THE IMPACT OF THE SCIENTIFIC AND TECHNICAL REVOLUTION UPON SOVIET AND EAST EUROPEAN LAW

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COUNCIL CONTRACT NUMBER: 621-11

The work leading to this report was supported in whole or in part from funds provided by the National Council for Soviet and East European Research.
# TABLE OF CONTENTS

- Introduction: The Impact of the Scientific and Technical Revolution Upon Soviet and East European Law (Peter B. Maggs) ................................................................. ii
- Highlights (Summaries) of Research Reports ..................... xxii
- Socialist Legal Doctrine in Transition: The Rise of the Regulatory Role of Law (Robert Sharlet) .................. 1
- Constitutional Rights in the Era of Scientific and Technical Revolution (Stanislaw Pomorski) ......................... 34
- The Scientific and Technical Revolution and Legal Problems of Vocational Training of Workers in the USSR (Yuri Luryi) ................................................................. 62
- Integration and Soviet Research and Development: Problems of Coordinating the Left Hand with the Right (Gordon Smith) ................................................................. 112
- Legal Aspects of the Computerization of Management Systems in the USSR and Eastern Europe (Peter B. Maggs) ..... 142
- Political and Legal Aspects of the Development and Use of Nuclear Power in the USSR and Eastern Europe (Donald D. Barry) ................................................................. 176
- Soviet Currency Credits (Loans) to Eastern Europe (George Ginsburgs) ....................................................... 255
- The "Scientific and Technical Revolution" and the World Economy: Organizational and Legal Aspects of East-West Economic Relations (Erik P. Hoffmann and Robbin F. Laird) ................................................................. 305
INTRODUCTION: THE IMPACT OF THE SCIENTIFIC AND TECHNICAL REVOLUTION UPON SOVIET AND EAST EUROPEAN LAW

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The present report contains the results of the second year of a two-year study of law and the scientific and technical revolution in Eastern Europe. Gordon Smith summarized the results of the first year's work as follows:

The success in realizing the fruits of the STR will depend in large measure on the ability of socialist societies to master it. To date, the Soviet and East European leadership has, for the most part, chosen to pursue moderate or conservative means of harnessing the scientific and technical revolution. Legal norms reflect this orientation and will help to shape it in the immediate future, forming the basis upon which critical policy choices will be made.¹

The focus of the first year's study was upon the ways in which law was used to further and control the STR.² The papers contained in this second report are focused upon the ways in which the scientific and technical revolution has affected legal and political institutions. A definition by Soviet Academician P.N. Fedoseev emphasises the impact of the STR:³

The STR is basically the radical qualitative reorganization of the productive forces as a result of the transformation
of science into a key factor in the development of social production. Increasingly eliminating manual labor by utilizing the forces of nature in technology, and replacing man's direct participation in the production process by the functioning of his materialized knowledge, the STR radically changes the entire structure and components of the productive forces, the conditions, nature, and content of labor. While embodying the growing integration of science, technology, and production, the STR at the same time influences all aspects of life in present-day society, including industrial management, education, everyday life, culture, the psychology of people, the relationship between nature and society.

The impact of the STR is also discussed by the leading Soviet legal philosopher, Professor R.O. Khalfina in the opening chapter of a book on Socialist Law and the Scientific and Technical Revolution. She writes:

The scientific and technical revolution promises not only the greatest blessings for the development of human
society. Its processes also may be connected with a serious threat to the conditions of existence. . . The use of the achievements of the scientific-technical revolution requires a deep and carefully considered system of measures for preservation of the environment and of the life and health of people. . .

The scientific-technical revolution influences not only technology and the economy. The development of mass information media, the profusion of information, new forms of satisfying cultural needs -- all this has a significant effect on the formation of personality. There are new demands in modern conditions upon man -- the employee in production. A higher level of preparation is necessary both for workers in production and for workers in the administrative apparatus. . .

Under the conditions of scientific-technical revolution, the tasks of administration of society change significantly. . .
The studies which follow analyse in detail how the legal systems of the Soviet Union and Eastern Europe have reacted to the problems created by the ongoing scientific and technical revolution. Four main categories of problems appear repeatedly in these studies. The first is the inadequacy of information about the economy. The second is a conflict between traditional ideology and the needs of scientific and technical development. The third is rising consumer expectations. The fourth is the increasing ineffectiveness of methods of control of the public. In order to meet these problems the legal system has had to change, but in some cases the changes necessitated by one problem have made other problems worse. American policy makers may expect to have to deal with Warsaw Pact countries which will be making steady technological advances, but whose legal and political systems will increasingly be changed by these advances.

