politicians and government officials. Nor is privatization policy meeting with support among the authorities of many lands and communities. Proceeding from their own interests, they are continuing to buy up participation in enterprises, land and housing, which is leading to a growth of state ownership. And the state-owned enterprises themselves, federal included, are acquiring participation in many sectors. The federal postal service is strengthening its monopoly also. "A wave of nationalization of private economic activity has spread," the well-known West German economist W. Engels observes, "behind the smokescreen of the privatization debate."

The state-owned enterprises undoubtedly have many problems, including the bureaucratism of state management, nonconcurrence of the interests of the proprietors of mixed enterprises, the imprecise determination of social assignments and others. But their solution, we believe, objectively requires not privatization but the quest for an adequate functioning mechanism, modernization and increased commercial orientation, if this does not run counter to the exercise of social functions. The viewpoint is being expressed in the discussion which has developed in the FRG according to which the profitability problem should be solved without state subsidies. The supporters of this approach believe that there is an urgent need for reform in the sphere of state-managed services and a reasonable reduction in the costs thereof, particularly in health care and transportation. It should be mentioned that steps in this direction had already been taken under the H. Schmidt social-liberal government.

* Besides the partial sell-off in 1984 of the stock of the VEBA concern (the state's share of the capital stock declined from 43.75 to 30 percent), the sale of 40 percent of the stock of the FIAG concern, which had hitherto been wholly owned by the federal government, began on the FRG's stock exchanges in the summer of 1986. Before the end of the year it is contemplated selling off 45 percent of the shares of the Industrieverwaltungsgesellschaft Company. In addition, the partial privatization of two enterprises belonging to the federal railroads is planned.

Privatization in the FRG under present conditions is not a solution of objectively urgent problems but a political and ideological action, which is wholly determined by the conservative line of the H. Kohl government in the economic and social spheres.

France

N. Khrustaleva

The reorganization of the mechanism of state-monopoly regulation being carried out in the French economy in the 1980's is proceeding by difficult and contradictory paths. No other developed capitalist country, perhaps, has in this time known such an abrupt volte-face in political and socioeconomic strategy and advanced such varidirectional prescriptions for overcoming the contradictions immanent to modern capitalism.

The "left experiment" begun in May 1981 with the assumption of office of the socialists, in the course of which they attempted to feel their way toward a way out of the crisis by means of dirigiste methods of regulation and expansion of the scale of state ownership, failed. The assumption of office in 1986 of the government of the right of J. Chirac was marked by a change of model of economic regulation and transition to the tracks of a conservative policy declaring a limitation of state intervention in reproduction in all areas.

The failure of the socialists' "left experiment" and the far-reaching plans for privatization of the parties of the right which have assumed office have put at the center of a most acute ideological and party-political struggle the question of the attitude toward state ownership and problems of the economic expediency and efficiency of state enterprise. The particular keenness of the debates concerning the fate of France's nationalized sector, the strongest among the industrially developed capitalist countries, was caused both by the considerable expansion thereof as a result of the 1982 nationalization and a certain decline in the prestige of the "old" nationalized sector connected with the specific features of its functioning in the economic structure of postwar France.

The results of the 40-year-plus experience of the economic activity of France's "old" nationalized sector, which was created as a result of the prewar and postwar nationalization waves, are complex and contradictory.

Being, together with the private-capitalist enterprises, an important component of the economic structure, the state-owned enterprises achieved in the postwar years considerable positive results in their technical-production activity. The transition to state ownership of the key sectors of energy and transportation, which sharply increased the extent of the socialization of the production of these sectors, created an objective opportunity for their reconstruction, modernization and expansion on a scale which could hardly have been realized on a private monopoly basis. Throughout the postwar years the enterprises of the state sector were distinguished by dynamism, rational

methods of the organization of production and the efficient application of new technology. Labor productivity (measured by the cost of manufactured product per employed person) was on average here higher than in private French companies and state-owned enterprises of the corresponding sectors in other West European countries. State-owned enterprises ensured the successful realization in the 1970's-1980's of a national nuclear power engineering program (65 percent of the country's electric power is generated at nuclear power stations) and the program for the reequipment and expansion of the telecommunications system. An acceleration of the technical development and change in the structure of a number of heavy engineering and electrical engineering sectors enabling them to eliminate the significant lag behind foreign competitors were connected with the production dynamism of the nationalized sector.

At the same time the state-owned enterprises of France, where in the postwar period a most developed national version of state-monopoly regulation had taken shape, were to a greater extent than in any other country integrated in the system of the state's macroeconomic policy. Relying on the nationalized energy and transport sectors with their huge, technically homogeneous investments in a single product and influencing the volume and timetable of investments and pricing policy, the state used them as an instrument of macroeconomic policy, both situational and structural. Inasmuch as the state-owned enterprises were forced to integrate "national goals" in their strategy their financial-economic indicators no longer depended merely on the results of production activity, the degree of provision with equipment and the quality of management but also on the macroeconomic functions whose performance had been thrust on them by the state.

The policy of centralized control over the basic parameters of their economic activity and the state's manipulation of the prices and tariffs and also the investment programs of the state-owned enterprises (frequently to the detriment of the latter) to achieve certain macroeconomic goals created particular, specific conditions of the reproduction of state capital and introduced certain disproportions to the reproduction of social capital.

The level of self-financing of the state enterprises virtually throughout the postwar years was negligible. This was explained primarily by the "diktat" of the state in pricing policy, the extensive practice of blocking and impeding an increase in the prices of their products to combat inflation and the use of preferentially low prices for tackling tasks of structural and social policy. Under these conditions the state was forced to extensively subsidize these enterprises from the budget and finance their capital investments. The capital of the state-owned enterprises was reproduced throughout the postwar period predominantly thanks not to their own accumulation but attracted resources--state subsidies and credit and the issue of bonds. As of the mid-1950's, given the invariably high proportion of attracted resources, there has been a reduction in the state's share and the increased dependence of the investment process on the private loan capital market. And, furthermore, the significant amounts of the resources of the securities market withdrawn by the state-owned enterprises were in the 1950's-1960's in

a certain disproportion with these enterprises' relative significance in the national economy and were regarded, not without reason, as a factor narrowing the possibilities of private accumulation.

The extensive use of attracted resources given the low proportion of self-financing brought about a catastrophic growth of the state-owned enterprises' debt. At the same time their financial activity was evaluated by the same indicators as of any private capitalist firm. The loss-making nature of the majority of state-owned enterprises and the huge amount of their debt had by the start of the 1960's even begun to act as factors calling in question the economic expediency of the evolved model of the functioning of the nationalized sector.

Attempts were made at the end of the decade to conduct a whole number of reforms in this sector. They were geared to granting the enterprises greater economic independence in order, having increased profitability, to improve the conditions of their financing and reduce dependence on the budget. The anticipated results, however, were not achieved. The principle of economic autonomy which had been declared on paper was not put into practice: during the 1974-1975 world economic crisis the nationalized enterprises were once again used by the state for the purpose of anticyclical regulation. This led to a further growth of their indebtedness and a sharp deterioration in their financial position. France's "old" nationalized sector had approached the 1980's with a heavy burden of financial problems.

The "new" nationalized sector, which was created in 1982 and which incorporated with crisis-ridden ferrous metallurgy a number of large diversified and internationalized industrial groups in electronics, chemical industry and electrical engineering and also the banking system, was, per the original intentions of Socialist Party ideologists, to have assumed together with the "old" nationalized sectors the role of initiator of the structural rebuilding and "dynamization" of the economy and the maintenance of employment.

However, in practice the 1982 nationalization made no appreciable changes to the functioning of the nationalized groups. The socialist government embarked essentially on a path of abandonment of direct intervention in the activity of the "new" nationalized sector. The main criterion of evaluation of its efficiency remained profit. Within the framework of the "planning contracts" which the state concluded with these firms and which determined merely the most general directions of their strategy the latter functioned on the same principles as the private enterprises. The intrasectoral regrouping of industry between nationalized firms effected with considerable financial assistance from the state was conducted in a spirit of capitalist efficiency promotion given a huge reduction in the number of persons employed.

With the reorientation of socioeconomic policy to the right and the revision of its priorities the socialist government also changed its strategy in respect of the "old" nationalized enterprises, limiting the scale of their use for the purpose of macroeconomic regulation. To ensure the restoration of these enterprises' "financial balance" by 1985 (the task advanced by the

L. Fabius government undoubtedly also pursued political goals on the eve of the 1986 parliamentary elections) the government agreed to a broadening of their economic autonomy, specifically in such questions as the determination of prices and tariffs, regulation of employment and the right to close down unprofitable enterprises.

The socialists went further, perhaps, in changing the conditions of the functioning of the state enterprises than the previous governments of the right. Having authorized the nationalized enterprises to issue on the stock exchange "investment certificates"--a kind of privileged stock enabling them to use the private financial market (the 1983 Delors Act) and having permitted in 1985 the sale on the stock market of part of the share capital of the branches of a number of the newly nationalized groups, the socialist government took practical steps toward bringing the conditions of the functioning of state and private enterprises closer together.

The official figures which it published show an appreciable improvement in the current financial position of the state-owned enterprises in 1985: the deficit of 23 major "national" enterprises was cut from Fr29 billion in 1984 to Fr9 billion. Companies of the "new" nationalized sector improved their financial results thanks to reduced expenditure on wages, reduced employment and the closure of unprofitable enterprises. Financial equilibrium was also achieved by such "old" state enterprises of the energy sector as Electricite de France and Gaz de France. However, these overall figures conceal deficits of the state-owned steel companies and the Renault and SNCF (railroads association) firms, which have reached critical proportions.

Despite a certain improvement in the current financial position, the most acute problem of the nationalized enterprises in the 1980's remains the huge debt connected both with the fulfillment of large-scale "national" capital-spending programs (nuclear, for example) and the evolved structure of the financing of their capital investments.

The 1982 nationalization and the socialists' subsequent departure, both in theory and in practice, from its original goals intensified the ideological and political struggle surrounding problems of the nationalized sector. The gap between the aims of nationalization declared by the socialists and its results brought about sharp criticism on the part of the communists. The conditions of the functioning of the state sector in the period when the socialists were in office are seen by them as having discredited the very idea of democratic nationalization. The ideologists of the parties of the right, for their part, regard the political and economic ineffectiveness of the 1982 nationalization as proof of the pointlessness and "harmfulness" of nationalization as an instrument of state intervention under the conditions of present-day capitalism.

Embarking on a program of denationalization, the government of the right, which assumed office in March 1986, cited a number of objective difficulties of nationalized enterprise. Denationalization, together with a reduction in the scale of redistribution of the social product via the budget, is regarded

as the principal condition of realization of the entire government liberal program and as a means of revival of the economy and its increased competitiveness. Nor is the right concealing another purpose of denationalization--easing the seriousness of the budget deficit problem with the aid of revenue from the sale of state-owned enterprises.

In the years of the socialists' term in office France's parties of the right presented a very wide-ranging program of denationalization close to the conservative plans of the governments of Britain and the United States. Ideologists of the leading parties of the right, primarily the Rally for the Republic, put forward demands for the denationalization not only of the enterprises nationalized by the socialists but also a number of companies which had been transferred to ownership of the state or created by it after the war. But with the approach of the parliamentary elections and following them the denationalization program of the parties of the right gradually lost its radicalism. The overall election program of the RPR-UDF published in January 1986, was, as distinct from these parties' previous documents, of an incomparably more modest nature. It outlined a transfer to the private sector (in the most general plane, without specification either of the timeframe of the denationalization or the specific targets thereof) of state enterprises in competitive sectors of the economy, primarily the banks and insurance companies. The results of the 1986 parliamentary elections, when the right gained only a negligible majority, the fact of the "cohabitation" of a government of the right and president of the left, which is unique in the history of the Fifth Republic (the question of the scale of the denationalization is a central issue in the confrontation between the government and the president) and the guarded attitude of the public opinion of France, a country of old "statist" traditions, toward the idea of extensive denationalization determined a certain cautious and gradual nature of the government of the right's first steps in the sphere of denationalization.

The denationalization decree enacted by parliament in August 1986 provides for the gradual (over a 5-year period) transfer to the private sector of 65 state-owned banks, insurance companies and industrial groups by way of the sale of the stock exchange of these companies' securities at prices determined by the state. The majority of companies subject to reprivatization were nationalized by the socialists in 1982. In order to prevent the transfer of a controlling block of shares to foreign investors the program establishes for them a 15-percent "ceiling" of participation in the capital of the reprivatized groups. The anticipated amount of proceeds from the sale of the state-owned enterprises is put at approximately Fr200 billion.

To substantiate the denationalization program the right is making active use of the Gaullists' old idea of "popular capitalism," endeavoring to portray the reprivatization as a measure from whose implementation both the economy as a whole and all classes of society will benefit.

Implementation of this program will still leave in the hands of the French state considerable economic potential (energy and transport--"protected" spheres of state enterprise--and also metallurgical companies and the Renault

auto-manufacturing firm, which are saddled with huge deficits). Despite the denationalization, even if it is assumed that it will be implemented within the scheduled timeframes (and a number of French economists believe that denationalization even on its present scale could in connection with the narrowness of the financial market drag on for two-three legislatures), the state will retain a substantial economic sector, whose dimensions will be reduced merely to the 1981 level. State enterprise, even with its reduced scale, will remain a most important organic part of the French system of state-monopoly capitalism.

It is difficult to anticipate what specific economic strategy the right will choose in respect of the enterprises of the state sector which remain in its hands. It is as yet a question of compliance with the principle of economic autonomy and the demand for the achievement of financial equilibrium and the profitability of the state-owned enterprises and the abolition of laws which have put a number of state-owned enterprises in a preferential position in the competitive struggle with private capital. At the same time the government of the right will continue to render the state metallurgical companies and the Renault automotive firm, which are in a state of crisis, financial support, contributing to the program of their modernization. The liberal wave in the practice of state-monopoly regulation will hardly assume in France, with its strong traditions of state industrial interventionism, the scale and directions it has assumed in the United States and Britain. In this plane also we can only agree with A. Madelin, a fierce liberal and minister of industry, who wrote in the journal L'EXPANSION that however much the conservative government aspires to this, "a single stroke of the pen will not sweep away 40 years of dirigisme."

Italy

A. Avilova

In Italy, as in a number of other developed capitalist countries, a revision of the economic role of the state has been taking place against the background of the structural rebuilding of industry which has been under way as of the end of the 1970's: a winding down of the loss-making sectors and a sharp reduction in employment. In the course of this rebuilding the private sector had availed itself to the opportunity to throw to the state "surpluses" of manpower (an "integration fund" which temporarily supports workers who have been forced out of work operates in Italy) and production capacity (transfer to the IRI state holding company of unprofitable enterprises or acquisition of premiums for their liquidation). Privatization, which has been undertaken by the specially formed ZEPPI institution, has taken place also. It has bought up, "cleaned up" and returned to the private sector "ailing" enterprises. Prior to the end of 1983 some 105 of the 302 companies which it had acquired had been reprivatized, 1 had been liquidated and 196 remained on the books. Large-scale agreements and projects have appeared recently testifying that the privatization process is being further developed. Its forms vary. In some cases it is a question of the full sale (of the SME food company, for example, for 400 billion lire to the Olivetti

group). In others, it is a question of giving up part of the stock while preserving the state's majority participation (the SIP telephone company from 80.5 to 51 percent and the Alitalia air line from 98 to 80 percent--and in yet others, of the retention merely of a small package of shares. Also subject to privatization have been some financial institutions, specifically the Banca Centro Sud, which was incorporated in the IRI (74 percent of the stock was acquired by the American Citibank), and the extraordinarily influential Mediobanca, which had for 30 years served as a broker in all major transactions pertaining to financing of the private sector. The IRI's share of its capital declined to 50.1 percent and will, possibly, decline further in the future.

The present scale of privatization reflects radical changes in the government's economic policy and also in the management of the IRI, which had until recently retained the role of "hospital," which filled up considerably following the crisis of the 1970's. The indebtedness of the "ailing" enterprises and sectors in its care (ferrous metallurgy, shipbuilding, the automotive, chemical and oil sectors and aluminum smelting) amounted to 40 trillion lire. The growth of the deficit of the state sector had brought the country to the verge of the total depletion of budgetary resources. According to official calculations, 14 trillion lire were needed for the recovery of the IRI, whereas the emergency measures adopted to stave off collapse brought in only 11.4 trillion. The acute shortage of resources and the futility of previous methods of management of the state sector were the main causes of the change of economic course.

The main directions of these changes were set forth in a program presented by R. Prodi, the new president of the IRI (April 1984), and a document of the Senate Industry Commission. The key idea of the report was the return to the IRI of a strategic role in the economy following its "recovery" with the aid of the market. The Senate commission formulated the assignment more flexibly: achievement of the efficient interaction of private initiative and state control, for which compromise between "dirigiste excesses" (characteristic, it believed, of the preceding period) and complete deregulation was essential. The economic functions of the state were not called in question, but it was recommended that this activity be concentrated in a few of the most important sectors.

The IRI president pointed out that the new strategy would incorporate two directions: the creation of a modern sphere of production services (communications, freeways, air transport, large-scale facilities of the infrastructure and banks) for the private sector, with which there had to be a "demarcation of roles"; and activity in the sectors where private initiative cannot secure a sufficient volume of capital investments (aeronautics, arms production, nuclear power and others). The "divide" with private firms should not be rigid here. The IRI will be the coordinator of the efforts of both sectors pertaining to modernization and structural rebuilding; it will remain an operational organ of the state with the necessary capital for intervening in the technologically advanced sectors and will guarantee that the economy is maintained at the level of modern requirements. At the same time however, the state sector must not dominate the private sector but interact with it on a "parity" basis.

The behavior stereotype characteristic of private business is commended to the state-owned companies. The key slogans are technology, competitiveness and internationalization of production. The new IRI management intends seeking the profitability of all state-owned companies without exception. One measure of the reorganization is personnel shuffles with the attraction of managers from the private business sphere.

The Senate commission document emphasizes the need for a modernized version of programming in which indirect methods are considerably preponderant over direct methods, that is, the emphasis is put on the use of market factors.

The first practical steps include a reduction in the level of control of the sectoral subholding companies over the enterprises under their jurisdiction and measures to stimulate the activity of the stock exchange in order to enlist it more extensively in the financing of the state sector. A number of sectoral industrial programs presupposing greater cooperation with the private sector and foreign capital has been adopted and further privatization in the nonstrategic sectors has been approved. The creation of the Fintransporti transport subholding company is planned also.

A reorganization of state investment policy has begun: capital investments are being cut back in the traditional sectors (ferrous metallurgy, ship-building, metal working--20-30 percent in 1984) and increased in the newest sectors (aeronautics and electronics). The purpose is to get rid of "superfluous" industry (the state sector now has approximately 1,000 enterprises, which encompass practically all sectors) and concentrate efforts in the sectors which are really important for the retooling of the economy.

Meanwhile a considerable recovery has been observed in the private sector. Back in 1982 even big business was able to eliminate the unprofitability of the bulk of its enterprises. The export of capital in the period 1980-1985 increased by a factor of 5.5. A number of important cooperation agreements were concluded with major TNC of other Western countries. The expansion of transactions on the stock market brought about a considerable growth of profits and an influx of foreign capital. The neoliberal ideas are being supported in the country both as a consequence of the heightened perception in Italy of the foreign "experience" and owing to the discontent with the parasitism which had become rooted in the state sector and its political-bureaucratic degeneration and loss of efficiency.

A new period has evidently come to light in the development of postwar Italian capitalism. The question arises as to how appreciable might be the changes made by the new economic policy to the allocation of roles between state and private enterprises.

Italy is a country where the tradition of direct state intervention in the economy ("prompting" of capitalist development) has existed since the end of the 19th century. The biggest state sector in West Europe emerged here in the period between the wars. Also well known is the role performed by government capital investments of the 1960's in the industrial spurt, which led

Italy into a leading place in the capitalist world in terms of volume of GNP. The position of private business (including monopoly capital) here has also been determined by the objective contradiction between the aspiration to liberation from state tutelage and the impossibility of achieving this without state assistance. Whence both the contradictoriness of the economic behavior of private companies and the endless fluctuations of economic policy ("swings"). Currently the Confederation of Industry leadership is once again urging freedom of private initiative. But it is significant that the Italian version of neoliberalism combines a winding down of the distributive functions of the state with a reorientation of all its resources toward production goals and does not envisage the abandonment of state programming here.

The question is to what extent is Italian monopoly capital capable of taking over the reins of government. A number of structural singularities of the economic system appreciably limits such a possibility. The overall level of concentration of production and capital in the country is not high: among the 500 leading non-American companies, only 12 are Italian (as many as the Swiss and South Korean). The state of the capital market testifies that Italian enterprise has yet to pass beyond the "family"* phase of development.

On the Milan stock exchange, for example, up to 80 percent of transactions are effected between only 20-30 companies, state-owned companies included. Financial brokerage institutions are inadequately developed, which is impeding the formation of major sources of capital for financing the pioneering enterprises so necessary at the present stage of the S&T revolution.

The creation of large-scale corporations and a transition to a new technology base are obligatory prerequisites of Italian enterprise's "survival" on foreign markets. Business is also attempting to preserve the main competitive "advantage"--the cheapness of the labor force. Yet the sole in any way dependable guarantor of compensation for the structural weaknesses of the economic system and social consensus is once again the state. For this reason in the medium term there can hardly be any appreciable change in the allocation of roles: the state has to remain the pioneer of technical progress and patron and support of private business, which is as yet incapable of competing independently with stronger rivals. Consequently, it will be a question in practice not so much of "parity" as of a change in the methods which the Italian state will continue to use to perform its traditional functions in respect of private enterprise. The leading role of the state will most likely remain in the future also a principal structural characteristic of Italian state-monopoly capitalism.

* Numerically joint-stock companies constitute only 10 percent of Italian enterprises and account for 50 percent of the employment and approximately 60 percent of the manufactured product.

Small West European Countries

T. Ivanova

Against the background of the wide-ranging privatization programs being implemented in Britain and France problems of the transfer of enterprises to private hands are coming to be discussed in the small West European countries also. The American NEWSWEEK observed: "Even the unshakably socialist governments of Sweden and Spain are seeking ways to rid themselves of unprofitable state enterprises."

The need for the streamlining of production, increased management efficiency a reduction in the state's need for loan capital and so forth are being cited as arguments in support of privatization. The question arises in this connection: is the connection between a streamlining of production and management and an increase in profitability and a change in the form of ownership inevitable? Sweden's social democrats, for example, emphasize that they are by no means disposed to assert that privatized companies always work better than state-owned companies.