INADEQUACY OF INFORMATION

Advances in science and technology have created an ever greater need for information. Institutional changes resulting from attempts to meet this need are described in a number of the studies. Yuri Luryi describes at length legal measures taken to upgrade the quality of technical training for workers and to encourage workers to participate in this training. Gordon Smith discusses the creation of regional centers for the creation and transfer of scientific information because of the
inadequacy of national centers. Peter Maggs discusses the crash program for the development of an institutional structure capable of support of a nationwide computerized information network. Donald Barry discusses the systems by which technical information on nuclear power plant design is disseminated. Eric Hoffman discusses the restructuring of foreign trade institutions and the broadening of the circles with access to information on foreign trade transactions.

During the original five year plans, the Soviet Union managed to overtake the United States in heavy industrial production by increasing input of manpower, raw materials, and capital equipment to a relatively stable legal and institutional structure. However it has become apparent that the increase of information flow needed to compete with the United States in science and technology cannot be achieved without major institutional changes. The results of these changes may be significant shifts in the locations of power centers in the societies of the Soviet Union and Eastern Europe. Gordon Smith discusses the improvement of regional information flow by the creation of territorial-production complexes, regional interbranch science centers, and other regional integrative forms. He points out that one result may be to strengthen the power of regional Party committees at the expense of both central ministries and local
enterprise. He also points to the decentralization of scientific and technical personnel, with the rate of growth of the numbers of such personnel being much greater in the provinces than in the major cities of European Russia. He contrasts the de facto increase in the importance of regional organizations with the legal system which still largely reflects the formal monopoly of power at the ministerial level. The next stage could be legal recognition of this regionalization. This would mark a return to something like Nikita Khrushchev's system of regional economic councils. However it could succeed where Khrushchev's failed. The failure of Khrushchev's experiment can be linked both to the political opposition generated by the suddenness of the transfer of power away from the central ministries, to the inadequacy of the economic base in many regions, the insufficiency of managerial and scientific talent in the provinces, and the irrationality of the drawing of regional boundaries. The current more evolutionary approach may overcome all these problems.

Regional integration is also reflected in the computerization of management information systems reported by Peter Maggs. Given the uneven level of technical development of the various parts of the Soviet Union and the total inadequacy of the electronic data transmission system for the creation of computerized information systems on a country-wide scale, it is not surprising
that the greatest successes have been at the regional level. A model has been the Latvian Republic, which enjoys a combination of short distances between economic enterprise and a high level of expertise in electronics and management. If present trends continue, the technical difficulties of creating an automated management system for ministries as a whole (poor communications) and for individual enterprises (inadequate resources) are likely to reinforce this trend toward greater centralization of power at the regional level.

Another important method of increasing information flow is by increasing the rate of international transfer of information from abroad. Robert Sharlet outlines the importation of techniques of sociological jurisprudence by the Soviet Union from the West via Poland. Donald Barry discusses the dissemination of nuclear power plant design standards across Eastern Europe, while Zigurds Zile discusses the importation of foreign attitudes on the importance of environmental protection. George Ginsburgs discusses the exchange of monetary information as part of loan agreements. Eric Hoffman discusses the use of the foreign trade mechanism for information gathering and distribution. Most of these information gathering systems are designed, particularly in the USSR, to distribute the foreign (and hence potentially ideologically dangerous) information only to a limited
number of people. However, the number of people needing access to this information is continually growing. Robert Sharlet for instance, describes how legal sociology has grown from a technique mentioned in a few textbooks to an applied instrument for measuring the effectiveness of legislation on a broad scale. Peter Maggs describes how American computer design information has been spread to every level of the Soviet and East European computer industries. Eric Hoffman describes how the State Committee on Science and Technology has served as a conduit for the wide distribution of foreign scientific information. Even when, as in the case of environmental and nuclear law, the East European countries do not fully share Western concerns, they do not dare ignore them, if merely because it is economically inefficient to have nuclear plants blow up or fisheries polluted and politically inexpedient to put an unsafe reactor or a polluting factory near a border with a friendly country.

There are many channels for this international flow of information. Many of the papers cite Soviet translations of or commentaries upon technical, scientific, economic, and legal work originally published abroad. The close economic integration within CMEA in the areas of nuclear power and computers has led to widespread exchange of visits and even to in one country by citizens of another country.
As mentioned by Professor Khalfina in the quotation above, information has had to reach deeper to all levels of the people. Gordon Smith notes the vast improvement of the staffing of higher educational institutions in the provinces with technically trained personnel. Yuri Luryi notes the massive efforts being made at training individual workers with new techniques. Stanislaw Pomorski notes the revolution wrought in Poland when popular organizations were able to gain access to the mass media for exchanging information.

All of these trends at increasing information flow both on an international and a domestic scale appear to be accelerating with the needs of the scientific and educational revolution. Improvements in mass media and computer communications and a maintaining of conventional book and journal publications have provided the physical means for this greater communications flow; the steadily rising educational level of the public has provided an increase in the ability to understand and absorb new ideas. The trend toward greater information flow appears to be irreversible, because of economic and military necessity which demands that the CMEA countries catch up with the latest techniques from abroad and that within those countries the provincial areas catch up to the level of the capitals. It also seems irreversible from the demand side as greater education and access to information produces a demand for even more information.
OVERCOMING IDEOLOGICAL BARRIERS

Robert Sharlet finds that there has been a gradual but steady shift from law as an ideology to law as a social science. He traces how the formal-dogmatic approach associated with Vishinsky was replaced by the idea of law as a social science. He finds that law as an intellectual discipline and systematic component of the legal system is at the same time relatively more autonomous of the state and more interdependently linked with other social sciences. Once law is viewed as a technique for achieving social goals rather than as dogma deduced from the Marxist-Leninist scriptures, it became relatively easy to overcome ideological barriers for pragmatic purposes.

A common theme of the papers is the movement of legal institutions from the communist countries of Eastern Europe to the USSR. Robert Sharlet points out how legal sociology gradually diffused into the USSR via Poland; Peter Maggs points out the Soviet moves toward adopting corporate forms for computer hardware service and software distribution, forms originally used in East Germany, Poland, and Czechoslovakia, Eric Hoffman discusses the Soviet movement toward increasing direct contacts in foreign trade, a movement bringing it much closer to East European practice. Only in the area of nuclear power, as outlined by Donald Barry, does there seem to be a significant movement of legal institutions from the
Soviet Union to the East European countries.

Many mechanisms facilitate this movement of legal institutions. Works by East European legal scholars are frequently published in the USSR in Russian translation. An active program of visits and exchanges is maintained between legal education and research institutions. The presence of CMEA headquarters in Moscow brings together legal experts from all of the East European countries, and in some cases, such as the setting of standards for computers or atomic energy, involves a formalized process for unification of technical legal institutions.

The fact that the East European countries are officially considered to be "socialist" makes it possible for Soviet scholars, without fear of accusation of ideological deviation, to suggest importation of legal institutions from these countries, when the suggestion of the import of similar institutions from the West would be suspect. Thus for instance, in the area of foreign trade, reformers in the USSR have been able to point out to the decentralization of foreign trade powers in the East European countries as an example for a direction the USSR should go. Or, as Robert Sharlet points out, the widespread application of the sociology of law in Eastern Europe was instrumental in lending legitimacy to its application in the USSR.

Stanislaw Pomorski discusses the much more complex question now facing the Soviet system of how to prevent
the spread of the major institutional reforms that the past year has seen in Poland -- free trade unions with the right to strike, an independent union of capitalist farmers, opposition access to mass communications media. On the one hand, if the new Polish institutions survive long enough, Soviet counterparts might begin to be suggested. On the other hand, Soviet ideological reaction might make any importation of legal institutions from Poland suspect, even if they lack connection to recent reforms.