Among the small countries state enterprise is most developed in Austria, Finland, Sweden and the South European countries. In Denmark and Switzerland the extent of state ownership is very slight. But even where the quantitative indicators are not great (Norway, the Netherlands) the state actively influences the economy, directly shaping the level of production costs in industrial sectors for increased competitiveness and a broadening of their export potential (increased state investments in the development of the transportation system, establishment of artificially low freight tariffs, supply to the enterprises of cheap electric power and so forth). This policy has proven most fruitful for the timber-processing sectors of Sweden and Finland, the energy-consuming sectors of Norway, the metallurgy of Sweden and the chemical industry of the Netherlands.

The Austrian state sector, the biggest in West Europe, is currently experiencing serious difficulties. Problems have arisen primarily for the VOERST-Alpena concern, which unites dozens of enterprises of metallurgy, engineering, shipbuilding and others. The main reason for the complications is the unprofitable nature of a number of daughter enterprises, including those created recently.

The Austrian Government has replaced the concern's management and declared its intentions to change the composition of the supervisory boards, reinforcing them with skilled specialists and experts. It has been acknowledged that the problems of VOERST-Alpena are of a universal nature. In order to become profitable many of the nationalized enterprises are in need of a structural rebuilding, a streamlining of production and replacement of management. However, the question of a change in forms of ownership has not yet been raised.

The opposition Austrian People's Party (OVP) advocates privatization. The positions of the contending sides were set forth most distinctly at a press conference of the leadership of the OVP and the government held at the start of 1986. With the support of industrial circles the party's secretary general advocated denationalization. For this reason the privatization of a number of enterprises of engineering, ferrous and nonferrous metallurgy and extractive industry is entirely possible in the event of forces of the right assuming office.

Sweden's opposition forces also urge denationalization. The moderate coalition party, the Center Party, and the People's Party presented this slogan during the 1985 election campaign. But it was advanced only after the right had gone into opposition. While in office in the period 1976-1982 they agreed to subsidize the deficits of the state-owned companies experiencing difficulties. The change of course in their policy was connected, in particular, with the fact that there had been a considerable improvement in the situation in the state sector following the decisive measures of the social democratic government. Important changes of a structural nature were carried out. The Statsforetag state holding company was converted into the Procordia investment company. The state bought up a number of companies from the Statsforetag, including such major ones as LKAB, Svensk stol, ASSI and Svenska petroleum, for a sum total of 2.4 billion krona, which were spent on modernization of the concern. The main task of the restructuring was increased profitability and a strengthening of confidence in the state holding company.

The social democrats declared profit the main reference point of the activity of the state-owned companies. Even the railroads were notified that the state henceforward no longer intended covering their deficits. If necessary, it was suggested that they seek credit on the free market. The government proposes maintaining the dimensions of the state sector of the economy, but seeking its increased profitability.

A process has been observed in Finland as of the 1970's of an expansion of state enterprise in a number of industrial sectors. In 1975 the government acquired the controlling block of shares of a number of auto-manufacturing companies and other firms manufacturing means of transport. Two state-owned companies in electronics industry--(Valko) and Televa--one of which subsequently went bankrupt, while the other passed into private hands, were formed in 1976.

The creation of new state-owned companies continues. The (Vano) joint-stock company, which owns enterprises in peat industry, wood processing and engineering, was organized in 1984. The question of the creation of a state holding company similar to those which exist in Austria, Belgium, Italy, France, the FRG and Sweden is being discussed.

Following the assumption of office of the K. Willoch bourgeois government the intention was expressed repeatedly in Norway to switch to a policy of privatization. The reason given for this was the need for the increased efficiency

of the state-owned enterprises and the introduction of new equipment and technology. As a result a certain number of small companies in electrical engineering and machine-building industry (Electro union, Osram-fabrikken, Anker batterier) were privatized. The state sold its share of ownership in the Norion and Bergens mekaniske vuerksted firms and reduced somewhat its share, without losing control, in the country's biggest petrochemical concern, Norsk hydro, and the norsk juerverk metallurgical company. The main debate is being conducted around the question of denationalization of the oil industry. But inasmuch as Norway lacks sufficiently big private companies capable of replacing the state in this sector, there is a real threat in the event of the sale of the enterprises of the oil industry passing to the control of foreign monopolies. Even a bourgeois government would not venture such a step since oil and gas account for one-third of state budget revenue and 50 percent of export sales.

The Norwegian Labor Party sharply opposed the plans to denationalize industry. Its return to power in May 1986 will most likely put a stop to the privatization process, which was developing slowly, as it was.

A distinctive picture is taking shape in South Europe. Spain's prime minister, the socialist F. Gonzalez, who calls the country's vast state sector a "white elephants' graveyard," has embarked on reducing it. Nine large-scale companies controlled by the state holding company were sold wholly or partially in the past several months. An agreement was concluded at the end of December 1985 between the West German Volkswagen company and the Spanish SEAT auto-manufacturing concern on the transfer of 51 percent of its stock. The Swedish SKF firm purchased the Spanish state ball-bearing company. A number of other enterprises has passed into private hands also.

The government has announced that it intends helping certain state-owned companies and then privatizing them. It acted thus in September 1985 with the (Vykhes Marsans) tourist company, which was sold to the Transatour private company. A similar situation had taken shape with the Rumasa concern, which was nationalized in 1983 for the purpose of preventing its collapse. As of the present, following the "infusion" of budget resources, it has been virtually completely reprivatized.

In this sense Spain's government of the left is taking the path of the neoconservatives. At the same time, however, it is not contemplated extending privatization to all state-owned companies. The government intends keeping the so-called "strategic firms". Among these pertain arms production enterprises, electronics plants and certain metallurgical companies.

In Portugal denationalization was prohibited by the 1976 constitution. However, in the banking sphere, which has been nationalized almost completely, the creation of three small private banks under state control in parallel with the state-owned banks had been authorized by the mid-1980's. Elements of denationalization can be traced in industry also. The state is selling off small and mid-sized enterprises, two small shipping companies have been

closed down and a decision has been made to close down one large-scale petrochemical company for the purpose of its subsequent transfer to private hands. The entire determining part of the industry has remained in the hands of the state here.

Summing up the analysis of the situation in the small West European countries, it may be said that as a whole the facts do not as yet provide grounds for speaking of an extensive process of the replacement of state by private ownership. The limited financial possibilities of national private companies and fears of relinquishing control over key sectors of the economy to foreign capital are considerations evidently halting even the most zealous champions of "free enterprise" in their aspiration to weaken the positions of the state sector.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

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CSO: 1816/3

DISCUSSION OF ROLE OF GOLD IN CAPITALIST, SOCIALIST ECONOMIES

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 90-97

[Article by G. Solyus: "Is There a Universal Equivalent?"]

[Text] The CPSU Central Committee Political Report to the 27th CPSU Congress says: "The truth is discovered not in declarations and orders, it is born in scientific discussion and arguments and verified in action." The 27th CPSU Congress resolution on the CPSU Central Committee Political Report demands of economists: "...Perseveringly overcome manifestations of stagnation and dogmatism, and, equally, narrow-mindedness in ideological-theoretical work, stimulate the party's collective thought and foster in personnel a liking for theory and an ability to Leninist methodology of the analysis of social processes."

Approximately 20 years ago a book by the Soviet scholar S. Borisov "Gold in the Economy of Contemporary Capitalism" (first edition) broke with the routine notion according to which gold was, as before, a monetary commodity. It was shown that it had passed out of circulation and had ceased to be a measure of the value of commodities since no one any longer established commodity prices based on gold. Lively debate began with the publication of the book.¹ Economists were split into two camps. Some took the path suggested by S. Borisov. Others, however, asserted that gold could be a monetary commodity and represent a universal equivalent and that any other understanding of the role of gold was a retreat from Marxism. There is still no single opinion, although the range of contentious problems has narrowed considerably inasmuch as the supporters of the "gold" concept have altered the channel of the discussion. They now believe that gold performs not all monetary functions. But since complete demonetization has not occurred, it retains the role of monetary commodity and performs a number of monetary functions in modernized form. It is not necessary to reproduce here material of almost 20 years ago. The essence thereof is well known to economists dealing with these questions. The abatement of the discussion at the start of the 1980's seemingly promised that an end to the arguments had come. But each side held to its opinion.

Works on the role of gold in the modern capitalist economy began to appear once again.² It is legitimate beginning a description thereof with the fundamental scientific work of S. Borisov. The author conducts an investigation from the period of capitalism of free competition, shows how and why there was a change in the role of gold at the time of transition to monopoly capitalism and examines the reasons for the shift in the period of state-monopoly capitalism of the center of gravity of currency relations to the interstate level, which leads to clashes in the currency sphere now of state interests.

International finance capital attempted to resolve the contradictions which arose in currency soil with the aid of the creation of special organizations regulating currency relations, including those connected with gold. Such attempts were accompanied by discord and the wounding of the "weak" in the interests of the "strong". Currency problems were not solved, and the knot of contradictions continues to grow. The book reveals the objective factors which caused the ejection of gold from circulation and forced the capitalist states to attempt to take regulation of the movement of the metal's price into their hands or under their control. But the same objective factors led to the failure of all state-monopoly measures pertaining to the regulation of transactions with gold and compelled an end to the exchange of banknotes and a switch to paper-credit circulation. Gold is not now required for regulating currency exchange rates and is not taken into consideration. In rare instances states either sell gold reserves, as the surest source of obtaining foreign currency, on the free market or negotiate its price with the purchasers. Then gold possesses absolute saleability. Therefore countries sell it only when other sources of obtaining foreign currency have dried up.

The ready monetary metal now lies in state depositories as a dead weight and is no longer used as a means of payment. "Gold points"⁴ have ceased to exist. Now, if the monetary metal is removed from some state reserves to others, it is done irregularly, intermittently and episodically,⁵ and beyond any connection with the actual state of international payments. The process of the circulation of gold under current conditions necessarily passes through contracts of sale deeds in nonconvertible paper-credit money. S. Borisov illustrates the fact of the transition of gold to the commodity world in the face of nonconvertible paper notes with K. Marx's proposition that "in relation to banknotes gold has become a particular kind of commodity."⁶

While emphasizing the soundness of all the arguments adduced by S. Borisov his reasoning cannot be considered free of shortcomings. The author asserts that modern nonconvertible credit-paper money, as the sole really circulating exponent of a specific monetary form, is the monetary antipode in relation to the yellow metal. All this corresponds to actual practice. If the price of 1 troy ounce of gold is \$500, this means that the price of the commodity gold is expressed in paper-credit money. An indisputable fact. But there are economists who believe that the price of money in such cases is the market

value of gold confirming the idea that gold is, as before, a monetary commodity. The shortcoming or, more precisely, incompleteness of S. Borisov's investigation is that while establishing the existence of a paper-money price scale he does not answer the question as to what then measures a unit of this scale.

When gold was a monetary commodity, all was clear. The price scale was expressed in weight units of gold. One gram of gold had a value, which enabled it to act as a monetary commodity and measure of the value of commodities and the scale of prices. But what material basis does the credit-paper scale of prices have? S. Borisov does not mention this. An answer to this question would resolve arguments of many years' standing, and leaving it now gives rise to a justified stream of objections. What substitutes for gold as a monetary commodity? Paper notes cannot replace it--they do not possess value. If it is possible to measure the value of commodities in paper-credit money, it must either itself possess value or represent it.

It cannot be said that this problem has not been debated. There are several viewpoints on the essence of contemporary paper-credit money. Prof V. Shenayev believes that the commodity serves as the material basis of the present paper-credit money. Modern money is a symbol of the value of commodities, not being a symbol of the value of gold. The emission of money has to be effected in accordance with the need of commodity turnover and K. Marx's formula concerning the necessary quantity of money in circulation. According to this law, it is not the form of money (gold, silver, copper, paper money) which is important but the quantity of values which the commodity world has to distinguish as money to service commodity turnover. As the representative of an aggregate commodity, paper-credit money performs the functions of universal equivalent. "Credit money, as the principal form of modern money, no longer being a symbol of gold, is a symbol of value and, consequently, a universal equivalent," V. Shenayev writes.

All these arguments are logical. The paper-money unit is the representative of some particle of a commodity, but which? From what in this case is the scale of prices formed? What is the standard measure of the dollar, pound sterling, Mark, franc and so forth when they are not backed by gold? There is no satisfactory answer to this question. S. Borisov writes: "Investigation of the properties and singularities of such money is a big and largely worthwhile subject requiring individual attention."⁸ Nor is there any satisfactory solution, we believe, in the above-mentioned monographs of A. Khandruev and Yu. Pashkus.

Speaking about the fact that today money turnover in capitalist countries is effected in paper-credit money, S. Borisov writes that there is no country now in which a single object of buying and selling can be found, whether commodities or some other values, whose price is computed and realized in gold. There are simply no real gold-based prices now. So claims the expert familiar with practice, with actual price-forming and the movement of paper-credit money. A dissonance would appear to be sounded in this light by, for example, the proposition: "Gold is a monetary commodity in the socialist

countries. This is explained by a number of factors, specifically the fact that the historically new social system has inherited monetary circulation from the preceding system, where commodity prices had a gold content, and that the socialist countries are connected not only with one another but also with the world capitalist market, on which gold acts as money."⁹ It would be no bad thing to indicate to the author of this chapter if only one country in which gold is money.

The final chapter in S. Borisov's book is a summary chapter. His basic conclusions are that gold no longer anywhere or under any circumstances performs the most important function of money--being a measure of value in deals with as their basis the C--M--C or M--C--M metamorphoses. Whoever continues to look for the roots of contemporary capitalist price-forming in the sphere of the production or circulation of gold is giving way to groundless illusions;

gold has ceased to perform the role of price scale. We will no longer find room for the gold factor in this economic category;

half a century has elapsed since gold was forcibly withdrawn from internal money turnover and ceased to perform the functions of means of circulation and means of payment;

in the function of world money the entire burden falls on credit-paper means either in the form of nonconvertible national monetary units or in the form of artificially created international currency surrogates;

the function of gold as monetary treasure has changed also. States still have gold reserves, but they no longer carry out the economic purpose of reservoirs of national and international monetary circulation. The present reserves may be interpreted variously, but the idea of gold treasures as it was in Marx's time is no longer appropriate to them for an understanding of the functioning of the world monetary mechanism.

It ensues from these propositions that from the viewpoint of the fundamental laws of political economy gold no longer functions as money. There is ¹⁰ nothing to add to these conclusions, they are based on current reality.

A. Anikin's book attracted universal attention. The well-known Soviet economist is the author of many monographs on money and currency-credit relations which have rightly been evaluated positively. He is profoundly conversant with Marx's theory of money, but this book was written as if the author were attuning himself to conclusions determined in advance.

Let us begin with an analysis of the text. The author characterizes paper-credit money, which he calls "ersatz," thus: "This money represents a particular 'commodity' whose exchangeability into all other commodities ensues not from intrinsic value but from the limited dimensions of emission and the status imparted to it by state power. In form it is token money, symbol

money."¹¹ This is incorrect. State power is not capable of imparting a value to a simple paper note, for which a commodity may be exchanged. If it is a symbol, one wonders: a symbol of what?

And again a vague proposition: "An increasingly large proportion of payments in the national economy is made not in gold and silver but banknotes and by way of written order...."¹² It transpires that a lesser proportion of payments is made in gold. It should then have been pointed out where and in what instances payments are made in gold, otherwise the reader will think that some payments are made in gold, while in reality this is not the case. Finally, the author formulates what is evidently his main idea inasmuch as it is encountered in the book repeatedly: "The process of gold's loss of monetary functions cannot be deemed completed...."¹³ But the work adduces just one argument in defense of the fact that gold has not lost all the functions of money. Thus he provides a definition of a function of money as treasure: "Money may be kept and accumulated in the hands of individual commodity producers and also by moneylenders and bankers and, finally, by the state treasury. It performs here the function of treasure...."¹⁴

First, it is not said what kind of money: paper-credit or gold. It is assumed that it is a question of gold money. If so, this is an incorrect understanding of the function of treasure. What the author is talking about is simple cupidity. In order to perform the function of treasure gold must serve as the driving belt of monetary circulation, but this is impossible, and it is for this reason that accumulation in gold is totally unrelated to the functions of money. A. Anikin contradicts himself when he writes: "It remains for the author here to express his firm belief that pertinent and important questions of the theory of money both in the socialist and capitalist economies lie not in the realm of gold."¹⁵ What's true is true.

Further: "Many difficult problems arise in the shaping of the new type of international economic relations in the socialist system, but these problems are not linked with gold." Nonetheless, A. Anikin returns to the idea he has expressed: "A gold reserve represents national reserve monetary capital, a world money reserve."¹⁶ This use of wording appears unduly free. If not linked, gold has, consequently, been demonetized, what about, then, the assertion that the process of gold's loss of monetary functions cannot be deemed completed? And, again: "...No one can claim that gold's monetary role on the world market is exhausted."¹⁷ These fluctuations of the author are not incidental. They permeate the entire book. What, for example, is the title of a section "Money and Non-Money"¹⁸ worth. The author calls such a formulation of the question "dialectics".

Recounting the Jamaica decisions, the author characterizes their content correctly: "Gold is removed from the system as the basis of evaluation of the value of national currencies and also an SDR unit."¹⁹ Despite this clearly expressed attitude toward gold, A. Anikin continues to cleave to the opinion that gold is "money and non-money". He writes: "Gold is being driven out of the door (the main entrance of the IMF in Washington) and it is

returning through the window of the free market."²⁰ No, this is not dialectics but metaphysics. After all, gold was driven out the door as a monetary commodity and it is crawling through the window as a speculative commodity with value and use value, which no one has removed from it, although it has been demonetized. In the first case and in its first form it has disappeared as money, as a social relationship, in the second, it has remained as matter. The weakness of the "money and non-money" formula lies in the confusion of these two concepts. Also unsuccessful is the example concerning the credit deal between the central banks of Italy and the FRG, when Italy used gold as surety when obtaining credit from the FRG. This is not a new role for gold but a pawnshop transaction totally unrelated to a monetary commodity and the emergence of some new function of gold.

In order to investigate the problem of the role of gold in contemporary capitalist society it is necessary to ascertain what should be understood by the demonetization of gold. The word itself shows that demonetization is a phenomenon which is the reverse of the monetization concept. In other words, demonetization is gold's loss of the functions of monetary commodity. Other interpretations are capable only of confusing the reader. Let us in this connection cite A. Anikin's opinion: "Those who consider the main development trend the demonetization of gold claim that sales of gold at sharply fluctuating prices point to the conversion of gold into a conventional commodity and a diminution in its monetary functions. Those who deny demonetization, on the contrary, see the expansion of gold transactions and the growth of its price in paper money as proof of the preservation of and increase in its monetary functions."²¹

Such a formulation of the question could have arisen only as the result of an arbitrary interpretation of the "demonetization" concept. The growth of the price of gold in paper-credit money testifies that it is no longer a monetary commodity inasmuch as its price is determined in paper-credit money which has ceased to be the representative of gold. After all, if gold is a monetary commodity, neither gold nor money has a price, as K. Marx wrote.²² Following the understanding of the demonetization adduced above is a directly opposite statement, this time correct: "At the time of the gold standard selling gold meant simply exchanging bullion for coinage or banknotes convertible into coinage. But when credit-paper money is not convertible into gold and is the sole real form of money in circulation, the price of gold in this money no longer differs in principle from the prices of other commodities. The buying and selling of the yellow metal is to a large extent like the buying and selling of any commodity."²³ All very true, and not even simply "like," it simply is such because, having ceased to be a monetary commodity, gold becomes a commodity possessing value and use value. The unusualness is expressed in the fact that it is more easily realized.

The book discloses the concept of the value of gold, price and purchasing power. The price and value of gold are defined traditionally. But the purchasing power of gold, the author believes, is the result of division of the metal's price index in a given period by the commodity price index in the

same period. As it transpires, this is an important indicator for determining the prospects of the movement of its price. "A principal paradox of reality is as follows: modern capitalism cannot base its monetary and currency system on gold, but at the same time it cannot get by without gold."²⁴ Why can it not? What about mercantilism?

The author discourses on the processes of demonetization and remonetization. In reality there is no remonetization. A. Anikin tries to persuade readers that it is convenient to store gold as reserves. "World money is the function which gold preserves longest."²⁵ We would recall K. Marx's proposition. In world money, money sheds its national uniform and appears as bullion. Now gold has to don national uniform, being sold for paper-credit money, and it is in this appearance--that is, in paper-credit money--that international payments are made. No one settles in gold. In international payments it is necessary primarily in order to settle accounts to be rid of gold. Where is preservation of the function here? The author balances continually between the definition of gold as a monetary commodity and some functions thereof which have allegedly been preserved: "...There is no return to its former role as center of the entire international system" and thereupon: "Whatever contradictory interpretations instances of gold's participation in international economic relations have permitted, the monetary element therein has been preserved and could strengthen."²⁶

Such fluctuations are encountered in other scholars also. Thus L. Krasavina writes: "An evaluation of the objective regularities of the demonetization of gold--its loss of monetary functions--presupposes a historical digression since the undermining of the role of gold as a monetary commodity, particularly of world money, began at the time of the highest level of the development of free-competition capitalism." This same article adduces the directly opposite opinion: "Gold is de jure demonetized, but de facto retains its role of monetary commodity in modified form."²⁷ How precisely gold performs the role of monetary commodity the article does not, of course, say. Attempts to galvanize the role of gold as a monetary commodity have been unsuccessful, and apart from use of the words "preserving the role of monetary commodity in modified form," the supporters of the "gold" concept have not budged from the position which they occupied back at the start of the discussion.

A. Anikin's book can hardly unreservedly be put among the works of the supporters of the "gold" concept entirely, but nor can it be attributed to the works of the opponents. It contains something of both.

Hardly anyone will dispute the fact that practice is the criterion of truth. Discoveries require confirmation by practical experience and only then are they recognized as real discoveries. This truth pertains to the social sciences also. Only the Marxist-Leninist method of materialist dialectics in the solution of a question is not in doubt. Availing themselves of this method and relying on practice, Marxist economists are constantly developing and enriching theory. Life forces them to revise outdated theoretical formulas which have become untenable as a consequence of changed conditions.

For example, it is perfectly clear that gold is not performing the function customary for the older generation of economists. It has been withdrawn from circulation and for this reason does not perform the function of means of circulation. Payments are not made in gold because it is not a monetary commodity. Paper-credit money and so forth are not exchanged for gold. How to operate under these conditions with the evolved theory of money which was right for the times when gold was a monetary commodity and performed the role of universal equivalent and all its appointed functions? Attempts to apply these formulas to the new conditions do not withstand the test of practice.

"...The Marxist must consider real life and the precise facts of reality... and not continue to cling to the theory of the past, which, like any theory, at best merely outlines the main and general and merely approaches comprehension of the complexity of life," V.I. Lenin wrote.²⁸ There is no other way of solving a problem. The incapacity for explaining what is meant by modification of the function of gold is born of the impossibility of proving that gold is now also a monetary commodity. One further observation in this connection: we are examining the role of gold in modern monetary circulation theoretically, but attempts are being made continually to push us into mercantile positions and to prove that gold is sound even today.

Two further monographs appeared in 1983. The first was that of Yu. Pashkus. The author occupies a realistic position in his assessment of the essence of modern money. He believes that gold has been demonetized and that it is credit money which operates now. The banknote price scale lacks an inherent basis and is derived from the gold price scale and endowed with the status of representative price scale, while the gold price scale has been transferred to the banknote. But at the same time he writes: "Relying originally on the gold base of commodity prices, credit money, having inherited this²⁹ property, created its own price basis, which functions at the present time." This position of the author's aligns him with those who believe that gold has not been demonetized and advances the continuity of gold prices as a principal argument of the existence of the connection of gold prices with gold as the modern exponent of monetary commodity. Here lies the weakness of his reasoning. The author does not answer the question of what to take as a unit of the scale of the new prices.

A. Khandruyev's monograph regards the question of credit money somewhat differently. The author believes that "the function of social accounting is performed, as before, by 'classical' money. However, shorn of its connection with gold and limited to ideal existence, it acts as purely accounts money. Thus the modern national monetary units--the dollar, pound, Mark, franc and so forth--serve primarily as the socially recognized form of the ideal expression of the prices of goods and services."³⁰ This is undoubtedly a search for the expression of the price of commodities in credit money, and the author cleaves firmly to the standpoints that the nature of modern money is credit. Perhaps not everyone will agree with this solution of the problem, with this is a search born of the fact of the cessation of gold's performance of the functions of monetary commodity. In order to express his idea

more clearly, the author goes on to write: "With gold's loss of the key positions in money turnover there is a constant change in the nature of accounts money. The universal abolition of metal backing for national monetary units finally severed the connection of accounts money with monetary metal."³¹

It follows from the premises of A. Khandruev and Yu. Pashkus that modern credit money has adopted the price scale from gold prices, although having severed any connection with the metal. Why did the scholars take this path? They understandably sought an answer in actual reality. Modern prices are the successors of gold prices, but this is only touching the surface of phenomena, and it is clear that this question has not been investigated completely.

So scientific publications of recent years demonstrate the essence of the remaining disagreements between the supporters and opponents of the "gold" concept. The most stable of the propositions advanced by its supporters remain three, which they continue to uphold. The first is that gold has not been demonetized fully because the capitalist banks store it as a reserve. The second is that gold cannot be considered demonetized because the prices of commodities which reached us from a distance, when gold was a monetary commodity, contain within them gold content even now. The third is that capitalism cannot manage without gold (this is why banks hold it in reserve).

Let us look at these arguments in essence. But first let us specify what should be understood by demonetization. Obviously, the sole scientific understanding means conveying the precise meaning of the word demonetization, which is as follows: gold has ceased to be coinage, that is, has ceased to be a monetary commodity. Any other understanding of demonetization means attempting to attach gold to modern monetary circulation by far-fetched arguments. It is indisputable that the problem of the role of gold may be solved only with the aid of K. Marx's teaching on money. But K. Marx had neither direct pronouncements nor hints even to the effect that gold reserves attest gold's preservation in "modified" or any other form of the position of monetary commodity.

Gold reserves in banks do not participate for years in any form in monetary circulation or in domestic or foreign payments. K. Marx wrote about the reserves: "Both for domestic circulation and for circulation on the world market each country needs a certain reserve fund."³² Today gold participates neither in domestic nor foreign circulation, and therefore there are no grounds for referring to K. Marx as proof that gold remains a monetary commodity.

Nor does practice confirm the second proposition, which is that current commodity prices are essentially gold prices inasmuch as a historical continuity from gold prices has been preserved and it confirms the modified form of action of gold as a monetary commodity. The well-balanced concept of credit money based on the universal commodity of promissory notes and contracts and ensuing from K. Marx's teaching on money does not say a word about any connection of credit money with gold. K. Marx wrote that given a

certain level of the development and sufficiently extensive dimensions of commodity production, the function of money as a means of payment goes beyond the limits of the sphere of commodity circulation. Money becomes the universal commodity of promissory notes.³³

This occurs as follows: a seller issues a commodity on credit, the purchaser cannot pay for the commodity immediately and issues the seller a promissory note. This is credit money. The seller adds the promissory note to his bank account. The bank, in possession of promissory notes, behind which is a commodity, issues banknote money, which is in no way connected with gold. There is no question here even of the historical transference of gold prices, which might confirm gold's retention of the property of monetary commodity. And the gold reserves have nothing to do with things. Why, in this case, do the banks keep gold in reserve? It has not lost value and use value. But it has lost the property of monetary commodity, which is defined as the functions of money converting gold into money. People need the metal, as before, only not as a monetary commodity but for industrial, medical and jewelry purposes. In many cases the yellow metal is irreplaceable. But to assert that it is impossible to manage in money turnover without it proof is needed, and this is lacking. Practice does not corroborate this proposition. Such is the answer to the third proposition of the supporters of the "gold" concept.

One further observation. Gold is as yet the most stable value, and it is preferred to the dollar or any other currency which has demonstrated its capacity for depreciation, but at the same time gold, despite the strong speculative price fluctuations, has ultimately nonetheless shown a tendency toward a growth of prices thereof. In recent years some countries have resorted to issuing gold coins sold at a price which is considerably above the price of gold which has evolved in this period on the market. Hoarders have bought up coins--and not only from numismatic considerations but from an aspiration to convert credit money without value into matter with value. Hoarders, and not only they, have been pushed into this by this historically preserved opinion as to the omnipotence of gold. Capitalist banks store gold for the added reason that they wish to maintain a high price for it and thereby secure themselves against losses. All countries with gold reserves have an interest in this owing to the fear that a refusal to preserve gold as a reserve would lead to a sharp fall in the price thereof and, consequently, to big losses, as was the case with silver.

It remains to elucidate one important question. What to take for the price scale if the gold price scale has been abolished, and what then will the universal equivalent represent? Under the "gold" concept this question was easily solved. The basis of the monetary unit was a definite quantity of gold: \$1 equaled 0.888671 grams of gold, 1 pound sterling, 2.13281 grams and so forth up to 1971. What forms the basis of monetary units now? Let us examine the historical continuity of prices as it appears in actual fact. No, not in 1971 or 1973, when the dollar's convertibility into gold was revoked, prices had ceased to be linked to gold considerably earlier. When prices were gold-based, but as gold was losing its functions of monetary

commodity, it was also losing the capacity for being the measure of the value of a commodity, but prices did not change because of this, although they were not really linked with gold. The time came when the gold content of money was revoked legislatively, but the prices remained and did not change for this reason. Does this mean that they have, as before, as their basis a gold content, as the supporters of the "gold" concept assert? Of course not. Prices were maintained not because they were linked with gold but because the commodities retained a value expressed in accounts money, and this value was not done away with by the severance of prices from gold.

K. Marx wrote in this connection: "Money as a measure of value is expressed not in units of weight of precious metal but in accounts money and arbitrary names of the corresponding parts of some particular quantity of monetary substance."³⁴ This means that if \$1 is the equivalent of 1 gram of gold, the price of a commodity will be indicated as \$1 and not 1 gram of gold. This is what accounts money is. Gold has departed, but the value of the commodity expressed in accounts money has remained, and thus the commodities themselves have become a universal equivalent. Now the value of one commodity may with the help of accounts money be the measure of the value of other commodities. K. Marx wrote: "If a commodity generally is an exchange value, then generally a certain use value, the real certainty in which this exchange value exists is merely a certain method of its manifestation; in reality it represents a universal equivalent and may therefore exchange this embodiment thereof for any other...."³⁵

To clarify the meaning of what has been said let us cite an example. The price of any commodity, of 1 ton of grain, say, in gold prices, more precisely, in accounts prices representing the value of 1 ton of grain was the equivalent of \$200. Then gold went out of circulation and ceased to be a monetary commodity, but the price of 1 ton of grain remained at the level of \$200, as before, in paper-credit money no longer linked with gold. After all, the value of grain was expressed in accounts prices. The ton of grain itself became a universal equivalent, and it could via accounts money be compared with the value of any other commodity.

This is not the full-scale form of value. The full-scale form of value represents an expression of the value of one commodity in another and forms a chain of commodity values. ...This chain forms a motley mosaic of separated and heterogeneous expressions of value."³⁶ The expression, however, of the value of a commodity in accounts money is an isolated act of evaluation of a commodity, and here the chain is broken. This is a new form of determination of the value of a commodity, when the value of one commodity expressed in accounts money becomes a universal equivalent and it is possible via it to determine the value of any commodity.

Under the influence of a number of factors inherent in paper-credit money it came to depreciate. At each given moment the quotient from the division of the mass of money in circulation by the commodity mass, which it services, is taken as the unit of money. A comparison of such indicators over a number of periods shows to what extent the money has depreciated or the nature of

inflation. There was no inflation nor could there have been while prices were gold-based and gold was a monetary commodity. Now, however, value is expressed in paper-credit money no longer linked to gold, and prices change because paper-credit money depreciates for a variety of reasons, not being linked with gold.

One wonders: what has "gold" continuity got to do with things here? After all, today, let us say, the prices of television receivers, which (television receivers) did not exist when prices really were gold-based, are determined by proceeding not from the price of gold but from production costs expressed in paper-credit money. Thus is this complex problem, which has long occupied economists, resolved and thus is the final "peg" of the supporters of the "gold" concept--the assertion that modern prices preserve the historical continuity of gold prices and therefore there can be no talk of the conclusive demonetization of gold--repudiated. At the same time this is also an answer to the favorite question of the supporters of the "gold" concept. If gold as a monetary commodity and universal equivalent has ceased to be such, what is replacing it and what kind of universal equivalent has come to replace gold and possesses all the properties of a monetary commodity?

Let us turn once again to K. Marx and quote an extract from his investigation into this subject, which fully explains the question of why we call modern paper money with aggregate commodity as its basis money without gold. "The entire object world of wealth now appears as the body of money in just the same way as gold and silver, and it is precisely only the formal distinction between money in the form of money and money in the form of a commodity which renders it capable of assuming equally this form or the other and switching from the form of money into the form of a commodity (isolation in something independent amounts merely to the fact that exchange value firmly retains exchange value whether it exists in the form of money or in the form of a commodity, and it switches to the form of a commodity only to augment itself). Money now is objectized (reified) labor, regardless of whether it possesses the form of money or a special commodity."⁵⁷

It is a question of the fact that capital in the form of money is indifferent to the singularities of all commodities and that it represents the materialized expression of exchange value, and inasmuch as money is a commodity there is only a formal distinction between money in the form of money and money in the form of a commodity. Money in the form of money is capable of switching to money in the form of a commodity and vice versa. For this reason both money in the form of money and money in the form of a commodity are a universal equivalent.

Having closely studied this strictly scientific proposition of K. Marx, one has to reach the sole correct conclusion. Determining the value and price of a commodity via accounts money, when the commodity becomes a universal equivalent, is entirely possible.

FOOTNOTES

1. See, for example, MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 8, 1971, pp 74-108; No 3, 1975, pp 62-84; No 10, 1975, pp 151-152; No 11, 1975, pp 127-128; No 10, 1978, pp 49-91; No 7, 1980, pp 110-128; DENG I KREDIT No 3, 1975, pp 75-87; No 4, 1981, pp 15-22; No 2, 1985, pp 21-30; VOPROSY EKONOMIKI No 2, 1978, pp 145-149; No 5, 1984, pp 4-10; "Competition of the Two Systems," Moscow, 1975, pp 152-167; "Problems of Marx's Theory of Money and Credit Under Capitalism," Moscow, 1980.
2. See A.A. Khandruyev, "Money in the Economy of Modern Capitalism," Moscow, 1983; Yu.V. Pashkus, "Money and the Currency System of Modern Capitalism," Leningrad, 1984; S.M. Borisov, "Gold in the Economy of Modern Capitalism," second revised and supplemented edition: A.V. Anikin, "Gold," Moscow, 1984.
3. See S.M. Borisov, Op. cit., p 145.
4. "Gold points" are the deviation of the price of gold from the price upon its transportation from one country to another, at the time when gold was a monetary commodity.
5. See S.M. Borisov, Op. cit., p 155.
6. K. Marx and F. Engels, "Works," vol 46, pt I, p 70.
7. "Problems of Marx's Theory of Money and Credit Under Capitalism," p 36.
8. S.M. Borisov, Op. cit., p 384.
9. "Political Economy," vol 2, Moscow, 1982, p 133.
10. See S.M. Borisov, Op. cit., pp 427, 429, 430, 433, 434.
11. A.V. Anikin, Op. cit., p 42.
12. Ibid., p 43.
13. Ibid., p 153.
14. Ibid., p 37.
15. Ibid., p 154.
16. Ibid., p 186.
17. Ibid., p 104.
18. Ibid., p 150.

19. Ibid., p 256.
20. Ibid., p 258.
21. Ibid., p 262.
22. See K. Marx and F. Engels, "Works," vol 13, p 59, vol 23, p 105.
23. A.V. Anikin, Op. cit., p 270.
24. Ibid., p 284.
25. Ibid., pp 291-292.
26. Ibid., p 293.
27. DENG I KREDIT No 2, 1955, pp 22-23, 29.
28. V.I. Lenin, "Complete Works," vol 31, p 134.
29. Yu.V. Pashkus, Op. cit., p 57.
30. A.A. Khandruev, Op. cit., p 161.
31. Ibid., p 163.
32. K. Marx and F. Engels, "Works," vol 23, p 155.
33. Ibid., p 151.
34. K. Marx and F. Engels, "Works," vol 46 pt II, pp 304-305.
35. Ibid., vol 47, p 76.
36. Ibid., vol 23, p 74.
37. Ibid., vol 46, pt II, p 487.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

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IMPORTANCE OF JAPANESE-SOVIET POLITICAL, ECONOMIC COOPERATION

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 98-102

[Article by V. Khlynov: "Soviet-Japanese Dialogue: Important Factor of International Relations: on the 30th Anniversary of the Joint Declaration"]

[Text] Thirty years ago, on 19 October 1956, the Joint Declaration on the Restoration of Diplomatic Relations Between the USSR and Japan, which put an end to the state of war and inaugurated the stage of the peaceful, mutually profitable development of the two neighbor countries' relations, was signed in Moscow.

Proceeding from the principle of the peaceful coexistence of states with different political and social systems, the Soviet Union, immediately after WWII, adopted a policy of the establishment of good-neighbor relations with Japan. The USSR's long persistent efforts ultimately produced results. Having soberly weighed the actual situation and recognizing the objective need for a normalization of bilateral relations, the Japanese Government consented to the signing of the Joint Declaration--consented despite the complexity of the domestic and foreign policy situation, including the strongest resistance on the part of the United States.

Political wisdom was displayed at that time by Prime Minister I. Hatoyama, who visited Moscow and appended his signature to this important document. "Whatever our objections to communist ideology," he declared not long before he signed it, "we cannot deny the fact that influential powers exist in the world the principle of whose system is communism. We must establish with these states relations which provide for respect for one another's sovereignty, a renunciation of propaganda and imposition of one's ideology on the other side and mutual benefits by way of the establishment of normal diplomatic and economic relations. I may say with confidence that this is precisely the path which is necessary for preventing World War III, the outbreak of which is dreaded by all people."*

* Quoted from D.V. Petrov, "Japan in World Politics," Moscow, 1973, pp 216-217.

Today, under the conditions of the increased international tension and the growth of the threat of a thermonuclear war disastrous for all mankind, I. Hatoyama's appeal to the peoples of the two neighbor countries that they live in peace and good-neighborliness has an even more urgent ring. This corresponds not only to their own national interests but also the interests of peace and security in the Asia-Pacific region and the interests of peace throughout the world.

Good-Neighborliness of the USSR and Japan--Command of the Times

The signing of the Joint Declaration was supported by the entire Soviet people. It was also approved by the overwhelming majority of Japanese. In accordance with the spirit of the document, the Soviet Union renounced all claims for reparations on Japan and also supported its request concerning admittance to UN membership, which afforded the Japanese nation broad opportunities for participation in the solution of international problems together with other peoples.

On the basis of the principles of the declaration both sides exerted considerable constructive effort to strengthen good-neighborliness. As a result right up until the start of the 1980's Soviet-Japanese relations developed in line of ascent, as a whole.

Within the first decade following the restoration of diplomatic relations such important agreements as the fishing convention (1956), trade agreement (1957) and consular convention (1966) and the agreement on direct air communications (1966) were concluded. The agreement on S&T cooperation (1973) and a number of others were signed somewhat later.

This created conditions conducive to the rapid development of the entire complex of bilateral relations, primarily mutually profitable trade-economic relations. Soviet-Japanese and Japanese-Soviet economic cooperation committees were formed in 1965. Bilateral 5-year commodity exchange and payments agreements have been concluded regularly since 1966. From 1960 through 1982 the total volume of trade between the two countries increased almost 30-fold--from R124 million to R3.682 billion.*

Considerable importance was attached to such a form of cooperation as the joint development of the natural resources of Siberia and the Far East on a compensation basis. Mention should be made of the successful implementation of two major agreements on cooperation in the development of the forest resources of Siberia and the Far East (1968 and 1974), which provided for imports of the necessary Japanese equipment in exchange for exports of Soviet timber; a general agreement on cooperation in the construction of the port of

* "USSR-Japan. Problems of Trade-Economic Relations," Moscow, 1984, pp 218-221.

Vostochnyy in the Soviet Wrangel Bay (1970) and the general agreement on supplies from the USSR of industrial chips and deciduous pulpwood long logs in exchange for wood-processing equipment (1971). Pertaining to similar long-term projects, which are now at the realization stage, are general agreements on exports of coking coal of the Yuzhnoy Yakutsk deposits and supplies from Japan of coal-mining machinery and equipment (1974), a general agreement on cooperation in the sphere of the exploration for and construction of oil and gas deposits on the shelf of Sakhalin Island (1976) and a third agreement on cooperation and the development of forest resources of Siberia and the Far East (1981).

Such forms of economic relations as coastal and cooperative trade are also of a mutually profitable nature. Despite their comparatively modest scale, they are undoubtedly making a pronounced contribution to the strengthening of good-neighborliness.

Besides the expansion of trade-economic cooperation, political contacts have been practiced successfully and efficiently. Regular consultations at foreign minister level, within the framework of which a broad range of problems of both bilateral and international relations was discussed, were initiated in 1966. Meetings of the two countries' foreign ministers in the course of UN General Assembly sessions assumed a regular character. Delegations headed by the leaders of various ministries were exchanged. A most important component of that period was the top-level meeting in Moscow in 1973.

Positive significance for an extension of the mutual understanding between the two peoples was attached to relations along parliamentary lines. Exchanges of official parliamentary delegations, mutual visits of representatives of the houses of the Japanese Parliament and the USSR Supreme Soviet and an exchange of delegations of the foreign affairs commissions took place in 1964, 1970, 1975 and 1978. A Japanese-Soviet Friendship Parliamentary Association were formed in Japan, and under the auspices of the USSR Supreme Soviet parliamentary group, a Soviet-Japanese Section, in 1973.

On the basis of the consular convention the USSR and Japan opened their consulates in Osaka and Sapporo and Leningrad and Nakhodka respectively. Scientific, cultural and sports contacts between the two countries and also ties along social, party and trade union organization lines assumed very extensive proportions in that period.

All this testifies that, given a mutual and sincere aspiration to good-neighborliness, the USSR and Japan, despite the difference of their social systems, can not only find points of contact but also have mutually profitable friendly relations, as befits real neighbors.

However, as of the start of the 1980's a period of marked cooling has arrived in Soviet-Japanese relations, unfortunately. In a number of areas they are in a state of stagnation and in places, in the trade-economic cooperation sphere, for example, they have been cast back. Attaching primary significance to

situational and not long-term interests and associating itself with the anti-Soviet policy of the U.S. Administration, the Japanese Government has unilaterally sharply limited political contacts with the Soviet Union, particularly at government level, and also embarked on a path of broad economic sanctions against our country, imposing strict limitations on the conclusion of new contracts. Simultaneously there has been a pronounced stimulation in Japan of the anti-Soviet "territorial issue" campaign and increased propaganda of the "Soviet military threat" myth.

The proposition that the development of good-neighbor relations, particularly in the trade-economic sphere, is profitable only to the Soviet Union and disadvantageous for Japan has come to be spread about. Squaring here such a factor as the structural rebuilding of the Japanese economy, which is leading to the increased significance of the high-science sectors and a reduction in the materials- and energy-intensiveness of production, some supporters of this proposition have attempted also to prove that henceforward and for all time the USSR will be of no special interest as a trading partner.

Under these conditions the Soviet Union, true to the principles of its peaceable foreign policy, has not taken a single step to wind down relations with Japan. On the contrary, it has continued to firmly abide by the spirit of the Joint Declaration, thereby demonstrating that its policy of genuine good-neighborliness is of a high-minded nature and not subject to any situational fluctuations. This policy was consolidated, as is known, by the decisions of the CPSU Central Committee April Plenum and the 27th party congress.

The Soviet Union proceeded from the fact that the virtual dismantling of the evolved system of bilateral relations and support for the militarist policy of the United States do not correspond primarily to the interests of Japan itself. The development of events soon confirmed this obvious truth, showing who was losing from such a policy. It is sufficient to recall just one well-known fact. As a result of Japan's imposition of economic sanctions against the USSR, Japan's trading-industrial companies have lost many billions of dollars, having been deprived of profitable Soviet orders. They were placed with other, primarily West European, capitalist countries.

Today, however, it is not only a question even of who can get by without whom from the economic viewpoint. Under the conditions of the thermonuclear-space age new political thinking and new approaches to a solution of global problems, primarily problems of preventing mankind's self-annihilation, are essential. Life insistently demands that points of contact be found in the accomplishment of the task of ensuring lasting peace and organizing all-around mutually profitable cooperation between individual countries, particularly if it is a question of very important and, furthermore, neighboring states. "History has shown repeatedly," M.S. Gorbachev emphasized, welcoming Japanese Foreign Minister S. Abe, "that Japan and the USSR can get along without one another. But such a position does not become neighbors. We have adopted the fundamental political decision to take advantage of every opportunity to develop and improve relations with Japan in all areas, regardless of its relations with other states."

All states and peoples, particularly if they are neighbors, should live in peace and friendship. Only such an approach corresponds to today's stage of the development of world history. This is an axiom and at the same time an imperative of the contemporary philosophy of the survival of mankind. It is from this that the USSR proceeds in its policy of mutual relations with all states, Japan included.

It is gratifying to note that recently Japanese official circles, including politicians of the highest level, have been making statements increasingly often on the need for an improvement in relations with the Soviet Union, emphasizing the importance of maintaining and developing normal mutually beneficial relations with our country.