Some of the changes in ideology involve a move away from application of a Marxist "labor theory of value" and toward a theory of value more in line with that capitalist economics. George Ginsburgs notes a shift in ideological attitudes toward interest on hard currency loans from the Soviet Union to the other CMEA countries. Serious questions are being raised about the longstanding practice of charging a nominal 2% interest, and suggestions are being made for bringing this interest closer to world market rates. Peter Maggs notes the movement toward charging substantial prices for information (e.g. data base access and computer software copies) even though the cost of access or copying is minimal. Zigurds Zile notes a beginning of a concern for the exhaustibility of natural resources -- of the idea that the real costs of the exploitation of nature may be higher than the labor expended in extracting
natural riches. Luryi Yuri notes the de facto imposition of a substantial tuition charge at technical training schools in the form of lower wages paid to student trainees than to regular workers. Donald Barry shows a beginning of an awareness of the necessity to include the costs associated with safety and the risk of catastrophe in calculating the comparative advantage of nuclear energy. Altogether, these seems to be a fairly ready willingness to bend theoretical Marxist economic precepts to achieve pragmatic goals for the furthering of the development of science and technology.

There has also been substantial erosion of the Leninist-Stalinist principle of a supercentralized state structure. The sociological jurisprudence outline by Robert Sharlet suggests that the optimum state administrative structure must be determined pragmatically rather than deductively. Eric Hoffman outlines the changing meaning of the concept of "state monopoly on foreign trade" from that of a monopoly of the ministry of foreign trade to the much more flexible concept of a prohibition of private capitalist foreign trade. Gordon Smith outlines a change in the concept of planning, with a reduction in the role of the ministries. Peter Maggs outlines a realization of the complexities of planning in practice and of the difficulties of assigning planning tasks to organizations with insufficient data.
The most important changes in the state power structure are covered by Stanislaw Pomorski in his discussion of the Polish situation. The power structure in Poland has changed at rate incomparably faster than the glacial movement observed in the Soviet Union. Nevertheless, the fact that there is existence even limited change in the Soviet Union may have served to legitimate the drastic changes in Poland.

The idea of the all-powerful state has also suffered from a realization of the physical restrictions imposed by such tradeoffs as those between energy production, environmental impact, and nuclear safety. This slowly growing realization is the topic of papers by Zigurds Zile and Donald Barry. Yuri Luyri, on the other hand, notes what may be considered a return to the Marxist ideal, with a glorification of technical education as compared to higher education, and with a resultant conflict between popular aspirations for college education and planners' goals for skilled manpower.

RISING PUBLIC EXPECTATIONS

The combination of improved education and a steady flow of information on Western science and technology has created sharply rising expectations in the public. Not only is there a desire for more consumer goods, there is a desire to improve the overall quality of life. These expectations in turn intensify the pressure for
still more scientific and technological development, and in many cases also for ideological and institutional change.

One major public expectation is that technology be brought up to the level of that in the major capitalist countries. The reorganization of the foreign trade system outline by Eric Hoffman is designed to provide broader exposure to foreign technology and more efficient use of foreign technology in the Soviet economy. The same is true of the adoption of Western standards and designs for computer equipment as outlined in the paper by Peter Maggs. However this increasing exposure to Western standards must inevitably lead to a realization of the great remaining gap in quality of technology, and to pressure for even further efforts to narrow that gap.

Concerns about the quality of life in Eastern Europe go beyond meeting Western material standards. Zigurds Zile outlines a nascent awareness of the importance of environmental quality controls, and a realization that it may be worth trading some growth in industrial output for better environmental quality. Donald Barry's paper shows a similar growing awareness of the need for nuclear safety controls even at the expense of increasing the costs of nuclear power plant construction. Yuri Luryi notes the steady public desire for higher education. Most important however is the
Stanislaw Pomorski's account of the discovery by the Polish people that an Eastern European state can survive for an extended period of time with meaningful freedom of speech and association. Because of the arising public awareness caused by improved communications and better education, few in Eastern Europe or the Soviet Union can be expected to remain ignorant of what has happened in Poland. Inevitably, the longer the Polish experiment continues, the greater must be the demand for such freedoms in other East European countries.

MAINTAINING CONTROL OF THE PEOPLE

The downgrading of ideology and the rise in expectations created by the scientific and technical revolution pose new and serious problems for the ruling elite in maintaining control of the people. A number of the papers in this collection outline some of the ways in which the regime maintains this control. However topics such as police and criminal law are beyond the scope of the present study.

An important means of maintaining control is restriction of information flow. Donald Barry describes the suppression of information on a nuclear accident and on the safety issues of nuclear power in general. Zigurds Zile describes the suppression of information on damage being done to the environment. George Ginsburgs describes the classification of information on balance of payment
problems as state secrets. Peter Maggs describes the suppression of information that the Unified Series of computers is in fact a direct copy of obsolescent IBM equipment.

The problem the authorities face is that this restriction of information flow is contrary to the interests of economic and technical progress. The costs of nuclear safety are high, but the costs of an accident may be higher. Conservation of natural resources is expensive, but waste may be more expensive. With computer knowledge available only second hand and censored, there may be real difficulties in narrowing the technology gap. Uneducated workers may be blindly patriotic, but they are economically inefficient. On the other hand the Polish experience suggests the dangers of excessive information flow to the stability of the whole political system. The Soviet and East European states are thus caught in a dilemma from which there is no easy escape. In order to keep up in the science and technology race, they must vastly improve information flow and raise educational levels, while discarding many aspects of their ideology. But with increasing public sophistication and the death of ideology their governments face the threat of destruction by the same public opinion which has already destroyed dictatorships in Spain and Greece, and in Hungary and Czechoslovakia until the arrival of Soviet troops, and is currently transforming the Polish power structure.
FOOTNOTES


2. The results of the first year's study are being published by Pergamon under the title, Soviet and East European Law and the Scientific and Technical Revolution.


Socialist Legal Doctrine in Transition: The Rise of the Regulatory Role of Law (Robert Sharlet) ...........xxii

Constitutional Rights in the Era of Scientific and Technical Revolution (Stanislaw Pomorski) ..........xxiii

The Scientific and Technical Revolution and Legal Problems of Vocational Training of Workers in the USSR (Yuri Luryi) .....................................................xxiv

Integration and Soviet Research and Development: Problems of Coordinating the Left Hand with the Right (Gordon Smith) .................................................................xxv

Legal Aspects of the Computerization of Management Systems in the USSR and Eastern Europe (Peter B. Maggs) ...xxviii

Political and Legal Aspects of the Development and Use of Nuclear Power in the USSR and Eastern Europe (Donald D. Barry) ..........................................................xxx


Soviet Currency Credits (Loans) to Eastern Europe (George Ginsburgs) .............................................xxxiv

The "Scientific and Technical Revolution" and the World Economy: Organizational and Legal Aspects of East-West Economic Relations (Erik P. Hoffmann and Robbin F. Laird) .................................................................xxxvi

The major characteristic of the transition of socialist legal doctrine in the USSR and East Europe from the post-World War Two and post-Stalin (1953-) period to the present, has been the gradual but steady shift from law as an ideology to law as a social science, and, comcomitantly, from law as an agent of social change to law as a conservator of the status quo. Derivative of this shift has been the emergence of the predominantly regulatory role of law -- especially since the early 1970's -- meaning that socialist law is being increasingly used to regulate (i.e. to manage or contain) a gamut of complex socioeconomic problems. The policy of scientific-technical revolution (STR) in the European communist states has had the effect of accelerating the de-ideologization and instrumentalization of law. Although this process initially progressed more slowly in East Europe during the 1950's, by now in the 1980's Poland, East Germany, and Hungary (as well of course as Yugoslavia) have moved ahead of the USSR in the development of law into a systematic social science. Finally, the most pressing question facing the juridical collective of the European socialist commonwealth is how, effectively, to measure empirically and evaluate analytically the efficacy of legal regulatory action in order to advance law in the desired direction of a "policy science."

Two major policy implications of the above for the Western analyst follow. First, socialist law in the form of normative acts can now be used with greater precision as apertures for observing the nature and extent of fundamental socioeconomic problems which become the objects of legal regulation, as well as for viewing the scope and limits of regime expectations about the management or containment of these problems. Secondly, East European legal developments -- especially in East Germany, Hungary, Poland, and to an indirect extent, Yugoslavia -- can now be monitored as harbingers of forthcoming Soviet legal approaches to similar socioeconomic problems plaguing the entire European communist community.
Stanislaw Pomorski

CONSTITUTIONAL RIGHTS IN THE ERA OF STR

The paper includes two parts. Part one discusses current Soviet and Polish doctrine of constitutional rights against the background of the new Soviet Constitution of 1977 and the Polish charter as amended in 1976. Constitutional rights have been given much greater prominence in both documents than in their respective predecessors, the body of political and legal literature, although by and large of poor quality, is considerable. The paper discusses manifold reasons for new prominence of constitutional rights, one of these being that human rights emerged as a major international issue and became one of the major objectives in "ideological warfare."