A change in the direction of a rectification of Soviet-Japanese relations came to light, as is known, at the end of 1984, when there was a whole number of meetings and talks at government level and also between representatives of business circles and social organizations. Among the most important of them were the meeting of foreign ministers in New York during the UN General Assembly 39th Session, the talks between the Japanese prime minister and the USSR Council of Ministers chairman in Delhi, the visit to the Land of the Rising Sun by a USSR Supreme Soviet delegation, the fourth roundtable conference of representatives of the public of the two countries (Moscow), a return visit of Japanese members of parliament, a joint meeting of the Soviet-Japanese and Japanese-Soviet economic cooperation committees (Tokyo) and a number of other bilateral contacts. At roughly that time there once again emerged a trend toward an expansion of trade-economic relations.

All this prepared the ground for positive changes in Soviet-Japanese relations. Particular significance was attached to the brief meeting in March 1985 in Moscow between M.S. Gorbachev, general secretary of the CPSU Central Committee, and Japanese Prime Minister Y. Nakasone.

An important contribution to an improvement in bilateral relations was made by events which have occurred this year, primarily the visit to Japan of USSR Foreign Minister E.A. Shevardnadze (January) and the return visit of Japanese Foreign Minister S. Abe to the USSR (May) and also E.A. Shevardnadze's meeting with the new Foreign Minister T. Kuranari in New York during the UN General Assembly 41st Session (September). Fundamental questions of the state and prospects of the development of Soviet-Japanese relations and also key problems of the international situation were discussed in the course of the official negotiations. Despite the differences in views on certain issues, mutual interest in an improvement in bilateral relations was expressed.

Thus the joint communique on the results of the Soviet foreign minister's visit to Japan observes: "The sides emphasized that the development of relations between the USSR and Japan based on the principles of mutual benefit, equality and noninterference in internal affairs not only corresponds to the common interests of the peoples of both countries but will also be a big contribution to the cause of peace and stability in Asia and throughout the world."

As a result of the negotiations a number of specific decisions of practical significance were adopted. Specifically, agreement was reached on the continuation of regular consultations at ministerial, deputy minister and foreign minister level. In accordance with a former agreement recorded in the Soviet-Japanese Joint Statement of 10 October 1983, the ministers conducted negotiations concerning the conclusion of a Soviet-Japanese peace treaty and agreed to continue them at the next consultative meetings in Moscow and Tokyo. The sides also expressed the intention to promote a further expansion of trade-economic relations based on mutual benefit and a quest for new forms of cooperation in this sphere. Proceeding from the principle of mutual benefit, it was decided to make further efforts for the successful fulfillment of current intergovernmental agreements in the sphere of fishing and the fishing industry. In accordance with an agreement signed back in 1973, the sides resolved to convene in 1986 the third session of the Soviet-Japanese Intergovernmental S&T Cooperation Commission (it took place in September). The ministers also exchanged documents on the extension of the validity of special letters of 27 January 1972 on cultural exchange between the USSR and Japan. During the May meeting the Soviet side, accommodating Japan's request, expressed readiness to view positively the question of the visit by Japanese to the places of burial of their relatives in the Soviet Union. Finally, extraordinarily important for the further development of Soviet-Japanese relations was the signing in the course of the said visits of a number of bilateral agreements, including an agreement on commodity turnover and payments between the USSR and Japan for the period 1986-1990, a convention between the USSR Government and the government of Japan on the avoidance of dual taxation in respect of income tax and an agreement between the USSR Government and the government of Japan on cultural relations.

Speaking of the present state of relations with Japan, the CPSU Central Committee general secretary observed in his speech in Vladivostok: "Signs of a change for the better are appearing here also. It would be good were this turnabout to occur. The objective position of our two countries in the world is such that it demands extended cooperation on a sound realistic basis and in an atmosphere of calm unburdened by problems of the past. A start has been made this year. There has been an exchange of foreign minister visits. An exchange of top-level visits is on the agenda."

The Soviet people sincerely welcome the change that has begun in mutual relations with their neighbor and are prepared to promote its acceleration. They hope that Japan, abiding by the Japanese piece of wisdom: "A close neighbor is better than a distant relation," will not turn aside from the sole intelligent path: a policy of the strengthening of good-neighborliness and cooperation.

In the Interests of the Peoples of the Asia-Pacific Region and Peace Throughout the World

A most important singularity of contemporary global development is the growth of the role and significance of the Asia-Pacific region in the world economy and international relations. It is perfectly obvious that the fate of the

whole world will depend to a large extent on the socioeconomic and political trends in the region.

The general and national interests of the countries located here insistently demand that everything possible be done to ensure that the region not be a source of tension and an arena of military confrontation. Such important and most developed Asia-Pacific states as the USSR and Japan should be interested in this primarily. "The basis of friendly relations and a strengthening of trust and mutual understanding between peoples in this part of the world, as, incidentally, in other regions also," the Soviet Government statement of 23 April 1986 emphasizes, "could and should be not the counterpoise of some states to others but the development of equal cooperation open to all. Given this approach--and all peoples have an interest in this--there can be no room for the cobbling together of blocs and counterblobs, the creation of all kinds of 'axes' and 'triangles,' the formation of exclusive groupings and the cultivation of protectionism and discriminatory measures in the practice of mutual trade-economic relations.

Proceeding from this, the Soviet Union advanced a proposal, which was addressed to Japan also--starting a broad exchange of opinions between all interested countries of this region on questions of the organization and development of equal, mutually profitable and stable trade-economic, technological, scientific and cultural cooperation. In addition, the possible spheres of such cooperation were proposed also: personnel training, use of new energy sources, improvement of means of transport and communications, ascertainment of new forms of trade-economic and financial cooperation with regard for the interests of the developing countries of the region, the exchange of scientific and S&T information, elaboration of measures for protection of the environment and the rational use of the ocean's biological and mineral resources, peaceful space exploration in common interests, joint work in the sphere of medicine and health care and to combat natural disasters and do away with their consequences and others.

A detailed concept of the incorporation of the Asia-Pacific region in the common process of the creation of an all-embracing system of international security was provided in M.S. Gorbachev's speech in Vladivostok. It evoked great interest not only in countries of the region but throughout the world.

The Soviet Union attaches great significance to the implementation in conjunction with Japan of a whole number of urgent measures aimed at ensuring peace and security in this region. The two countries' cooperation in the interests of the region's peaceful development would undoubtedly be supported by all its peoples. The Soviet Union is not hatching any secret plans to "wrest" Japan from the United States--currently its main ally. Nor does it aspire to stand in the way of Japan's development of good-neighbor relations with the PRC and other states. On the contrary, in advocating a strengthening of bilateral and multilateral relations the USSR is setting itself the sole aim of ensuring lasting peace and all-embracing security both in the region and throughout the world.

This would be promoted to a considerable extent by the implementation of such joint Soviet-Japanese steps as the conclusion of an agreement on the principles of economic cooperation per the type of agreements between the USSR and other developed capitalist countries like, for example, Britain, France and Canada which are current and which are giving a good account of themselves in practice; the joint elaboration of a long-term program, for 10-15 years, of economic and S&T cooperation, primarily in the sphere of use of the resources of Siberia and the Far East; the quest for new forms of such cooperation like, for example, the creation of joint enterprises and the combination of Soviet fundamental and Japanese applied research and others; and the signing of a good-neighbor and cooperation treaty encompassing the spheres of bilateral relations which have already matured to the point where they may be underpinned by a firm treaty foundation. A pronounced joint contribution of the USSR and Japan to the cause of peace and security in the region would be fruitful bilateral negotiations pertaining to confidence-building measures in the Far East and also the adoption of a bilateral document guaranteeing the Soviet Union's nonuse of nuclear weapons against Japan and the latter's strict observance of the three "nonnuclear principles"--not possessing, producing nor permitting the deployment on its territory of nuclear weapons.

All these constructive proposals were made, as is known, by the Soviet Union to Japan several years ago. They remain valid at the present time also. Support thereof on the part of Japan and also its own constructive initiatives aimed at an improvement in bilateral relations and at ensuring peace and security in the region would meet with a positive response in the Soviet Union and other Asia-Pacific countries.

Of extraordinary importance for the cause of peace is also the idea advanced by the USSR and addressed to all Asian states, including Japan, that thought be given to a common comprehensive approach to the problem of security in Asia and the possible unification in this direction of the efforts of all the countries located here. Japan's positive contribution to this could contribute not only to a marked improvement in Soviet-Japanese relations but also a normalization of the entire situation in the region. Unfortunately, the recent decision of the Y. Nakasone government concerning participation in the American "star wars" program does not contribute to the achievement of these goals.

Great significance would be attached to Japan's support for the Soviet Union's proposals concerning the convening in the future of a conference of all countries gravitating toward the Pacific per the All-European Conference in Helsinki type. A possible venue could be, for example, Hiroshima--the city which was the first to experience nuclear tragedy.

The 30-year experience of postwar Soviet-Japanese relations testifies that, despite the difference in social systems, the USSR and Japan, given the mutual desire, can find points of contact for mutually profitable cooperation in the most varied spheres in the name of the prosperity of the peoples of two countries. Today, under the conditions of the increased international tension and the threat of mankind's thermonuclear self-annihilation, such

cooperation becomes particularly important. In addition, it is assuming a truly imperative nature inasmuch as it is insistently dictated both by the vital interests of the two neighbor countries proper and the even broader tasks of ensuring peace and security in the region and throughout the world.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

8850

CSO: 1816/3

RESULTS OF REAGAN MONETARIST, TAX-CUT, BUDGET POLICIES VIEWED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 103-109

[Article by Vl. Kuznetsov: "Results of the 'Neoconservative Experiment'"]

[Text] In the spring of 1981 the Reagan administration advanced a program of measures which in the short term was to contribute to the economy's emergence from crisis and the curbing of inflation and, in the long term, ensure stable, noninflationary economic growth. In the press this program came to be called "Reaganomics".

From the very outset the principles and methods of "Reaganomics" were a target of sharp criticism on the part of many American and other Western scholars aimed predominantly against the theoretical groundlessness and contradictory nature of the economic views of the President and his closest advisers. Now, however, after 6 years of the administration's term in office, when the main results of its policy have become a reality, the criticism has assumed a more specific nature. Below is a survey of the articles of leading Western economists examining certain results of the "conservative experiment" in the U.S. economy. The authors agree that "Reaganomics" in the form in which its concepts were formulated in the spring of 1981 has been defeated both in the sphere of monetarist regulation of monetary circulation and in fiscal and tax policy.

Monetarism in Practice: Incompetence or Mistaken Theory?

The main instrument with which President R. Reagan intended pursuing an anticrisis and anti-inflation policy was monetary regulation built on the principles of monetarism. On assuming office the Republican administration did not simply support the monetarist practice of the Federal Reserve System (the Fed), transition to which had been officially proclaimed by P. Volker, chairman of its board of directors, back in the fall of 1979. To the monetarist concept henceforward would be attached to this extent or the other components of "Reaganomics" also. Monetarism was essentially a theoretical base designed to unite highly diverse propositions of the Reagan administration's entire economic program.

The results of the monetarist experiment are studied in the article "Failure of Monetarism" by the well-known British economist N. Kaldor.*

The author argues thus. The central proposition of monetarism, which spread in scientific and political circles of the West in parallel with the disenchantment with Keynesian prescriptions of government regulation of the economy, is that the basis of the movement of aggregate social demand and the overall level of prices is a change in the amount of money in circulation or the money supply. A surplus increase in the money supply higher than the "necessary level" on the part of the country's central bank serves as the main, if not the sole, cause of inflation and economic crises. Responsibility for the unevenness of economic development lies thus with the incorrect or inconsistent monetary policy of the central bank. Considering that the time lags with which money supply influences aggregate demand vary considerably, any "fine tuning" of the economy with the aid of a rapid change in the money supply is ineffective at best. Monetarists consider under these conditions the sole correct anticyclical policy the maintenance of a constant rate of growth of the money supply, which, they believe, must in itself lead after a certain time to price stabilization and steady economic growth.

In total agreement with monetarist theory, the U.S. central bank (the Fed) began to formulate its goals in terms of a desirable growth rate of the money supply, more precisely, monetary units--statistical indicators characterizing the amount of money in circulation and highly liquid credit instruments. The achievement of this rate, regardless of the dynamics of interest rates, was proclaimed the priority task of the Fed's entire policy. It employed all the levers of pressure accessible to it: transactions on the open market, regulation of the size of bank reserves and manipulations of the discount rate.

The economy's reaction to these "monetarist drugs," N. Kaldor observes, was entirely unexpected. The amplitude of the changes in the money supply increased sharply, and their direction proved unpredictable, what is more. In several months inflation and interest rates reached unprecedented heights. By mid-1980 both these indicators were above the 20-percent level, whereas in the 1970's, prior to the start of the monetarist experiment, they had not risen higher than 12 percent.

Demand for credit on the part of private borrowers, the expansion of which in the traditional form of bank loans was impeded by Fed regulation, remained extremely high under these conditions. At the same time, however, like mushrooms after rain, new credit institutions began to grow. As a result there was a decline in the efficiency of the deposit interest rate limitations and the system of mandatory bank reserves. The so-called money market funds, competing with the banks in the struggle for deposits and formally not subordinate to Fed regulation, increased their assets from \$4 billion in 1977 to \$210 billion in 1984. There was a mass transfer of transactions from

* See CHALLENGE, May-June 1985, pp 4-13.

American banks to their overseas branches, which also did not come under U.S. legislation. As a result the growth of the money supply largely passed out of central bank control.

The Fed was not slow to accuse for the failure of the policy of monetary regulation inadequate legislation preventing it from keeping tight control of the situation. A law was carried through Congress on monetary control supplemented by laws on credit control and the international banks. The Fed extended these instruments of control to the majority of the country's deposit institutions and their overseas branches. However, this extension and tightening of regulation caused merely a new outburst of speculative machinations in the credit sphere aimed at circumventing these restrictions.

As a whole the experiment in monetarist regulation of the economy in the United States (as in other countries--Britain and Chile--incidentally) was, Kaldor believes, a complete failure. After 18 months of the chaotic movement of interest rates and inflation, it was essentially ended. The Fed was forced to alter its policy appreciably, once again directing it toward a lowering of interest rates. As a result the growth rate of the money supply by mid-1983 had risen to 12 percent, that is, was more than at the end of the 1970's. "If such a policy is monetarism," even M. Friedman, the head of the monetarist school, declared, "I am not a monetarist."*

The experience of the United States and other countries which at the start of the 1980's had attempted in practice to avail themselves of monetarist prescriptions of regulation showed graphically once again, Kaldor concludes, to what negative consequences an economic policy based on erroneous theoretical premises leads. Essentially the groundlessness of monetarism as a theory was proved experimentally. It transpired, inter alia, that the fundamental principle of monetarism does not work in practice inasmuch as neither the government nor the central bank possesses sufficient power enabling them to control the movement of the money supply irrespective of the general state of the country's economy. The central bank has freedom of control over the money supply only to the extent to which its refusal to grant the private banks credit does not threaten the financial system as a whole. Currently, when credit relations permeate the entire economy, the failure of one or several credit-financial establishments could easily entail the general crisis of the entire "credit pyramid," from consumer loans through the loans of the banks which are members of the Federal Reserve System. Regardless of the declared policy, the central bank will attempt at whatever cost to maintain the stability of the credit system even in the event of it having to resort to the above-limit issue of money for this.

* See MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 11, 1984, p 104.

'A Monetary Control System Is No Use...'

The unsuccessful attempts of the central banks of the United States, Britain and a number of other countries to control the growth of the money supply for the purpose of stabilizing prices and the economic growth rate made at the start of the 1980's struck a serious blow at the authority of monetarist theory. For this reason leading representatives of the monetarist school were forced to explain the reasons for these failures, attempting to rehabilitate monetarism to some extent. The most attention, of course, has been attracted by the speeches of M. Friedman.

Commenting on the incapacity of the Bank of England to maintain the rate of growth of the money supply in the country at the desired level (in 1980, the first year of monetarist regulation, the money supply here increased 22 percent compared with the planned 7-11 percent), Friedman accused the bank's directors of a lack of competence. However, when, somewhat later, the situation was repeated in the United States, where the central bank is headed by an "experienced monetarist," P. Volker, other arguments had to be sought to explain the reasons for the uncontrollability of the money supply.

In the article "The Need to Restructure the Federal Reserve System" M. Friedman declines to examine the Fed's specific policy pertaining to regulation of the money supply.* The sources of the failure of the monetarist experiment in the United States lie, he believes, not in this mistake or the other made by P. Volker or his colleague but in the shortcomings of the existing methods and organization of monetary emission and control, which do not in principle permit achievement of the set goals.

A surprise finding for the monetarist made in the article is that "the dynamics of the money supply in past decades... have been determined to a far greater extent by the institutional structure of the Fed and the impact of general economic factors than the intentions, knowledge or personal attributes of the people formally responsible for monetary policy." Friedman observes here that "no one very important institution of the United States has produced such unsatisfactory results over such a lengthy period and at the same time had such a high reputation as the Fed."

The development of monetary policy incorporates primarily choice of control indicators and intermediate goals. A most important such target prior to October 1979 was the interest rate on the interbank credit market. The transition to monetarist practice was marked by a shift of accent to control of the movement of the monetary units. However, as of 1975 even the Congress had demanded that the Fed determine and extensively publicize the desirable rate of growth of the money supply. The question of precisely which monetary unit to take as the reference point in monetary policy is not one of principle, Friedman believes, since on average they all, from the narrowest to

* See CHALLENGE, July/August 1985, pp 4-12.

the broadest, move approximately synchronously. However, the Fed has preferred to orient itself simultaneously toward several indicators, and in 1983, when the growth of the most essential of them--the M₁ unit (cash on hand and current bank deposits)--exceeded all the planned figures, including those which had been several times adjusted even, it excluded it from the ranks of the target indicators altogether. Essentially such a policy complicated control of the efficiency of the Fed's actions and, as Friedman believes, merely created the appearance that the situation was under control. The orientation toward several indicators simultaneously, from his viewpoint, is all the more illogical in that the central bank can actually influence only one ingredient of the money supply--highly liquid assets. It is impossible to separately control various monetary units, using the sole lever of regulation--transactions on the interbank credit market. Other instruments of credit regulation in the Fed's hands such as the interest rate and the norm of mandatory bank reserves are altogether not adapted to operational monetary control.

In the course of so-called "defensive transactions" the Fed, depending on the state of economic conditions and the movement of the target financial indicators, sells or buys government securities on the interbank credit market. These transactions on the open market enable it to reduce or increase the supply of money in the country, striving to accomplish the set tasks pertaining to regulation of the credit-finance sphere. However, from the standpoints of monetarist theory it is precisely these actions of the Fed which should be reduced to a minimum since they are a powerful factor destabilizing the credit market. The unpredictability at each given moment of the direction and scale of the Fed's intervention in the transfer of capital between banks gives rise to speculative fever and sharp differences in interest rates. The Fed's directors justify transactions on the open market by the need for operational control of the state of the credit-monetary sphere. However, in reality the central bank conducts a tremendous number of mutual assistance transactions, the summary effect of which is negligible compared with their scale. Thus in 1982 the Fed increased its reserves of government securities by an average of only \$176 million a week. Yet in the process of acquiring them it purchased weekly bonds averaging \$13 billion and sold virtually the same amount.

The "defensive transactions" represent, in Friedman's opinion, a senseless expenditure of government resources, for which a private broker would long since have had criminal proceedings brought against him, but they permit the Fed to create the appearance of hectic activity. On the other hand, the secrecy shrouding all its transactions is very beneficial to the Fed's top managers. This secretiveness makes control of their activity on the part of the government more difficult.

The repeated revision and adjustment of target indicators, inconsistency in the use of levers of economic regulation, insufficient strictness in pursuit of the declared policy--all this testifies, Friedman concludes, that the Fed's directors are either unwilling to strive for the set goals or are incapable of achieving them owing to the imperfection of the very system of monetary control in the country.

Proceeding from this, Friedman formulates proposals pertaining to an improvement in the mechanism of monetary regulation. He sees as the main problem not the fact that the monetarist concept is bad but that it is impossible to implement it for "technical" reasons. Consequently, it is necessary to change the mechanism of monetary control such that it compel the money supply to grow at the necessary rate. For example, it would be useful, Friedman believes, to adopt an amendment to the U.S. Constitution obliging Congress to ensure a measured, within certain limits, increase in the supply of ready cash.

However, to secure such a cardinal step--the constitutional confirmation of monetarism as the sole correct economic theory--it is first necessary to change the existing status of the Fed in order that it be easier to control it. Friedman proposes first of all the elimination of its relative independence of the Treasury Department and other government authorities. Currently representatives of the Fed have an opportunity to heap the entire blame for economic difficulties in the country on the inadequate tax policy of the Treasury Department, and the latter, in turn, blames for all difficulties the mistaken monetary policy of the central bank. Combination of the functions of these two establishments within the framework of a single government institution would make it possible, Friedman believes, to increase the responsibility of those who determine credit-monetary policy for the decisions they adopt and intensify control of the accomplishment of the set tasks.

In imposing a tighter system of control of mandatory bank reserves and aligning the central bank's discount rate with the market rates the state would bring the money supply under its control. There would then be an opportunity for the next, more cardinal step in the sphere of monetary circulation. To this end Friedman proposes realization of the idea advanced by F. Hayek concerning abandonment of the government monopoly of the issue of money and transition to a system of several currencies competing among themselves issued by the private banks. He sees as the main advantage of such a monetary system the fact that with an opportunity to choose from various types of "money" the consumer would stop at the most reliable of them, whose purchasing power would be stable. It would thus, Friedman concludes, be possible to finally solve the problems of inflation and the instability of economic growth.

Where Do the Tax Benefits Go?

A lowering of taxes on profits as a method of stimulating the economy was employed back in the 1970's by the Ford and Carter administrations. However, in terms of scale Reagan's tax-cut program is several times superior to the previous ones. Primarily taxes are being reduced within the framework of the so-called accelerated cost-recovery system (ACRS) approved by Congress in 1981. In addition, the tax benefits are being granted the corporations with the aid of restored "tax credit" for the financing of new investments which had been canceled several years earlier. Further, for the purpose of stimulating capital investments the government authorized for the corporations partial compensation from the federal budget for their "overpayment" of taxes over a number of years preceding Reagan's assumption of office.

As a result the proportion of tax revenues from corporate profits, which in the 1950's-1960's constituted approximately one-fourth of government revenues, declined to 6.2 percent in 1983. The tax breaks granted the corporations are currently costing the government more than any other program apart from military spending and far more than all the poverty-assistance programs together.

In 1984 the Citizens in Defense of Tax Fairness organization conducted an investigation of how the ACRS and other tax refund channels had influenced the profits, taxes and investments of 250 of the biggest American nonfinance corporations. The results of this investigation were set forth in the article "Dispelled Myth of Investment Tax Incentives" by R.S. McIntyre and D.K. Tipps.*

The main conclusion reached by the authors is that all the government tax breaks were channeled into an increase in the dividends of the corporations' shareholders and had no effect on investment activity in the country. Moreover, the corporations which paid thanks to the said refunds less in the way of tax increased investments at a slower pace than the corporations with higher tax rates.

As a whole in the period 1981-1983 the 250 major corporations contributed to the federal budget, given a 46-percent base tax rate on profits in excess of \$100,000, 14.1 percent of their gross profits. In these 3 years here 65 companies either paid no tax at all or obtained additional profit in the form of the return to them of taxes which they had paid earlier. Their pretax profits in this period amounted to \$49.5 billion, while after the payment of taxes they increased by \$3.2 billion constituting compensation for "overpayment".

In pushing the amendments to tax legislation through Congress the President and corporate lobbying insistently sought to prove that without tax cuts it would not be possible to achieve an increase in investments and to extricate the economy from crisis. The well-known supply-side theory was used to scientifically substantiate the need for such a step. The reduction in taxation would allegedly be the equivalent of reduced costs for businessmen, which would prompt them to step up production (the supply of commodities) at new, lower prices, as a result of which there would be an automatic increase in demand. However, the businessmen themselves by no means followed this theory. The article of McIntyre and Tipps quotes the chairman of the board of a major American corporation speaking in 1981: "Both with the new tax law and without it we will stick to the investment policy scheduled earlier.... An entirely specific sum should be spent on an increase in the number of workers and the growth of capacity. Spending more is stupid."

* See CHALLENGE, May-June 1985, pp 47-52.

The data adduced in the investigation fully confirm that corporate investment plans are determined precisely by the level of demand for a product and not the conclusions of supply-side theory. From 1981 through 1983 the 50 corporations with the lowest tax rates (-8.4 percent) reduced industrial investment 21.6 percent. At the same time, on the other hand, the 50 corporations which paid the highest taxes (33.1 percent) increased investments 4.3 percent.

Where did the money with which the Republican administration so generously supplied the monopolies go? Here are some of the most striking examples. In the 3 years the General Electric corporation obtained \$6.5 billion in profit, of which it paid the federal government not a cent. In addition, the government paid it \$283 million in respect of "tax overpayment". The corporation took full advantage of all the benefits of Reagan's tax stimulation, but reduced investments 15 percent here and increased dividends 19 percent. Other firms engaged in this transfer of government resources into shareholders' pockets also. The Boeing Corporation, which obtained from the government \$267 million, reduced capital investments more than 50 percent and raised dividends almost 12 percent. The article adduces similar figures for the Dow Chemical, Tenneco and other corporations.

Altogether 238 of the biggest corporations, in response to the tax breaks they were granted, reduced investments 15.5 percent in the period 1981-1983 and increased dividends 17 percent. Besides dividends, other corporate expenditure increased also. Some \$209 billion were spent in this time merely on mergers and takeovers; advertising expenditure grew and liquid reserves were increased. While having cut investments 15 percent, the same General Electric reported in the annual report to the shareholders that it had amassed almost \$3 billion in liquid assets.

As the authors observe, the general economic situation also testifies to the ineffectiveness of Reagan's tax program. Real investments declined annually for the first 3 years of the operation of the ACRS and other tax breaks. Such a prolonged fall in the volume of investments had not been seen throughout the postwar history of the United States. Even considering the comparatively rapid growth of capital investments in 1984, their average annual growth rate in the 4 years of "Reaganomics," equal to 0.9 percent, remains extremely low compared with 1976-1980 (6.5 percent annually).

In just the 3 years the said 238 corporations avoided the payment of more than \$90 billion in taxes to the federal budget. However, the government's losses from the "Reaganomics" tax program are continuing to grow constantly and by the end of the 1980's will be approaching \$120 billion a year.

When paying benefits to the poorest families, the authors of the article conclude, the law requires that they make available information on the minutest details of their private life on the pretext of "protecting the taxpayers against losses, fraud and the unlawful use of government money." However, when it is a question of granting the wealthiest corporations tens of billions in the form of "tax incentives," the government "forgets" to ask for an accounting of the use of these sums.

Fiscal Policy: Economic Growth by Borrowing

The traditional conservative approach to fiscal policy implies demands for the balancing of the federal budget and a reduction in the proportion of revenue redistributed by the government. The "Reaganomics" program incorporated both these propositions. However, as distinct from his conservative predecessors and the majority of the current West European governments, which preferred to reduce taxes only after the corresponding reduction in the expenditure side of the budget, Reagan has operated the other way. His tactics have been, having cut taxes sharply, to use the budget deficit which has taken shape to put pressure on Congress on the question of cutbacks in civilian government programs. The theoretical base for the combination of a deficit budget program and the conservative foundation of "Reaganomics" were the calculations of the economist A. Laffer, who showed that the result of a tax cut would be economic upturn and a growth of government revenue.

In fact the U.S. Government's debt in 1981-1985 grew from \$1 trillion to \$2 trillion, and the 1985 budget deficit was in excess of \$200 billion. There was a change in the nature of these deficits also: from predominantly cyclical, connected with the movement of economic conditions, they have become predominantly structural, caused primarily by the buildup in military spending. An article by J. Tobin, the well-known American scholar and winner of the Nobel Prize for economics, "The Fiscal Revolution: Gloomy Prospects," is devoted to an analysis of the initial premises and possible consequences of the Republican administration's fiscal policy.*

Throughout the postwar period up to 1981, he observes, the fiscal policy of U.S. governments was comparatively stable. The relationship of the national debt to GNP, which serves as an indicator of savings frozen in the form of government bonds, declined in that period from 1.25 to 0.25 percent. This whole time budget deficits did not usually exceed 1 percent of GNP, while the average GNP growth rate constituted 3.5 percent. However, the said trend has been broken in recent years. The national debt has amounted to 36 percent of GNP, and, furthermore, considering existing spending programs, this relationship will by the end of the 1980's be approaching 50 percent even given favorable conditions--a high economic growth rate and low unemployment.

J. Tobin believes that the main role in this development of events has been performed by the reduced taxes on corporate profits and income tax and the buildup of military programs, as a consequence of which government spending has already increased by roughly 1 percent of GNP and will increase by a further 1.5 percent in the very near future. Despite all attempts to substantially cut the civilian items of the budget, social programs primarily, these reductions are hardly enough to compensate for the growth in military spending. As a result of the tax cuts the addition to the federal budget deficit has constituted approximately 2 percent of GNP and will have increased to 3.5 percent in the very near future, what is more.

* See CHALLENGE, Jan-Feb 1985, pp 12-16.

The future of the federal budget is being complicated considerably by the sharp growth of the expenditure on the payment of interest and the refinancing of the national debt, which also is a new trend. Throughout the postwar period the government's real expenditure on this item, according to J. Tobin's calculations, was close to zero. The point being that part of the interest payments was merely compensation for the inflationary growth of prices, that is, did not increase the real level of the debt, while the other part was returned to the federal budget in the form of increased income taxes. Besides, a principal holder of government securities are the federal reserve banks, whose revenues are channeled mainly into the treasury. The government was forced to increase considerably borrowing on the open market precisely in the period when real interest rates had as a result of the Fed's anticyclical policy leaped to 6-10 percent. Considering that an appreciable proportion of this borrowing is made up of long-term bonds, the government's interest payments, Tobin believes, will be extremely high for a long time to come. All these factors have brought about the accelerated growth of both the absolute size of the debt and its magnitude relative to GNP.

Tobin sees as the main danger of the growth of the U.S. federal budget deficit the coming clash of the government's need to finance its debt with the interests of industry and construction. The possibilities of financing productive investment in the country will be increasingly limited by the amount of government borrowing on the credit markets. Sooner or later the limited nature of national credit resources will be reflected in the overall level of interest rates, which, in turn, will be an important factor of a new crisis production recession.

A change in fiscal policy and a break with an undesirable trend in the dynamics of the national debt and the deficits will require either a tax increase or a reduction in military spending, but most likely both, J. Tobin concludes. He hopes that the problem of the deficits will disappear of its own accord in line with the economic upturn or that it can be resolved by further cuts in government social spending are absolutely unfounded.

The Republic administration hastened to declare the economic upturn which began in the United States in 1983 following the most prolonged crisis since the war a result of its successful economic policy. However, and this survey of the studies of Western economists testifies to this also, in practice for the most part only loud conservative rhetoric remains of "Reaganomics" in the form in which it was proclaimed at the start of 1981. The abandonment of tight credit-monetary policy and the Fed's return to regulating interest rates have essentially reflected the government's disenchantment with the economic prescriptions of monetarism. The practically uncontrollable growth of the federal budget deficit, which is a direct consequence of the implementation of the tax and fiscal program of "Reaganomics," has become a most acute economic problem of the United States. Furthermore, the increased instability of the country's financial system and the growth of the foreign trade deficit are also largely connected with the consequences of the unsuccessful "neoconservative experiment" of the start of the 1980's.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986

8850

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ECONOMIC ASPECTS OF U.S. 'SPACE MILITARIZATION' PLANS

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 110-115

[Article by A. Kireyev: "Economic Aspects of the American Plans for the Militarization of Space"]

[Text]

I

The United States' endeavor to put the latest achievements of the S&T revolution at the service of its imperial pretensions is manifested most clearly in the ambitious program for the creation of a broad-based antimissile defense system with space-based components within the framework of the "strategic defense initiative" (SDI).

The scale of the American plans for the militarization of space is beyond all comparison with the programs for the modernization of the armed forces or the creation of new types of arms which have been implemented in the United States hitherto. It is sufficient to say that the Manhattan Project was realized over 3 years and cost (in current prices) \$10 billion, the Apollo Project, 9 years and \$100 billion respectively. Implementation of the SDI, it is estimated, will take 30 years, and the cost of the fully deployed system could amount to \$1 trillion* and, according to some forecasts, several trillion dollars.

In the 1985 fiscal year expenditure on SDI constituted \$1.4 billion.** In the 1986 fiscal year it is planned allocating the "star wars" plans \$2.8 billion, and for the following year the Pentagon has requested \$5.4 billion, and in the 1991 fiscal year it is planned increasing these appropriations to \$8.9 billion. Currently SDI expenditure constitutes approximately 8 percent of deductions for the U.S. Defense Department's R&D, and by the 1990 fiscal year this proportion could have been increased to 20 percent. In addition,

* See U.S. NEWS AND WORLD REPORT, 9 December 1985, pp 49-50.

** TIME, 9 December 1985, p 23.

it is contemplated allocating for "star wars" weapons in the 1987 fiscal year \$603 million along Energy Department lines, which is over twice as much as in the current fiscal year. According to estimated figures, the total cost of the first stage of realization of SDI, which will last, American strategists calculate, until the start of the 1990's, will amount to \$69 billion (in 1985 prices).

Having a presentiment of colossal profits, approximately 240-260 American industrial corporations and research organizations responded to the proposals of the SDI Organization concerning specific areas of R&D. They included practically all the biggest arms manufacturers.

The already limited circle of the Pentagon's main contractors narrowed even further with the U.S. Administration's embarkation on the path of militarization of outer space. Contracts are being entrusted to a small number of the firms closest to the military department inasmuch as the technology of the manufacture of weapons for "star wars" must be kept strictly secret not only from the United States' potential enemies but also from its allies. For this purpose the American Defense Preparedness Association, a leading group of military industry, has formed a special section of SDI contractors.

Therefore despite the existence of a relatively wide range of claimants, 87.4 percent of orders has gone to only the 10 most "reliable" (see Table 1), and six of the main SDI contractors, furthermore, figured on the list of the 12 biggest American arms manufacturers.

Table 1. Participation of the United States' Biggest Military-Industrial Corporations in Realization of SDI

	Position among 12 biggest weapons manufacturers	Sum total of orders (1983-84, \$, millions)	Proportional participation in SDI (%)
Boeing	5	364.3	22.4
Lockheed	4	240.2	14.7
McDonnell-Douglas	1	236.8	14.5
LTV	-	211.0	12.9
Teledyne	-	115.4	7.1
Rockwell			
International	2	88.7	5.4
TRW	-	76.3	4.7
Hughes	7	34.8	2.1
Avco	-	30.6	1.8
Litton	10	25.3	1.5

It is by no means fortuitous that the main nuclear arms manufacturers in the United States are about to create a space "shield" allegedly guarding against nuclear damage. The main reason is the tremendous profits. In 1984 the average profit on the capital of the Pentagon's 10 biggest contractors constituted 25 percent, whereas for other industrial mining and commercial corporations, 12.8 percent.

The "star wars" contractors are availing themselves of the extremely favorable tax conditions which were introduced in 1981. Whereas 275 military-industrial monopolies reduced their payments to the treasury approximately threefold, the biggest space-based weapons manufacturers frequently paid no taxes at all. The average tax refund for eight military-industrial corporations constituted 5.7 percent of their volume. A poll of approximately 50 major American companies, whose profits in the period 1981-1984 amounted to \$56 billion, showed that they not only did not pay a single dollar in taxes but received from the treasury approximately \$2.4 billion, taking advantage of the loopholes in tax legislation and also manipulating depreciation deductions and investment credit.

However, even these financial privileges for the big wheels of big weapons business under contract for the development of space-based arms seem insufficient. Price machinations, bribery, concealment of the actual amounts of profit and so forth are practiced extensively.

The militarization of outer space is increasing the differentiation among the United States' biggest military-industrial corporations. A privileged group of companies which have obtained the main SDI contracts has been distinguished, which is fraught with an exacerbation of contradictions between them and the majority of the rest of the firms of the military sector of the economy involved in the fulfillment of orders merely as subcontractors. On the basis of the further union of the military-industrial corporations and the upper stratum of the American top brass and civil service the formation within the framework of the American military-industrial complex of an isolated grouping undertaking economic and S&T support for the SDI program is possible.

II

Theoretical evaluation of the basic principles of space-based arms within the SDI framework began long before it was structured conceptually. Big appropriations for the creation of the prototype of such weapons were made back in the first postwar years. At the height of the cold war former Hitler general U. Dornberger, who became vice president of the American Bell Aviation military-industrial corporation, was in charge of research into the creation of satellites carrying nuclear weapons which could upon command have "landed" at any point on the earth. The Argos Project at the end of the 1950's provided for a series of nuclear explosions in near-Earth orbit as a "rehearsal" for putting a potential enemy's communications out of action. In 1959 the United States tested a system which could be considered a prototype of the current ASAT antisatellite system.

Hoping for profitable contracts, private companies were investing resources in the creation of various components of space-based weapons even prior to the official proclamation of the "star wars" doctrine. As result many ABM systems proved very similar in design and engineering properties to anti-satellite weapons. It was this which enabled the American Voight to rapidly develop and test the ASAT system and be among the first to announce its

readiness to participate in the SDI. The major firms spend annually from internal sources up to \$30 million to develop individual systems pertaining to the "star wars" program.

Thus a large part of the appropriations for the creation of antimissile defense weapons may be seen simultaneously also as investments in the development of antisatellite systems. Expenditure on total military research in the ABM sphere amounted to approximately \$40 billion in the period 1954-1983. Consequently, the first, longest, stage of the creation of space-based weapons began in the United States 2-3 decades ago.*

The prospects of practical realization of the information directions of the SDI program requiring the creation of superpowerful fifth-generation computers can be discerned most clearly at the present time. To speed up this sphere of research the Pentagon has created a special computer programs and hardware development group, and contracts have been obtained by McDonnell-Douglas and IBM, among other corporations.

The United States has succeeded in making big progress in the creation of specific types of arms. Attesting this are the testing in September 1985 of the ASAT antisatellite system contemplating the destruction of satellites with two-stage missiles launched from high-altitude fighters, which it is planned deploying by 1987; the testing the same month of a powerful laser weapon against a real target, as a result of which a section of a Titan rocket in a stationary position was destroyed; the use for military purposes of flights of Shuttle-type spacecraft.

Following the catastrophe of the multiple-use Challenger craft, the U.S. Administration revised its approach to the Space Shuttle program. In accordance with the new schedule, it is proposed making 90 shuttle launches prior to 1992. Some 75 percent of the Shuttle payloads here in the 1987 and 1988 fiscal years will, according to information of the Congressional Budget Office, consist of military cargo, whereas prior to the catastrophe it accounted for 33 percent. And over 1,000 flights of one-time and multiple-use carrier rockets will, it is estimated, be required to put all "star wars" weapons in space.

The theoretical research into key problems of SDI, the spending to this end in past decades, the creation of experimental models of individual types of space-based weapons and their testing and, finally, the large-scale capital investments characteristic of the development of the prototypes necessary for operational testing testify that realization of the SDI program has passed beyond the confines of fundamental research. The present stage of the economic and S&T realization of the "star wars" program may be defined as the preproduction development of its main engineering components with some of them being brought to the stage of the creation of test models which are the direct prototype of space-based weapons for series production.

* For more detail see MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA No 11, 1985, pp 17-19.

To speed up the preproduction stage of the creation of space-based weapons the Pentagon is mobilizing large-scale S&T and testing-engineering potential. A minimum of 25-30 percent of scientists is involved in military developments in the United States--including approximately 5,000 persons conducting research directly in respect of the "star wars" program, and it is contemplated that their number will have risen to 18,600 by 1987.

Orders for the performance of R&D are spreading among national nuclear research laboratories, colleges, U.S. armed forces centers and private corporations. Scientific development in the SDI Organization is led by the specially formed agency for state-of-the-art engineering and technology, which has already given out orders among more than 600 colleges and research labs in the United States and West Europe.*

Military-space R&D is being financed from several sources, the main ones of which are the U.S. Defense Department, NASA, which is formally responsible for civilian research, but which in practice, particularly in the building of spacecraft of the Shuttle type, participates actively in military developments also, and also the U.S. Energy Department.

In February 1985 the U.S. President signed a directive on a joint program of research of the first two departments for \$12 billion, which is to provide additional resources for the financing of space flights. In accordance with the law on achieving a balanced federal budget, in 1986 alone the \$7.6 billion NASA budget is to be reduced by \$220 million.** It is not fortuitous, therefore, that NASA is endeavoring to obtain military orders. The Pentagon pays for each Shuttle flight which it uses for its own purposes \$55 million. Big sums are being invested in space exploration by the Departments of Commerce, Interior, Agriculture and others also.

The Pentagon is allocating college science considerable resources. In 1985 Pentagon investments in college research amounted to \$930 million, having increased almost 90 percent compared with the start of the 1980's.***

The structure of the capital investments in military R&D in the 1980's has come to be characterized by major investments in various spheres of electronics. Some 88 percent of the resources allocated for R&D within the SDI framework is directed to this end, whereas for civil aircraft manufacturing the corresponding indicator is only 33 percent, rocket manufacturing, 45 percent, and satellite building, 60 percent.**** The trend toward increased expenditure on electronic equipment is characteristic of the United States' aerospace industry. In the 1960's computers and their software constituted approximately 2 percent of the cost of the development and production of the

* See U.S. NEWS AND WORLD REPORT, 9 December 1985, p 49.

** See BUSINESS WEEK, 10 February 1986, pp 34, 38.

*** See U.S. NEWS AND WORLD REPORT, 9 December 1985, p 50.

**** See "Perception de l'IDS par les entreprises americaines," Brussels, 1985, p 16.

American F-4 fighter. A decade later, with the creation of the F-15 fighter, 26 percent of allocated resources had to be spent to this end, and of the current F-18, some 43 percent.*

Under the conditions of the government's special allocation of orders for military R&D a system of research organizations engaged in the development of "star wars" weapons is taking shape in the United States. The integration of science and production is taking place within the framework of research-manufacturing consortia created under the aegis of the government. Three such consortia were formed in the first half of 1986 alone. One of them, which incorporates the State University of New York, a U.S. Navy research lab and the General Electric Corporation, has been entrusted with the development and production of new semiconductor materials, particle-beam weapons and high-speed electronic equipment. The two other research-manufacturing consortia are engaged in the creation of powerful sources of energy and the state-of-the-art computer equipment for the SDI program.

THE WASHINGTON POST wrote in this connection: "As star wars are designed to protect the United States against enemy warheads, the 'star complex' hopes to protect this new business against any threat, including political attacks, pronouncements of skeptics and so forth."

The main developers and manufacturers of space-based arms are based in a few states which account for approximately 95 percent of the contracts granted by the government: California, Washington, Texas, Alabama and Massachusetts. And this is not surprising: senators from four of these states sit on the Senate Armed Services Committee, and lobbyists for military-industrial corporations, on the House Appropriations Committee Defense Appropriations Subcommittee. Thus the two main authorities on which the allocation of orders depends are under the supervision of those same big wheels of the United States' big weapons business.

The United States is creating primarily a strong national economic and S&T base for realization of the SDI program. This is leading to the increased militarization of all aspects of American life and the intensification of many economic and socioeconomic contradictions.

III

The development of the international functions of the contemporary U.S. military-industrial complex is manifested, inter alia, in its endeavor to associate with work on the SDI program the economic and S&T potential of West European countries and Japan. First, the United States is endeavoring to bring under control the militarist sector of the economy of West European countries and Japan as far as it pertains to the development and manufacturing of equipment which could potentially be used to create an independent

* See FORTUNE, 25 November 1985, p 78.

antisatellite defense system with space-based components. Second, the American military-industrial complex is interested in gaining access to certain types of the latest technology applicable for military purposes, the monopoly owners of which are some of its NATO allies and Japan.

And, finally, other capitalist countries' participation in the development of space-based weapons would make it possible to create the appearance of broad support for the "star wars" program, which could be used as an "argument" in the ideological struggle against the forces advocating the prevention of the militarization of outer space.

The specifics of United States' military-industrial relations with Japan consist of a considerably facilitated "procedure" for back in November 1983, that is, literally 6 months after the proclamation of the SDI program, an agreement on cooperation in the sphere of military technology was signed between the two countries. The Japanese-American Military Technology Exchange Committee, which was formed in accordance with this agreement, held a special session in September 1985, which discussed the possible spheres of Japan's participation in the American SDI, and an agreement was signed in December even on Japan putting at the Pentagon's disposal the latest surface-to-air missile guidance system. In September 1986 the Japanese Government adopted a decision on participation in the American "star wars" program, and it concerns not only private companies, what is more, but government research enterprises also.

On the European continent the United States is persistently involving companies and research centers of the FRG in realization of the SDI. The "benefits" of such participation heralded by the Pentagon are to consist of West German firms' "association" with the so-called "research" pertaining to the "star wars" program, which will afford them an opportunity to use the results of American developments and also circumvent the restrictions on arms production.

Britain hastened to be the first to confirm support for the "star wars" program in writing, signing in December 1985 a "memorandum of understanding" with the United States. However, the American side did not respond by agreeing to the persistent demand of M. Heseltine, former secretary of defense, concerning an assurance to British companies of a share in the SDI program to the tune of \$1.5 billion. Britain's participation was limited to 18 spheres of S&T cooperation, which forced the former secretary to announce: "The British Government cannot guarantee that British businessmen will obtain within the framework of this program contracts of any particular value."

Washington's intensified use of various economic, political and technological levels of pressure on its allies and the attempt to thus strengthen its own dominating position in the capitalist world will undoubtedly lead to increased contradictions both within NATO and between this aggressive bloc and other nonsocialist countries.

IV

How are the American defenders of "star wars" endeavoring to justify the colossal expenditure of material, technological, intellectual and other resources?

First, the defenders of the program of the militarization of space assert that the large-scale investments connected therewith will help revitalize the U.S. economy and alleviate the seriousness of cyclical fluctuations and structural disproportions. By participating in the SDI the narrow circle of the Pentagon's main industrial and S&T contractors hopes to secure for itself guaranteed orders for roughly 30 years. However, does this mean that impetus will be imparted to the United States' economic development?

According to estimates of American economists themselves, only 8-10 percent of the almost 1,000 proposals which had been received pertaining to "star wars" projects by the end of 1985 have a chance of realization.

Economic history reveals a clear inverse dependence between the size of states' military spending and the growth rate of their economy. Japan, which spends on arms less than 1 percent of GNP, has for two decades been characterized by the highest economic growth rate. At the same time, however, the United States, which channels into arms on average 6.8 percent of GNP, is more than two times inferior to Japan in terms of growth rate. And in the 1980's also there is no diminution in American arms spending, while for the European NATO countries it constitutes 3.9 percent of GNP.

Second, the supporters of SDI claim that its realization will lead to an abrupt leap forward in the sphere of the latest technology, which could be applied for civilian and military purposes. However, Western economists themselves acknowledge that military-industrial developments extremely rarely find a civilian application. Of the almost 8,000 inventions patented by the 100 biggest Pentagon contractors in the period 1949-1959, only 7 percent came to be used commercially. Of all the patents which were the result of NASA research programs prior to 1983, only 16 percent were usable for civilian purposes.* In addition, expenditure on military R&D is considerably less efficient. Thus while having financed 75 percent of military research in the sphere of integrated circuits in the period 1950-1965, the U.S. Government obtained only 3 percent of all patents in this field. The remaining 97 percent were obtained thanks to R&D conducted in the civilian sectors of the economy.**

Third, the SDI zealots claim that its realization will lead to the creation of a technically reliable space "shield," which will allegedly be capable of securing mankind from nuclear weapons. This proposition was convincingly

* See WIRTSCHAFTSWOCHE, 20 September 1985, pp 118, 120.

** See "Perception de l'IDS par les entreprises americaines," p 8.

refuted by the tragedy of the multiple-use Challenger craft, whose creators are the corporations contracted to fulfill SDI orders. The general supplier for the Space Shuttle program is Rockwell International, subsuppliers are the Martin Marietta, Lockheed, McDonnell-Douglas and other corporations.

Computers were unable to alert either the commander of the spacecraft or the flight control center to the danger. "Imperfect people do not create perfect machines. This explosion reminded us that we have no special relationship with space," G. Pike, assistant director for space research of the Federation of American Scientists, who is actively opposed to the plans for the militarization of space, said.*

The same opinion is held by many realistic American scientists. W. Arkin, director of the Nuclear Arms Research Center attached to Washington's Institute for the Study of Policy, declared: "...We lack the hardware for star wars, and, what is more, star wars are not a game, just like the Shuttle flight was by no means a stroll.**" The current space-based arms systems created in the United States cannot be completely insured against accidental wear and technical malfunctions. Such an "error" could cost the lives not of a few cosmonauts but of all mankind.

And, finally, one further argument adduced by the supporters of the program for the militarization of space is that the large-scale capital investments will make it possible to create a large number of new jobs and will thereby contribute to an easing of a chronic problem of present-day America--that of unemployment.

Truly, the military-industrial corporations are big employers. The number of staff employees of Lockheed, for example, is 29,000, and it could, it is estimated, grow to 35,000 in the course of implementation of the SDI.*** Nonetheless, currently even an ordinal increase in defense appropriations will not be capable of guaranteeing an adequate increase in jobs. The point being that at the present stage of the S&T revolution the growth of military production is taking the path of an increase in its technological capacity and, consequently, a corresponding upgrading of the skills level of the workmen servicing it.

American economists estimate that military appropriations, given their present rate of growth, will create in the United States in the period 1984-1987 approximately 1.2 million new jobs. However, the same investments in the civilian sectors would create 25 percent more of them.****

* THE NEW YORK TIMES, 2 February 1986.

** L'ESPRESSO, 9 February 1986, p 12.

*** See AVIATION WEEK AND SPACE TECHNOLOGY, 18 November 1985, p 21.

**** FORTUNE, 30 April 1984, p 12.

Thus while advocating the enlistment in the manufacture of arms pertaining to the SDI program of an appreciable part of the military-industrial potential of the United States and its allies, the defenders of "star wars" are incapable of substantiating the "positive" economic and S&T consequences of the militarization of space.

Mankind has entered a new critical stage of the space age. The material and intellectual potential of the Soviet Union ensures the possibility of the creation of any weapons, if it is forced into this. However, it is not the arms race which is an ideal of socialism. The USSR offers a specific program of the complete elimination before the end of the current century of all nuclear weapons throughout the world inasmuch as it recognizes the full measure of responsibility to present and future generations. "It is our profound belief," the statement of M.S. Gorbachev, general secretary of the CPSU Central Committee, of 15 January 1986 says, "that we need to enter the third millenium not with a program of 'star wars' but large-scale plans for the peaceful conquest of space by the forces of all mankind. We propose that such plans be elaborated and implemented in practice. This is a most important way of ensuring progress throughout our planet and the formation of a reliable system of security for all."

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

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CSO: 1816/3

ACADEMIC CONFERENCE ON CEMA-EEC ECONOMIC COOPERATION

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 123-125

[I. Fedorchenko report: "Problems of East-West Cooperation"]

[Text] The S&T seminar "The European Community and the Socialist Countries: Problems and Prospects of Economic and S&T Cooperation" organized by the Problems of West European Countries' Economic Integration Workshop was held in the Moscow State University. Representatives of the USSR Ministry of Foreign Trade All-Union Business Conditions Research Institute, USSR Council of Ministers State Committee for Science and Technology, USSR Academy of Sciences World Economy and International Relations Institute (IMEMO), USSR Academy of Sciences Social Sciences Institute, USSR Academy of Sciences United States and Canada Institute, the CEMA International Institute of Economic Problems of the World Socialist System, Moscow State University, USSR Foreign Ministry, USSR Foreign Ministry Moscow State International Relations Institute and the Moscow Financial Institute participated in the seminar.

Opening the scientific seminar, Doctor of Economic Sciences L. Glukharev, leader of the laboratory, emphasized the relevance of a study of problems of relations between CEMA and the EC. In his opinion, the need for an expansion of trade relations and industrial and S&T cooperation has been brought about by the objective regularities of the internationalization of economic life. But this is not only an economic but also most acute political problem and target of the ideological struggle. L. Glukharev noted the evolution of the Community's strategy with respect to the socialist countries and the growth of its significance in the EC's global policy. Soviet scholars are faced with the task of elaborating an efficient mechanism of economic cooperation between CEMA and the EC.

Candidate of Economic Sciences V. Gorskiy (who also spoke on behalf of Ye. Chebotareva, All-Union Research and Design Institute) emphasized that the Community had embarked on a qualitatively new stage of development. The attempts to create a common domestic market, the functioning of the European currency system, stimulation of cooperation in the sphere of advanced science and technology, the increased coordination of foreign policy and the signing

of the Common European Act determining the Community's development up to the end of the century testify to this. Practically all West European countries which are not members of the Community are closely linked with it. The formation of a common West European market is under way. This is creating new problems for the CEMA countries also. As is known, the Community adheres to a differentiated approach to relations with the socialist states. CEMA has proposed the signing of a declaration on the establishment of official relations between CEMA and the EC. Cooperation could be developed in the sphere of statistics, economic forecasting, standardization, environmental protection, transport and power engineering and science and technology.

Doctor of Economic Sciences V. Shenayev (IMEMO) pointed to the fact that relations between countries which are a part of the capitalist and socialist integration organizations should develop both on a bilateral and multilateral basis. Relations between countries with different social systems strengthen international economic security, and it, in turn, underpins political security. The relaxation of international tension in the 1970's was manifested in the development of East-West economic relations, but was not underpinned in the military sphere--in the sphere of arms reduction. The second phase of detente, for which the USSR and the other socialist countries are calling, could be successful only with progress in the disarmament negotiations. Observance of the principle of mutual benefit is essential for preservation of the roots of detente materialized in economic relations. The prospects of the development of relations between CEMA and the EC largely depend on an improvement in the mechanism and forms of economic cooperation. This applies primarily to industrial cooperation, mixed companies, compensation agreements and cooperation in third countries and in the S&T sphere, including participation in joint projects.

In his speech Candidate of Economic Sciences Yu. Osipov (Moscow State University) raised the question of the need for consideration of the impact of the specifics of the worldwide economy on East-West relations.

Doctor of Economic Sciences M. Osmova (Moscow State University) emphasized the need for the enhanced efficiency of the foreign economic relations of the members of CEMA and the EC by way of closer coordination of actions between the socialist countries and their extended cooperation, particularly in the sphere of the specialization and cooperation of production, primarily in machine building. All this would make it possible to enhance the quality of competitiveness of products and thereby create a stronger highly developed base for relations between the socialist and capitalist countries, specifically states of the Community. An important task remains satisfaction of the CEMA countries' machinery and equipment requirements thanks to reciprocal supplies thereof. An appreciable increase in imports of these commodities from the EC countries is possible only on condition of a corresponding growth of exports to the West.

Candidate of Economic Sciences A. Terekhov (United States and Canada Institute) believes the main direction of an improvement in economic and S&T relations between socialist and capitalist countries to be a reorganization

of the very mechanism of bilateral specialization and production cooperation agreements. An analysis of the realization of large-scale and long-term agreements between the socialist and capitalist countries testifies to the urgent need for transition from barter-type compensation agreements to more developed forms of economic cooperation--joint enterprises.

Doctor of Economic Sciences N. Shmelev (United States and Canada Institute) observed that hitherto attempts to solve the problem of relations between CEMA and the EC by way of the establishment of official relations had not been successful. This problem could be solved considerably more easily if the USSR and the other socialist countries participate in GATT as full members. The speaker dwelt on urgent tasks--a change in the structure of exports and its alignment with the arterial directions of S&T progress and a quest for new forms of relations with Western partners.

Candidate of Economic Sciences Yu. Andreyev (IMEMO) emphasized that the state of the economic relations of the socialist countries and the EC at the present time and in the immediate future will determine bilateral relations. However, the CEMA countries are interested in supplementing their bilateral relations with multilateral relations and developing their institutional mechanism. Importance is attached to the elaboration of East-West foreign economic strategy. It should be based on the optimum solutions of fundamental domestic problems of the national economy, without which a strengthening and diversification of export potential and the achievement of technical-economic independence in the central areas of S&T progress are impossible.

Doctor of Economic Sciences K. Popov (CEMA International Institute of Economic Problems of the World Socialist System) observed that as a consequence of objective conditions--economic complementariness, geographical proximity, presence of a developed infrastructure and so forth--the countries of CEMA and the EC are important partners in reciprocal trade. In the 1970's commodity turnover between them grew by a factor of more than 4.5, but by the start of the 1980's this growth had slowed, which was connected not least with the increased antisocialist thrust of Community policy. The establishment of treaty relations between the CEMA and EC authorities could contribute to the development of mutually profitable economic relations between the two groupings.

Doctor of Economic Sciences N. Liventsev (Moscow State International Relations Institute) dwelt in detail on the Community countries' so-called differentiated approach to trade with the socialist states, primarily CEMA. The EC countries are attempting to counterpose the USSR to the other states of the socialist camp, the European socialist countries, to Vietnam, Cuba and Mongolia and the CEMA states, to countries which are not members thereof. Appreciable differences can be traced in the approach to trade with the socialist countries on the part of individual Community states.

Emphasizing the multilevel nature of the problem of socialist countries' relations with the EC, Doctor of Economic Sciences I. Faminskiy (Moscow State University) analyzed the process of the development of relations between

them. He observed that there are definite possibilities of growth of economic relations, considering the United States' reorientation toward the Pacific market and the weakening of American positions on the markets of West European countries. He also dwelt on questions of the development of foreign trade relations and emphasized the need for a reorganization of the structure of the socialist countries' foreign trade and a change in the foreign trade mechanism (the closer connection of industry and foreign trade and the adoption of efficient measures pertaining to the economic stimulation of industry contributing to the manufacture of competitive products).

Doctor of Economic Sciences V. Motylev (Moscow Financial Institute) dwelt on questions connected with models of the international division of labor, specifically, of the high-science specialization of industrial capitalist countries created in the 1970's by representatives of neotechnological bourgeois theories. The models of high-science specialization impose on the socialist states labor-intensive and resource-consuming specialization and assign them the role of suppliers of finished products of light industry and raw materials. Yet the socialist countries are capable of participation in intra-sectoral trade and exporting machinery, equipment and instruments and so forth on an ever increasing scale.

Having touched on the problem of relations between the three centers of imperialist rivalry in the light of the prospects of the development of relations with the socialist countries, Doctor of Economic Sciences V. Zhelezova (Moscow State University) observed that the United States is less interested in the development of relations with the socialist states and has less to lose from a variety of restrictions, embargoes and so forth. This is explained primarily by the large scale of its domestic market, the export structure and a number of other factors. As far as Japan is concerned, it is heavily dependent on external markets and is interested in expanding them, thanks to the socialist countries included.

N. Berdennikov (State Committee for Science and Technology) devoted his speech to the importance of S&T cooperation as an integral part of the foreign economic relations of the socialist countries and the EC. He emphasized that the capitalist countries, of West Europe primarily, are interested in the development of S&T cooperation with the socialist countries, particularly in the sphere of the fundamental sciences. This process is being impeded by the United States, substituting technology transfer for S&T relations. The speaker called on economists to provide a more precise definition of such concepts as S&T and economic cooperation, industrial joint labor and so forth lest S&T cooperation be identified with industrial-economic cooperation, economic-technical with production cooperation and so forth.

Doctor of Economic Sciences T. Belous (IMEMO) dwelt in detail on license trade between the socialist and capitalist countries as the main part of S&T exchange. License trade creates strong prerequisites for the development of cooperation agreements. The signing of 25 percent of cooperation contracts with capitalist firms was preceded by the conclusion of license agreements. Access to advanced technology could be afforded by cross-licensing, that is,

the exchange of licenses per the principle of the equality of the volume and significance of the technology transferred. An important reserve for an expansion of CEMA's trade with the capitalist countries is an extension of S&T relations and license trade with small high-tech firms, for which the sale of advanced technology is almost the sole form of foreign economic activity.

Candidate of Economic Sciences N. Shulyukin (Moscow State University) supported the idea expressed at the seminar concerning the growing significance of S&T cooperation in the system of trade-economic relations between CEMA and the EC and also the need for an improvement of the foreign economic mechanism of the CEMA countries. The prerequisites of the development of cooperation are secured by the high level of the S&T potential of the USSR and the other socialist countries.

Candidate of Economic Sciences Ye. Talyzina (Moscow State University) dwelt on questions connected with promising directions and forms of CEMA-EC cooperation: S&T and industrial cooperation and their coordination. This incorporates the mutual exchange of specialists, international symposia and conferences and the organization of joint work on major S&T projects. This form of cooperation is being employed extensively, and it would be expedient to extend it to such spheres as the creation of joint temporary research groups, laboratories, design offices and so forth, that is, bring the coordination forms closer to cooperation forms.

Doctor of Economic Sciences M. Bunkina (Social Sciences Institute) analyzed certain problems of social progress and antimonopoly and democratic transformations in the West European region in the light of the prospects of relations between CEMA and the EC. Primarily the growing interdependence of the groupings is highly important for European security and, consequently, is an essential factor of social progress in West European countries. The formation of an all-European market and the growth of the all-European division of labor are stimulating the process of the creation of new jobs in West European countries.

In conclusion L. Glukharev emphasized the undoubted benefit of such seminars for study of the problems of cooperation between countries of East and West.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

8850

CSO: 1816/3

ROLE OF U.S. UNIVERSITIES IN INDUSTRIAL R&D

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 126-132

[Article by I. Goryunov: "The Higher School and Innovations in U.S. Industry: Some Problems in Scientific-Production Cooperation"]

[Text] The U.S. higher school has traditionally had developed S&T and experimental potential. The results of colleges' fundamental research become a source of new theoretical concepts and, given the extensive support of business, find practical application in industry.

The need for the accelerated replacement of the manufactured product, its increased scientific content and the intensification of competitive struggle on sales markets have heightened considerably the problem of the interaction of various sectors of the science-production sphere (the government, firms, colleges, "nonprofit" organizations), including higher educational institutions and industrial companies. The efforts geared to its solution have by the mid-1980's assumed considerable proportions. As a result a circle of cooperating contractors has been defined and the most promising organizational-economic forms of their cooperation have been developed.

Of the industrial firms' \$300 million of direct investments in academic R&D in 1981, 85 percent of the allocations went to almost 100 elite higher educational institutions (7 percent of the total number of higher educational institutions with the right to confer degrees) with strong research facilities. Although the relative significance of companies in the financing of American colleges remains comparatively low, there is a growth trend: in the period 1972-1982 it increased from 4.2 to 6.2 percent.

Forms of Company and Higher Educational Institution Interaction

The cooperation of industry and the higher school has a long history both in the sphere of the training of skilled personnel and in the field of R&D. Certain forms of interaction like, for example, professors' consultations for the firms have long served as a source of increased revenue for both sides. Others have appeared comparatively recently and have become prevalent only in the 1980's. A particular feature of recent years has been the higher

school's increased interest in conducting joint R&D with the companies. A substantial role has been performed here by the reduced scale of financing of the higher educational institutions from the federal budget. According to figures of the start of the 1980's, two-thirds of the agreements of companies and colleges of the United States were concluded at the initiative of the latter. The forms of cooperation have become more varied, and its main types have come to light.

The first type of cooperation relations is assistance to the higher educational institutions of a charitable nature. Corporations, charitable foundations and private individuals freely donate to them considerable sums of money, equipment, instruments, computer programs, plots of land and so forth. For example, the College of Business Administration of the University of Texas at Arlington alone received free in 1984 \$380,000 from 37 firms and private individuals, a parcel of land from an alumnus and computer application programs from the Wang Corporation worth \$150,000 together with a computer costing \$76,000. The overwhelming proportion of the charitable investments is used by the higher educational institutions to provide their laboratories with modern equipment. For example, of the \$50 million in donations to 20 colleges allocated in 1979-1984 by the IBM Corporation, \$40 million went on the purchase of instruments. For higher educational institutions of an engineering profile this is of particular significance inasmuch as the average age of their equipment is considerably greater than in industry.

A characteristic feature of this form of cooperation is the nonspecific nature and apparent absence of direct benefit to the investor. This distinguishes it from the agreements which stipulate the fields of the use of the donations. At the same time the corporations' philanthropy is dictated by an entirely specific, if not always manifest, economic interest. Thus according to American legislation, donations of all kinds are deductible from taxable gross income. Much attention is paid to questions of enhancing the prestige and earning popularity for the "benefactor," which ultimately results in strengthened positions in the competitive struggle. For this reason, at their own admission, it is frequently all the same to the companies to whom they lend support: a local hospital, symphony orchestra or university.

The second type of cooperation may be designated as the transfer of technology from the higher school to industry. The majority of forms of cooperation of this type is connected not so much with the R&D process itself as with the creation of the organizational-economic conditions for the transfer of its results to the companies. Here pertain the consultation activity of the teaching staff, joint seminars and conferences, the invitation of engineers and shop-floor managers to lecturing work per the plurality principle, the organization of consultation boards from the ranks of businessmen in the faculties and others. In addition, the companies increase their research potential by taking on qualified graduates and sometimes by enticing professors. The firms' cooperation with the colleges is also expressed in the orientation of curricula toward the needs of industry, the payment of special grants to promising students, the organization of improvement centers under the auspices of the faculties and departments and so forth.

In the development and implementation of programs of partnership between the higher educational institutions and the companies a special role belongs to the graduate associations which operate at the majority of American universities. Occupying in time key positions in the business world, former students contribute to the growth of their alma mater. Their associations have periodical publications which raise and discuss problems of the higher educational institution, including questions of the realization of the accumulated potential of knowhow and technology. This permits them not only to depict an evolved system of cooperation relations but also to attract new firms to their orbit. The companies in which leading positions are held by graduates of the said higher educational institution usually render it considerable charitable support also. The graduate liaison programs are frequently separate from the partnership programs, although they largely pursue the same goals, namely, attracting the resources of business for the development of science and education and expansion of the accumulated knowhow and technology markets.

The concept of "technology" as distinct from "knowhow" encompasses completed R&D, test models, design records and so forth. Their transfer is frequently controlled in the universities by specialized, organizationally exclusive subdivisions: for example, engineering centers, innovation centers and others. By the mid-1970's the United States had approximately 40 engineering centers in whose financing the federal government participated together with the firms. The creation of the first of them at the start of the century in the state of Illinois on federal funds was aimed at stimulating the development of the agrarian areas, which were backward compared with the industrially developed areas, interesting business in the possibility of access to technology developed by the universities. Many of the engineering centers are today also an important source of an increase in regional scientific-production potential. The center attached to the Texas A&M in College Station, which has a network of branches in the state, may serve as an example.

Thanks to an active publicity campaign, the innovation centers performing similar functions have become widely known. The first of them was organized by the United States' National Science Foundation in 1974 under the auspices of three universities. Their creation pursued several goals, among which were the transfer of technology to small high-tech firms to assist the gifted inventors who had founded them. By the start of the 1980's some 30 highly profitable "branch companies" had been formed with the support of the centers. The successful beginnings served as the basis for broadening the scale of the experiment: there are currently approximately 40 such centers. Being, as a rule, in the vicinity of the universities, the "branches" frequently constitute the backbone of research-industrial pools, the standard among which is considered to be Silicon Valley in California and Highway 128 in a neighborhood of Boston. A strong pool is taking shape today in the Dallas-Fort Worth region. Its nucleus is the University of Texas at Arlington, which cooperates actively with the Texas Christian University in Dallas and Southern Methodist University in Fort Worth. Largely thanks to this, the region has in the past several years moved into one of the leading places in the United States in terms of economic growth.

A third type of cooperation of the higher educational institutions and companies is joint R&D. It pursues, as a rule, a specific goal determined by the partners at the outset. One or several companies usually acts as the payer-client, and the university, the executant. Bilateral research programs are the simplest form. For example, at the start of the 1980's the Monsanto concern signed with the Rockefeller University in New York City a 5-year contract worth \$4 million for an investigation of the gene nature of plant photosynthesis. Simultaneously it allocated the University of Washington \$23.5 million for research in the sphere of cancer treatment. Frequently in the course of joint R&D the firms pass on instruments and equipment to the higher educational institutions, provide them with special materials, render assistance in upgrading the laboratory-experimental facilities and so forth. The universities readily conclude such contracts inasmuch as the material assets which are transferred to them could subsequently be used in subsequent work. Interested in the acquisition of new, frequently unique and costly equipment, they sometimes make its transfer a condition of the contract.

Personal gratis specific subsidies (grants), which the firms make available to scientists working in the higher educational institutions, are a widespread form of the organization of R&D, basic mainly. As a rule, the grants are initiated by the research workers themselves. Some companies receive from competing scientists up to 100 proposals a week. The major corporations have special grant programs and funds. For example, the branch of the Rockwell International concern in Dallas has annually, as of 1976, allocated from \$40,000 to \$100,000 in the form of grants to individual scientists of the engineering school of the University of Texas at Arlington for research in the sphere of the transmission of radio signals. According to estimates of the firm, each dollar invested in this form produces on average \$4-5 profit. Upon obtaining a grant the university scientists themselves decide how best to use these resources. The bulk of them is spent, as a rule, on payment for technical services, computer time and so forth.

The cooperation of the colleges and industry in the R&D sphere is frequently practiced on a multilateral basis also. Several companies whose interests are connected with the same field of research may participate in joint specific programs, for example. A major higher educational institution sometimes has several dozen programs (Stanford University, for example, has 20). As a rule, such programs are of an applied nature and are geared to a period of 2-3 years. The participating firms annually allocate for the financing of the programs \$1,000 to \$25,000 on average.

In recent years promising multilateral programs have been developed increasingly in the form of joint research centers set up on the basis of the universities, whose shareholders are the participating firms. Many of such centers which exist in the United States were formed as a result of the expansion of cooperation programs which were begun earlier. The Integrated Circuit Development Center attached to Stanford University may serve as an example. It should be mentioned that the creation of a joint research center

could precede the program. Thus at the start of the 1980's in Austin, capital of the state of Texas, 12 leading electronics companies organized an interfirm microelectronics and computer technology center with an annual budget of \$100 million, staffing it with highly qualified personnel. The decisive factor in the choice of location of the center was territorial proximity to two higher educational institutions--the University of Texas at Austin and the Texas A&M in College Station. Several new departments in subjects connected with the activity of the center have been inaugurated in both as of the present time. Some \$750,000 were allocated simultaneously for specific student grants. It is contemplated expanding lecturers' participation in the realization of the center's programs and in the future making it a part of the University of Texas at Austin.

The academic status of the joint research centers may vary: university, faculty, department. One encounters most often centers formed on the basis of a department. Consultative committees were formed in the centers, which are their highest authorities, for determination of the main areas of work and the formulation of a uniform S&T policy corresponding to the interests of both client and executant. The committees incorporate representatives of both sides, however, as a rule, the companies are represented by the larger number of voices. Thus firms' top managers constitute two-thirds of the consultative committee of the University of Arizona's Engineering Development Center. Understandably, given the abundant financing of the R&D, business acquires most-favored status when it is a question of the use of the higher educational institution's potential in its own interests.

As independent organizational units within the university framework, the joint research centers create the conditions for the joint work of the participants in the R&D program. The intensive relations of the developers with one another and with the outside environment in relation to the center determine the relatively high efficiency of their work. However, recently the corporations have been making efforts increasingly to create virtually completely autonomous centers or institutes. Premises are being built and equipment is being installed for them. While formally an integral component of this higher educational institution or the other, in reality they are essentially independent organizations specializing in joint developments with industry. Frequently the stimulus to the creation of such organizations is a "gift" of some monopoly or other, charitable foundation or private individual. The example of the Biomedical Research Institute formed under the auspices of MIT in 1981 is characteristic. The resources for the purchase of the land, development of the building, acquisition of the equipment and the organization of the work--\$120 million all told--were donated by E. Whitehead, head of the Whitehead finance company. Formally the new research subdivision is a part of MIT and invites its lecturers and students to work there. At the same time it pursues an independent S&T policy, oriented primarily toward the requirements of industry.

Academic officials render industry annually considerable consultation service. But only part of it provides impetus for the formation of stable channels of contractor interaction. To strengthen relations the firms expand the hiring of graduates of particular higher educational institutions and also send there their own specialists as lecturers. The reciprocal requirements and possibilities considered and specified as a result of the development of relations may serve as the point of departure upon the determination of joint strategy in the sphere of technology transfer or joint prospects. There is frequently an increase in financial support here on the part of the companies in the form of donations, loans and such. The next step is the attraction to the orbit of cooperation of other participants. The final result is the organization of an innovations center and the implementation of multilateral cooperation programs.

On the frontier of the 1980's the spontaneous nature of the formation of cooperation relations and their multistep character and the not always sufficient information about the partner began to serve as a serious impediment to the development of this process. The acceleration of S&T progress and the increased role of the time factor in the competitive struggle demanded the creation of conditions for the rapid transition to complex and capital-intensive forms of cooperation. As a result research-production consortia, associations and so forth appeared which have gained ever increasing prevalence and the support of business as of the latter half of the 1970's.

The consortia may unite dozens of universities and companies. The majority are of a sectoral nature. For example, the Chemical Research Council organized in 1981 unites 37 chemical concerns and 128 colleges of the country. Each participant may simultaneously be a member of another group organization.

The Semiconductor Research Corporation, which was created at the start of the 1980's, is an example of the successful activity of a consortium. In 1983 alone the companies which are a part of it concluded contracts for R&D with 32 universities to a total of \$7.6 million. It is planned in the future raising the extent of the deals to \$100 million. Under the auspices of three higher educational institutions which are members of the consortium "centers of excellence" have been created for the development of projects per the orders of industry which are priority orders for the corporation. Simultaneously a number of research programs are being financed in the course of realization of which new centers could be created in time. Science-practical conferences are held regularly, journals are published, engineering reports, the material of seminars, newssheets and intermediate project reports are issued and so forth. Thus besides research and planning-design activity, a great deal of work is performed within the consortium framework on technology transfer, the spread of information and the organization of S&T relations. The rate of application of the results of R&D in production is thereby accelerated and their orientation toward industry's actual requirements is strengthened.

The majority of the consortia is created at the initiative of the companies and then establishes ties to the higher educational institutions. The reverse trend is observed also, however. For the purpose of rapprochement with industry the universities frequently create their own associations, of a regional nature, as a rule. Thus the Northern Texas Higher Education Association uniting 17 of the region's leading higher educational institutions was formed in 1979. In 1981 it issued the report "Industry and the Universities: Development of Joint Research in National Interests," which emphasized the need for an improvement in mutual knowledgeability concerning one another's requirements and possibilities.

As of the latter half of the 1970's the formation of consortia and associations created the basis for the cooperation of the higher school and business at the national level. The first to go beyond a sectoral and regional framework was the Higher Education and Industry Forum, which was created in 1978 and which united the managers of 25 of the biggest corporations and the presidents of a number of universities. The main task of the forum, as its creators intended, is an attempt to regulate contractors' relations and impart to them the nature of a regular exchange of information, which could make it possible to align supply and demand on the knowhow market. Actually such organization conceals an endeavor on the part of the monopolies, outpacing others, to attach the leading higher educational institutions to the spheres of their interests. This is achieved primarily thanks to the availability in the leading corporations of huge financial resources, which are channeled into payment for research-production service.

The biggest research-production consortium in the United States is the Technology Transfer Conference, which was created at the start of 1985. It incorporates 120 higher educational institutions and 150 companies.

The appearance and rapid development of such consortia and associations reflects the qualitatively new stage of research-industrial cooperation. It may be characterized as the integration of the potentials of the corporations and higher schools at all levels of their interaction permitting a prompt regrouping of available resources for the purpose of the increased efficiency of fundamental and applied research and the accelerated application of their results. The possibilities of integration increase in line with the development and interweaving of the numerous forms of bilateral and multilateral ties. At the same time there is an increased concentration of cooperation relations in the biggest corporations and elite higher educational institutions. According to our calculations, at the start of the 1980's the number of firms which were the partners in joint research on average per university constituted for the first ten universities (per the accepted "table of ranks" in the United States) approximately 120; the second, 90, the third, 50 and so forth. A growing proportion of gifted scientists is being concentrated in the universities which are supported by industry. The most capable graduates are increasingly obtaining jobs in the cooperating companies. There is thereby an increase in the already significant unevenness of the development of the American higher school and the gap between its elite and the bulk of universities.

Increased Role of the Government

In the 1980's federal, state and local authorities in the United States are continuing to pursue an active policy aimed at the stimulation of innovations in all sectors of the American economy. Encouragement of the transfer of technology and other forms of relations between industry and the higher educational institutions has become a most important direction thereof. The government's measures in this sphere are an integral part of its economic policy as a whole. For example, the introduction in 1981 of an updated version of tax legislation permitted firms to attribute 65 percent of expenditure on the payment for research services from outside, from the higher educational institutions included, to the category of R&D expenditure and, consequently, to deduct it from the taxable total.

Together with the National Science Foundation the formation of industrial technology centers attached to the universities has been entrusted to the Commerce Department's Industrial Technology Agency, which was organized in 1979. These subdivisions are not only to conduct R&D of national significance, make expert analyses of engineering ideas and plans, train personnel and cater for the transfer of industrial technology, patents and licenses but also participate with the firms in joint research programs. In accordance with the Technical Innovations Act passed in 1979, \$40 million was allocated for the creation of the centers in 1980, \$50 million in 1981 and \$60 million in 1982-1984 annually.

The state governments are endeavoring to use the cooperation programs and other forms of the cooperation of the higher educational institutions and industry to accelerate the development of their regions. Thus a microelectronics center was formed in 1981 in the University of California's (Berkeley) Electrical Engineering Faculty with the help of local resources. The government of the state of California allocated it \$2.6 million, counting on obtaining approximately the same amount from companies. The center's consultative committee includes representatives of all the parties concerned: the authorities, industry and the universities. The state has undertaken to financially support the center's programs in which the companies intend investing capital.

Endeavoring to attract private capital to the R&D sphere, the state is creating the conditions the most conducive to the corporations' participation in the cooperation programs. A number of measures have been adopted easing the demands of antitrust legislation. As of 1984 companies, for example, have officially had the right to amalgamate efforts for research purposes, in the event of multilateral cooperation with higher educational institutions included.

In connection with the increased role of small and medium-sized business in an acceleration of S&T progress this sector of the American economy has become the subject of close attention on the part of government departments. In accordance with the 1981 act on innovations in small business, each

federal department with an annual budget of over \$100 million is obliged to deduct 0.5-1 percent of resources for S&T contracts with the nonmonopoly sector.

The greatest assertiveness is being displayed by the administration in respect of the affairs of small business, allocating annually tens of millions of dollars for direct investments, loans, guaranteed payments and so forth designed to stimulate R&D in this sector of the economy. A new direction of the activity of the administration and its regional departments is increasingly great participation in the research-production cooperation relations of industry and the higher school. A system of university intermediate centers is taking shape in the United States with government support. The first such center was formed in 1984 at the Engineering College of the University of Texas at Arlington. Fifty percent of its budget is formed from resources allocated by the administration's Dallas department. The second half of the budget proceeds consists of donations from the companies which are members of the board of directors of the intermediate centers and the payments of the firms which are consumers of its services and also appropriations per the regional technical development program. The latter is administered by the engineering center attached to the Texas A&M University in College Station, which is financed by the state.

The supreme body of the center determining its policy is the board of directors consisting of managers of leading companies of the region. These include such corporations as General Motors, General Dynamics, Bell Helicopter and others.

The center's main function is assisting clients in obtaining qualified advice on technical and managerial issues, the organization of expert analysis of innovations at any stage of their development and help in the performance of R&D by the university. Seminars for small businessmen with the enlistment of private and government organizations are conducted regularly, and numerous information services are made available. Currently the director of the center is negotiating with NASA and the Defense Department on direct access to their automated banks of data on new technology, patents and completed projects employed in the civilian sector.

Thus while existing mainly on federal and state funds, the intermediate centers play the part of connecting link between business and the universities. As a result the transfer of technology from the academic to the industrial sphere and, ultimately, the rate of the region's S&T progress are accelerated.

The increasing integration of the higher school and industry enjoys the increasingly great support of the government at the national level also. Together with the existing orientation of the traditional measures of regulatory influence forms of the government's direct participation in the joint organizations are being developed also here. An R&D roundtable was created in the United States in 1984. Its executive body consisted of five high-ranking government officials headed by G. Keyworth, scientific adviser

to the President, and also 13 top administrators and managers of higher educational institutions and industrial corporations.

The creation of the roundtable reflects an attempt to overcome under the aegis of the government the contradictions between the character of science, which is social in nature, and the private capitalist forms of the use of its achievements in production. At the same time this contradiction is becoming increasingly manifest. The absence of a common S&T policy of the government departments is leading to a scattering of resources, duplication of subject matter and the irrational nature of the financing of R&D. To a certain extent this is also reflected in American companies' international positions--primarily in the sectors determining a further acceleration of S&T progress. Thus in the period 1965-1984 the United States lost its leading positions in a number of sectors pertaining to the high-tech category. For this reason it is no accident that the R&D sphere has become the subject of particular attention on the part of the Presidential Commission for Industrial Competitiveness.

The recommendations of the commission, which was set up in mid-1983 under the chairmanship of G. Young, chairman of the Hewlett-Packard concern, are of a multipurpose nature. They include the further extension of tax privileges for corporations, a change in patenting legislation, increased government support for fundamental research in the higher educational institutions and so forth. The proposal concerning the creation of a Science and Technology Department is qualitatively new. Its functions, the commission believes, should include the pursuit of a common policy in the sphere of fundamental scientific research and coordination of the work of government establishments, universities and industry in the field of innovations. It is coordination, the commission members believe, which will make it possible to overcome the present barriers both between individual sectors of the research-production sphere and within them and increase the efficiency of the use of R&D potential.

The information adduced in the survey shows that the level of financing of university R&D by industry is rising constantly. Both expenditure on the implementation of individual programs and the number of concluded agreements are growing. The average timeframe on which the cooperation of companies and the universities is based is increasing. From short-term consultations and technology-transfer programs its center of gravity is shifting to long-term cooperation in the sphere of both applied and fundamental research. The forms of cooperation connected with the direct participation by personnel of the corporations in academic R&D, given the active support of the federal, state and local organs of power, are developing the most rapidly here. As of the latter half of the 1970's the focus of government policy in the sphere of an acceleration of S&T policy has changed somewhat: the emphasis is shifting from the support of each sector of the research-production sphere individually to stimulation of their cooperation. The nonmonopoly sector of the economy is being attracted increasingly powerfully to the orbit of cooperation relations here. The rebuilding of the machinery of government regulation and improvement of the system of economic and legal levers of government

influence of cooperation processes are fully in keeping with these trends. The steady growth of the proportion of joint programs in overall R&D both in the universities and in firms, the complication and expansion of the diversity of forms of the interaction of the higher school and business and the upgrading of the mechanisms of the management of joint R&D--all this permits the assumption that the coming decade will be one of a further rapprochement of university science and production. At the same time the development of this process is inevitably encountering obstacles caused by the egotistic interests of private-monopoly capital.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

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READER'S QUESTION ON CONTADORA PROCESS ANSWERED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 136-137

[A. Kuvshinnikov response: "The 'Act of Peace' in Central America"]

[Text] The editorial office has received a letter from G.M. Pozolotin, (Moscow), a reader of the journal, in which he requests information about the "Act of Peace" proposed by the Contadora Group as the basis of the political settlement of the crisis in Central America.

The U.S. Congress recently supported a bill submitted by the White House and voted in favor of granting \$100 million to the Nicaraguan "contras". One further dangerous step was thereby taken in the direction of a further escalation of the tension surrounding Nicaragua. The actions of the Washington administration are at odds with the efforts of the majority of states of the Latin American continent pertaining to a normalization of the situation in Central America.

A particularly assertive role in countering the aggressive designs of the United States is being performed by the members of the Contadora Group--Panama, Colombia, Mexico and Venezuela. It is almost 4 years now that they have been making incessant peace-making efforts aimed at a political settlement of the crisis in this part of the world. A substantial contribution to the struggle for stabilization of the situation in the region is being made by Argentina, Brazil, Peru and Uruguay, which last year united in the "Latin American Contadora Support Group".

The position of eight leading Latin American states on the set of Central American problems is perfectly clearly defined. Specifically, the meeting of representatives of the "eight" in the Venezuelan city of Caraballeda observed that "study and, even less, explanation of the causes of their emergence in the context of the 'East-West' global confrontation are impermissible. The sole intelligent method of a solution of the conflict problems in Central America is a political settlement. Its legal basis should be the 'Act of Peace and Cooperation in Central America'."

The draft "Act of Peace" mentioned in the statement of the "eight" was prepared by the Contadora Group and handed for discussion to the Central American States and the United States. The sole country to support the propositions advanced therein and declare its readiness to sign it immediately and without any reservation was Nicaragua. But the other Central American countries under U.S. pressure declined to associate themselves with this initiative. Simultaneously the U.S. Government began to put pressure on the Contadora Group for an alteration of the wording of the "Act of Peace" in its own interests.

As a result on 12 September 1985 the Contadora Group submitted a new draft document. The "refinements" made to it with regard for the wishes of El Salvador, Honduras and Costa Rica, which had acted at Washington's prompting, largely reduced to nothing the realistic and constructive proposals contained in the first version of the "Act of Peace".

Nonetheless, guided by an aspiration to settlement of the crisis situation in Central America, the Nicaraguan Government deemed it possible as a whole to support the new draft also. At this stage 90 percent of it has been fully agreed. The Nicaraguan side objects in principle only to several provisions concerning agreements in the sphere of international military maneuvers, arms and armed forces and also foreign military advisers.

Specifically, the 12 September 1985 draft of the "Act of Peace" introduced for the first time the term "limitation" of foreign military maneuvers. This is an obvious step backward compared with the preceding draft, which contained a demand for the immediate and complete prohibition of such maneuvers with a simultaneous arms freeze. In the new version it is a question of a "limitation" of maneuvers and a moratorium on weapons purchases. The prohibition of maneuvers, on the other hand, is deferred indefinitely. It is clear that even in "limited" form foreign military maneuvers in Central America will, as before, serve to cover the expansion of the direct American military presence in the region and the preparation of aggressive actions against Nicaragua.

Under the conditions of the war imposed on Nicaragua, as a result of which more than 15,000 citizens of the country have died and received injuries and material damage is in excess of \$1.6 billion, the government of the republic--and this is perfectly logical--does not consider it advisable to assume commitments in the sphere of arms reduction until there is a minimum basis for its guaranteed security. And for this a complete and actual halt to U.S. aggression against Nicaragua in all its forms and also the unconditional cessation of any support for the "contras" are essential.

Further, the draft "Act of Peace" proposes as a criterion for determination of the maximum level of military personnel and the degree of armament the size of the GNP. For Nicaragua this is another discriminatory condition inasmuch as the aggressive actions of the United States have led to a considerable reduction in production and, consequently, size of GNP.

And, finally, Nicaragua can in no way agree with the substitution for the clear-cut demand for a withdrawal of all foreign advisers of the extremely imprecise and vague mention of "foreign elements capable of participation in military activity and also in questions of security." Obviously any civilian specialist, be he doctor, teacher, engineer or construction worker, could be accommodated under this definition.

Nicaragua's position on the enumerated issues is logical and reasonable. The "Permanent Bases for Peace in Central America" formulated by the "eight" are consonant with it also. Specifically, they recognize the justified nature of Nicaragua's position on arms issues, propose examination of the question of a simultaneous arms freeze and a halt (and not "limitation") to international military maneuvers and also support the idea of a reduction in the numbers of foreign military advisers. Not some abstract persons but precisely military advisers.

A different position in respect of the "eight's" proposals is adopted by the United States. A secret memorandum prepared by the State Department, Pentagon and CIA for a meeting of U.S. ambassadors in Central America emphasized: the complete failure of the Contadora process would be better than a bad agreement. Operating via its allies--the governments of El Salvador and Honduras, which are totally dependent on it economically and militarily, with which Costa Rica periodically forms a bloc, the United States is torpedoing all attempts to reach a reasonable compromise.

The hard-line anti-Nicaragua policy of the Reagan administration is causing growing disquiet in many Latin American countries. At the height of the debate concerning the plans for financing the "contras'" military requirements from the U.S. federal budget the foreign ministers of countries of the Contadora Group and the "support group" took an unprecedented diplomatic step. They paid a collective visit to Washington to persuade the R. Reagan administration that a refusal to grant the "contras" the \$100 million would be, in their words, "an inestimable contribution to the cause of a Latin American settlement." However, they were made clearly to understand the United States did not display the least interest in a revision of its policy in respect of Nicaragua and believed that military pressure was the sole method of getting rid of the Sandinistas.

This policy of Washington's, which is based on blackmail and military-power pressure, is leading merely to a further exacerbation of the situation in Central America and undermining the efforts of the international community aimed at eliminating a dangerous center of tension here. The establishment of lasting peace in the region is possible only on condition of observance of such generally recognized principles of international law as self-determination and noninterference in internal affairs. This is what a statement

adopted at the meeting of foreign ministers of the countries of the Contadora Group and the "support group" at UN Headquarters in New York in October says. The ministers resolved to conduct a series of consultations and negotiations for the purpose of reviving the process of the search for ways of a peaceful and just settlement in Central America.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

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VELIKHOV BOOK ON CLIMATIC, BIOLOGICAL EFFECTS OF NUCLEAR WAR REVIEWED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 141-142

[Review by L. Istyagin under the rubric "On Books and Authors" of "Klimaticheskiye i biologicheskiye posledstviya yadernoy voyny" [Climatic and Biological Consequences of Nuclear War] by Academician Ye. P. Velikhov, editor, Moscow, "Nauka", 1986, 208 pages.]

[Text] However strange this seems, mankind has hitherto adopted quite a frivolous attitude toward what would await it in the event of nuclear war. People just cannot take in the fact, which is natural, in its way, that the survival of the entire population of our planet is by no means guaranteed and could without much ado simply be put in doubt. The imperialist troubadors of militarism who have concocted--and continue now to instill--pseudo-comforting ideas concerning the fact that nuclear war is not that terrible and that it is possible to "limit" and "localize" it and leave it mainly to the enemy to die in it and for oneself to somehow and somewhere bide one's time and sit it out have contributed to a huge extent to the spread of dangerous complacency. It is hard to sternly condemn those who believed this: it is typical of people to succumb to illusions.

It is less understandable why the problem of possible consequences of nuclear war were for a long time overlooked by the majority of scientists: and they also, as Academician Ye.P. Velikhov puts it, have to a considerable extent "overlooked" this phenomenon. Psychologically this is also explicable: no one wants to ponder such depressing events as could be the result of a nuclear cataclysm. Nonetheless, the Soviet scientist believes, this is a big mistake and oversight of science. "If it is important for us to know precisely," he emphasizes, "how the Universe took shape billions of years ago and how in billions of years to come our solar system will perish, we should obviously know all the more precisely how our own planet, the sole one of its kind, might perish tomorrow" (p 13).

However, it may be considered today that the scientists have done their duty in this plane. The book in question summarizes certain findings at which

world science has arrived in an analysis of the problem which they have somewhat belatedly set themselves: what will Planet Earth represent after a nuclear conflict has erupted and raged on it--God forbid that this happen. It is significant that the authors, Soviet scientists, rely not only on their own works and experience but also on studies of their foreign colleagues, American and West European included. It may be recognized that we have before us the concentrated judgment of the highest authorities and figures of science who are the most competent in their fields.

As is permitted real scientists, the authors of the work are extremely cautious in their assessments. The calculations are made for preference on the basis of "most favorable" assumptions, and models are constructed most often by proceeding from "tempered scenarios". The deductions and conclusions which ultimately result are all the more horrifying.

Taking as a basis the works of Ye.I. Chazov, L.N. Ilin and A.I. Guskovskiy and foreign medical men, the well-known specialists in the field of biology and medicine A.A. Bayev, N.P. Bochkov and V.I. Ivanov proceed from altogether "modest" losses in a possible nuclear war. According to minimal estimates, 1.15 billion persons would die from nuclear explosions and their immediate consequences at once and a further 1.095 billion would receive most serious injuries, burns and wounds; altogether, consequently, the number of casualties would be 2.245 billion (p 125). The scientists note that under the conditions of colossal devastation and general chaos medicine would be powerless, and its possibilities of rendering first aid even would be "practically nil" (ibid.). The opinion of a most influential international antiwar organization World Physicians for the Prevention of Nuclear War is noteworthy. A document of this movement incorporated in the book says: "Studies we have conducted have shown the absolute inadequacy of medical measures in the event of nuclear war erupting" (p 188).

But this is, so to speak, only the beginning and relatively "passable" stage of human suffering. The most dreadful phase begins after the nuclear explosions. It is here that the sphere of secondary consequences into which science has only now been able to peer sufficiently closely is revealed. Not only people but all surviving living organisms in general, it transpires, would have to confront primarily the phenomenon of "nuclear night" and "nuclear winter". The essence of the phenomenon, which is described with exhaustive thoroughness in the articles of Yu.A. Izrael and G.L. Stenchikov, amounts, in brief, to the inevitable large-scale contamination of the biosphere by, besides radioactive products, aerosols and various gaseous substances (methane, ethylene, tropospheric ozone and so forth). The clouding of the entire atmosphere, a darkening of the planet, "nuclear night," would have to result. Inasmuch as the sun's rays would not be able to penetrate the dense shroud of smoke, soot and ash there would be an abrupt cooling of the land of all continents--"nuclear winter".

Different scientists determine differently the levels of possible cooling and its duration. They agree, however, that the "winter" would be prolonged: from several weeks to several months (p 63). This would be sufficient to ruin harvests, cause universal starvation and epidemics and destroy whole ecological zones. Tropical and subtropical forests and savanna, which are

extremely sensitive to changes in temperature, would be condemned to swift and complete destruction. This prospect alone utterly refutes the arguments of those who until recently were asserting that the developing countries would suffer little from nuclear war. These countries would be threatened with death by starvation, even if they escaped death from radiation, of which also there is no real hope.

The "nuclear winter" would be followed immediately, without any smooth "spring" transitions, by "nuclear summer"--an essentially steady rise in temperature, which would last for years, would be accompanied by destruction of the Earth's ozone layer and a strong increase in the stream of harsh ultraviolet radiation (ibid.).

Scientists are not venturing to assert definitely what would happen under such conditions with life on the planet itself. They possess too little information for this. They are attentively studying existing analogies in nature--the eruption of volcanoes, the fall of meteorites and dust storms on Mars--but, of course, they may only partly expand the possibilities for forecasts. The geological catastrophe which hit the planet approximately 65 million years ago--when it clashed, according to scientists' relatively convincing assumptions, with an asteroid or asteroids--is of interest. Then as a result of the suspension of photosynthesis and cooling, evidently, whole species of animals, including giant reptiles, perished (pp 113-117). Does their fate await today's people and animals of the Earth?

It could all be. According to one "measured" scenario, only the "partial destruction of flora and fauna" would occur from "nuclear winter" and its consequences. People and the majority of animals would obviously not remain on Earth. But then, when the temperature rose, there would be an ecological "explosion": many water basins would "blossom" owing to the rapid multiplication of aqueous organisms (p 64). Do today's people need worry if there is hope that "young life will play" on their dead bodies! This life, incidentally, and the indications on this score are clear, would be subjected, in turn, to overwhelming photosynthesis and harsh irradiation with unpredictable consequences. "Counting...", the scientists warn, "on a new spiral of evolution would be naive" (p 138).

People of the Earth should not count on unknown "spirals of evolution," which could present the planet with particularly luxuriant radioactive burdock or some varieties of underwater amoeba and Infusoria. Putting aside all naivete, we need to count on our own efforts aimed at preventing the unthinkable catastrophe.

The book's merit is that in the dry, impeccably objective language of scientific analysis it fervently invites us to follow this path discovered by the new philosophy of the world.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

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U.S. BOOK ON NUCLEAR PROLIFERATION REVIEWED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 143-145

[Review by V. Davydov "Serious Threat to International Security" of book "The New Nuclear Nations" by Leonard S. Spector, New York, Vintage Books, 1985, 367+ pages.]

[Text] L. Spector's book "The New Nuclear Nations," which was published under the aegis of the Carnegie Endowment, is devoted to problems of the nonproliferation of nuclear weapons. Its author is a senior research associate of the Endowment, former prominent representative of the American Nuclear Regulatory Commission and chief consultant of the U.S. Senate Energy and Nuclear Proliferation Subcommittee.

The expert takes as the basis of his arguments the proposition according to which the spread of nuclear weapons from country to country would undermine international security in an unpredictable manner and sharply increase the danger of a cataclysm. "The continuing proliferation of nuclear weapons entails an immeasurable risk for the world community. Many people fear that a nuclear confrontation with the participation of any emergent new nuclear country would be the Sarajevo of the nuclear age" (p 3). In confirmation of the possibility of such a prospect the author studies the current situation in the Near East and in South Asia, where so-called "near-nuclear states--Israel and Pakistan--are speeding up the corresponding preparations and simultaneously maintaining a policy of close military and political cooperation with the veterans of the "nuclear club"--the United States. "Just several nuclear weapons," the work emphasizes, "could wipe out as a national community any state in the Near East and lead to tremendous human casualties in major centers of India and Pakistan. If nuclear weapons were used in the oil-producing regions of the Persian Gulf, the world economy would be in ruins" (ibid.).

In the event of nuclear proliferation there would be an increased risk of the unauthorized accidental use of weapons of mass destruction and also by way of their falling into the hands of terrorists. In April 1985 unknown persons attempted to carry out the radioactive contamination of New York's water system. "Although the contamination level was not significant enough to be a danger to life," the author observes, "this episode showed that the gap between sensational forecasts and reality is diminishing rapidly" (p 5).

The spread of nuclear weapons could also contribute to the increased danger of the outbreak of "conventional" military actions between states if one of them were to decide that his enemy was close to the creation of a nuclear device. Israel, for example, has already carried out an attack on a nuclear reactor in Iraq in 1981. Such actions are possible in other areas between "near-nuclear" states.

In a situation where the overwhelming majority of countries subscribe to the practice of nonproliferation provided for by the corresponding international treaty there are considerable political barriers to the open acquisition of nuclear weapons. Renunciation of the latter has become for more than 130 states a rule of behavior. IAEA control and the interaction of the biggest world powers in the nonproliferation sphere are also increasing the impediments in the way of realization of the nuclear ambitions of the "threshold" countries. However, even such significant obstacles to the open acquisition of "superweapons" are not as yet in a position to halt the trend leading to nuclear proliferation.

L. Spector emphasizes that the "threshold" countries--South Africa, Israel, Pakistan--have, as distinct from the current five nuclear powers, opted for a path of the secret accumulation of nuclear potential, not showing off openly by testing their actual possibilities in this sphere. Although such "clandestine" proliferation represents, perhaps, somewhat less of a risk than the open integration of nuclear weapons in the state's armed forces, the serious danger arises that these weapons could be activated suddenly, during a conflict employing conventional armed forces. "If an even larger number of countries reaches this level of nuclear programs," the author anxiously writes, "it would hardly be possible to reliably guarantee that everyone would stand pat and that others would not follow" the disastrous example of the "threshold" states (p 9).

In 1984-1985 Israel, South Africa and Pakistan continued to build up their nuclear potential, by means of illegal transactions pertaining to the acquisition of "dangerous" technology and materials in Western countries included. L. Spector believes that the fact that the official authorities of the latter have taken no steps which are serious in any way in respect of Israel and Pakistan, whose representatives made deals in the nuclear sphere punishable by law, testifies to the weakness of the nonproliferation system (p 10). The defendants at trials which took place in five capitalist states received a total of only 15 months imprisonment and were fined a total of \$16,000.

The author believes that the greatest danger of nuclear proliferation is being manifested in Asia. Islamabad is not only stockpiling nuclear materials but has also, possibly, already conducted tests of the explosive mechanism of a nuclear device. Back in February 1985 Gen Zia-ul-Haq acknowledged that Pakistan was capable of independently carrying out the process of the weak enrichment of uranium at the nuclear fuel-making plant in Kahuta, which means in principle the capacity for "producing weapons-grade uranium" (p 118). At the same time, however, Islamabad is continuing to officially assert that its efforts in the nuclear sphere are of a purely peaceful nature. However, there are few people who believe these assurances, particularly after Zia-ul-Haq declared that the "crytrons" illegally purchased in the United States were needed for "ambulances," although it is widely known that they are used in the explosive mechanisms of nuclear devices. The transaction involving the "crytrons" lifted the curtain a little on Pakistani agents' extensive smuggling activity in the United States and other Western powers.

L. Spector believes that the future course of Pakistan's nuclear program remains uncertain as yet. "It is possible that Pakistan is already a de facto nuclear state, but what is most likely is that it has everything necessary to create a small number of nuclear warheads except for the necessary quantity of enriched uranium" (p 123).

The author of the book rightly believes that the reason for the actual reluctance of ruling circles of the United States and other Western countries to take decisive steps in respect of Islamabad's nuclear ambitions are to be found in hopes of using Pakistan in their strategic plans in South Asia. "Undoubtedly," he points out, "the main reason for the rejection of sanctions against Pakistan is an endeavor to avoid a serious deterioration in relations with a country opposing the Soviet Union in a region whose strategic significance for the West is growing constantly" (p 40).

Among the "threshold" countries in Asia also pertain South Korea, Taiwan and Japan. The latter has the possibility of manufacturing nuclear weapons, however, the well-known "nuclear allergy," opposition within the country, the three nonnuclear principles adopted by the Japanese Government in 1967, political commitments pertaining to the Nuclear Nonproliferation Treaty--all this is countering such a policy. At the same time, the work emphasizes, it is perfectly possible that were South Korea or Taiwan to "acquire such weapons..., Japan's position could change rapidly" (p 86).

Analyzing the situation in the Near East, the author considers Israel the "sole state" which, it is believed, already has nuclear potential. In addition, it is not ruled out that the latter could consist of 20-25 nuclear devices (p 136). There should be no surprise in this connection that a number of Arab countries which assumed commitments pertaining to the Nonproliferation Treaty are displaying a growing interest in the acquisition of nuclear technology and materials. Iran's attitude toward nuclear research is also developing in this same direction. L. Spector expresses particular concern in connection with the possibility of the perpetration of an act of

retribution for Israel's destruction of Iraq's reactor (p 135). However, he does not rise to a recognition of the fact that it is precisely the nuclear potential of the former which remains the first cause of a possible complication of international relations in this highly explosive region.

A similar situation is observed in Africa also, where the racist South African regime is engaged in nuclear preparations. As the expert believes, the possibilities which have been achieved permit Pretoria to create, if the decision is so made, from 10 to 15 nuclear bombs (p 213). The author maintains an eloquent silence over the fact that the trade sanctions of the United States and its allies in respect of South Africa are merely a semblance of condemnation of the racist regime, which the West regards as a "bastion" against the so-called "communist threat" on the African continent. It is not surprising that the ruling circles of the United States are closing their eyes to the intensification of Pretoria's nuclear efforts, unwilling to adopt any decisive measures against its ally in global anticommunist strategy.

Argentina and Brazil are continuing to develop their nuclear programs. The assumption of office by civilians and the process of democratic transformations have been conducive to a lessening of the military focus of these programs. However, both states remain outside the compass of the Nuclear Nonproliferation Treaty, and their position on a most serious question--to embark on the path of the creation of nuclear weapons or not--remains open. L. Spector cannot overlook the fact that Britain's military preparations on the Falklands (Malvinas) are contributing to the pressure of military circles in Latin American countries in support of the creation of a nuclear potential (p 187).

The author considers a positive phenomenon in the functioning of the international practice of the nonproliferation of nuclear weapons a further expansion of the IAEA's sphere of control of the peaceful use of nuclear power. Over 7.7 tons of plutonium plus 11.8 tons of enriched uranium, which is sufficient for the manufacture of approximately 1,000 nuclear devices, were under agency control in 1985. At the same time the increased trade in nuclear materials is putting on the agenda the question of a strengthening of precautionary measures during their shipment from country to country. Particular importance is attached to the task of struggle against possible theft of fissionable materials and even finished nuclear devices from the numerous American nuclear weapons dumps both within the country and overseas. The book gives high marks to the Soviet-American accord reached in 1985 on effecting an exchange of information and interaction in the event of the unauthorized use or threat to use nuclear weapons (pp 235-236).

Assessing the impact of the arms race on an intensification of the pace of nuclear proliferation, L. Spector rightly concludes: if it is not possible to limit the existing nuclear arsenals, the entire system and practice of nonproliferation will in time be undermined. He insistently recommends in this connection that the U.S. Administration resume negotiations with the USSR on the conclusion of a treaty on the complete banning of nuclear tests,

which could be a considerable barrier in the way of the spread of such weapons. "Washington's isolation" on this issue at the third international conference to study the effect of the Nuclear Nonproliferation Treaty in 1985, the work emphasizes, was "obvious" (p 247).

Summing up the study of international policy in the nonproliferation sphere, the author concludes that the nuclear ambitions of the "threshold" countries and their secret deals to acquire the corresponding technology and materials are increasing the risk of the spread of nuclear weapons (p 251).

The book in question is also of considerable interest for the fact that it reflects the tense pulse of the course of the nuclear preparations of the "threshold" countries and postulates the urgent need for the more efficient cooperation and interaction of all states in strengthening the practice of nonproliferation. This sphere of international security needs particular and constant attention in order to ensure through the joint efforts of the world community conditions conducive to realization of the program for the elimination of all nuclear arms by the start of the next century advanced by the Soviet Union.

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"Mirovaya ekonomika i mezhdunarodnyye otnosheniya", 1986.

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CSO: 1816/3

BOOK ON RELIGION IN ARAB, AFRICAN POLITICS REVIEWED

Moscow MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA in Russian No 11, Nov 86 (signed to press 16 Oct 86) pp 156-157

[Review by L. Polonskaya "Politicization of Religion" of book: "Religiya i obshchestvenno-politicheskoye razvitiye arabskikh i afrikanskikh stran (70-80-e gody)" [Religion and the Socio-Political Development of Arab and African Countries (1970's-1980's)] by D.B. Malysheva, Moscow, Glavnaya redaktsiya vostochnoy literatury izdatelstva Nauka, 1986, 229 pages.]

[Text] The peoples of many Asian and African countries which have developed from objects into a subject of world history frequently turn in their difficult independent historical creativity to precolonial traditions closely connected with religion. And this, in turn, is contributing to the appearance of new forms of the politicization of religion and introduction to politics of the religious factor.

Following a comparatively long period of growth in the majority of oriental countries of the trend toward secularization in the 1950's-1960's, a new wave of the politicization of religion engulfed them at the frontier of the 1980's, and the appeal to religion in the ideological-political struggle was of a particularly acute nature in the "Muslim world," what is more.

Why is our generation witness to this new wave of politicization of religion; are there differences in the political role of Islam and Christianity, and in which countries has the politicization of religion assumed the most acute forms; why is it precisely the number of states of the "Muslim world" which have become the arena of the activity of religious extremist forces and why have the religious and religious-ethnic conflicts here assumed the most acute political forms and what influence has the religious factor exerted on Arab-African relations?

These questions have already been discussed in scientific publications. Soviet scholars have succeeded in outlining the main factors of the influence of religion on the social development of the oriental peoples in general and the current politicization of Islam in particular. Attention has already been called to the extensive spread of the ideology of the "revival of Islam" and mass political movements under its slogans ("militant Islam"). At the same time however, various assessments of the nature of the modern politicization of religion have been ascertained also. Some scholars are inclined to regard it merely as a conservative, regressive phenomenon, others call attention to the use of religious slogans by democratic forces and on this basis exaggerate at times, in our view, the progressive potentialities of the politicization of Islam.

The comparative evaluation of Islam and Christianity varies also. In some cases attention is called, and not without reason, to the fact that Islam may be used to a considerably greater extent than Christianity as an economic and political model of social development. The reservation should be made at once here, however, that absolutizing specific features of Islam on these grounds, as is the case in some of our works, is hardly proper. In other cases the dissimilarity of the role of Islam and Christianity in social life, in politics particularly, is completely denied.

The author of the work in question avoids these extremes. She collates the studies of Soviet and foreign scholars on the above-mentioned problems of the correlation of religion and politics, reflects the various approaches to a solution thereof and on the basis of an analysis of the situation in the main countries of the Arab East and Africa provides her own balanced answer to some of the above-listed questions.

Examining the influence of religion on the position of the Arab countries, D. Malysheva selects states of different types: rich oil-producing states and those which depend on oil injections; those developing along the path of a socialist orientation occupying consistently anti-imperialist positions and those which are proceeding along a capitalist path and closely cooperating with imperialist powers; and monarchies and countries with parliamentary regimes. This approach permits a comparison of the use of Islam--both at government level and at opposition level--by different political forces.

In the Arab world the use of religion is subordinated to the nationalist interests of the ruling regimes of individual countries. This is characteristic even of Saudi Arabia, the citadel of Islam, where the shariat is the basis of state law, but the clergy, albeit dominant in the sphere of education and judicial proceedings, is essentially subordinate to the ruling dynasty. The latter also uses the religious factor to strengthen its positions in the "Islamic world" as junior partner of the Western monopolies and to carry out an apical modernization of society. At the same time we have to agree with the author that on the frontier of the 1980's Islamic radicalism came to represent a certain danger for the Saudis. The reforms carried out from above are merely contributing to an intensification of the conflict between the monarchical regime and the political forces which aspire to more profound transformations.

The author has succeeded in also revealing the particular features of the use of Islam in Morocco for strengthening the king's role as "charismatic leader". It would have been interesting, however, to have shown the difference of the politicization of religion here from other Arab monarchical states.

A striking example of the use of Islam by bourgeois-nationalist political forces is Tunisia, where a certain balance of the trends toward the secularization and Islamization of politics is observed. The subordination of the appeal to Islam in politics to national interests is distinctly moving to the

forefront in the country. We would note also that in contrast to many other ruling regimes of Arab states, the Tunisian leadership has not been caught up in the general enthusiasm for the "revival of Islam" slogans and has pursued relatively consistently the policy of modernization of religion, from which many bourgeois nationalists in other Arab countries departed on the frontier of the 1980's. Unfortunately, these questions are not illustrated in the book in question.

Our literature has made a very scant examination of the problem of the influence of religion on policy under the conditions of a socialist orientation. For virtually the first time D. Malysheva acquaints the Soviet reader in detail with the religious situation in Syria and convincingly shows the entire complexity of the situation in a country with a majority Sunni population where the ruling circles belong to the Alawite minority. The author has also succeeded in revealing the social roots of the Syrian Muslim Brotherhood movement, which is opposed to the government's progressive policy, for a revival of Islam and this movement's danger for Syria's stability.

The material adduced in the book on Egypt on the analysis of the political situation under Nasir and Sadat serve to confirm the proposition formulated by our scholars in the 1970's that the departure from the orientation toward socialism was connected to a considerable extent with the nature which the politicization of Islam assumed here.

Less successful was the revelation of the role of religion in Lebanese politics. Yet it is precisely in the example of this semireligious country that it might have been possible to show the general and the particular in the influence of Islam and Christianity on the consciousness and political behavior of different social groups and also the specifics of the ethno-religious conflicts. In the characterization of the situation in Lebanon mention should also have been made of the nature on the influence of the Lebanese Shi'ites of the revolution in Iran.

D. Malysheva deliberately excluded from the sphere of her study an analysis of the religious doctrines and slogans used in the political struggle. This is indeed the subject of an independent study. We would, however, call attention to the following: while rightly noting that political Islam reflects the interests of different social strata, the author should have emphasized that "fundamentalism" as the ideology of "militant Islam" is oriented primarily toward the petty bourgeoisie, middle strata and masses of the city; it is for this reason that such ideology (and the movement which it serves) is performing such a destabilizing role in the Arab East.

The interaction of Islam and nationalism is extremely complex. The book shows convincingly that in some cases we are dealing with the Islamization of Arab nationalism, in others, with the counterpoise thereto of the nationalism of individual Arab peoples (pharaohism to pan-Arabism in Egypt).

This interaction is distinguished by certain specifics in Tropical Africa, where the process of ethnic consolidation and the shaping of the national

consciousness are at a lower stage of development than in the Arab countries. These singularities have been reflected in the book in review. However, the reasons for the rapid Islamization of Tropical Africa in the latter half of the 20th century should have been dwelt on in more detail.

We have to agree with the author that the "Islamic factor" is playing an important part in Arab-African relations. The use of Islam by Arab countries to strengthen their positions in Tropical Africa, which is extensively illustrated in the work, pertains among the hitherto little-studied problems. At the same time, however, it should have been emphasized that the states of this region also are interested in "Islamic solidarity" as a means of deriving benefits at the time of the distribution of petrodollars and other types of material and political assistance from the Arab countries.

Concluding the review, we would note that D. Malysheva's book enriches considerably our ideas concerning the complex process of the influence of religion on the social development of Arab and African countries.

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