Soviet literature would suggest certain degree of sensitivity to international and internal challenges on human rights. Among the highlights of Soviet and Polish doctrine of particular interest is recent revival of "natural law" sentiments, the concept which for many previous years was treated with unqualified hostility. This current of thought in Polish academic literature strikingly coincides with popular sentiments about human rights amply documented during recent events.

Part two discusses recent events in Poland in their relation to constitutional rights. The paper focuses in particular on the new, redefined concept of the "leading role of the communist party" the emerging new mode of social organization and their impact upon the nature and function of the rights of the individual. There are good reasons to believe that Polish events have been strongly informed by ideology of human rights.
THE SCIENTIFIC AND TECHNICAL REVOLUTION AND LEGAL PROBLEMS OF VOCATIONAL TRAINING OF WORKERS IN THE USSR

Yuri Luryi

The growth of the scientific and technical revolution stimulated the development of new complicated industries and the remodelling of existing ones with the implementation of sophisticated devices. This called forth an inevitably aggravated need for sufficiently trained manpower.

In addition to training manpower able to work in complicated branches of industry, teaching of more than one skill is broadly applied in Soviet industry with the purpose of enabling workers to fulfill more duties and to save expenses by means of decreased payment for increased volume of work.

Some difficulties are encountered in the implementation of this policy in the industry. There are some indications of reluctance on the part of the workers to the policy according to which they are suppose to work harder for the same money. Soviet specialists in labor law are not unanimous on the question whether the professional training of workers is an obligation of the employees in labor law relations or whether it is their right and, therefore, such training is optional for the employees.

One can observe the tendencies to centralize further the systems of training and to combine stick and carrot approaches compelling Soviet workers to undertake professional training or retraining. The purpose of this work is to investigate legal means by which professional training is regulated in Soviet labor law. Norms of labor legislation, views of specialists in Soviet labor law, and existing practice will be examined; the problems and development trends will be investigated.
Western observers as well as Soviet specialists have noted the lack of effective coordination among territorial and branch organizations in the USSR as the prime cause of various organizational and economic maladies: overlap and redundancy, low rates of assimilation of new technology, lack of standardization or parts and equipment, over-utilization or under-utilization of labor reserves and material resources, production of inferior or unwanted products, etc. In short, scientific and technological progress in the Soviet Union is first and foremost an organizational problem, rather than simply a problem of expanding scientific knowledge or acquiring more advanced technologies. This paper examines Soviet attempts to experiment with organizational forms in order to achieve more effective horizontal integration and coordination among diverse organizational units.

In the last ten years the Soviet leadership, managers and scholars have demonstrated increasing awareness of the organizational impediments to scientific and technical progress. They recognize that the scope and complexity of administration in the USSR creates serious problems for the coordination and integration of R & D activities of organizations which are subordinate to various ministries. A major difficulty in achieving horizontal, interbranch coordination is that it disrupts the well-established vertical, ministerial command structure.

There appears to be a tendency to favor regional integration (as opposed to non-territorial integrative mechanisms), especially for those organizations employing long-linked or intensive technologies. In both intensive and long-linked technologies, the technological process usually entails the coordinated and integrated application of expertise on a common object. In as much as the process involves a material object, transportation costs and other factors usually favor clustering organizational units in one region. By contrast, mediating technologies typically involve the integration of various organizational units where the mode of integration is non-material—in most cases, information exchanges.
Soviet experience with territorial-production complexes, regional interbranch science centers, associations and other regional integrative forms indicates that regional integrative mechanisms are more easily assimilated into the Soviet system when they coincide with existing political/territorial boundaries. One of the most perplexing problems for Soviet planners raised by the territorial-production complexes is that they frequently incorporate more than one krai or oblast'.

An important factor in the success of regional integration is the impetus provided by regional party committees. Given the absence of any other powerful, institutionalized regional integrative mechanism, the Party appears to be assuming this role. The strengthening of party control may, thus, prove to be economically rational. Regional party organizations appear to be increasingly aware of their integrative role and are placing a larger emphasis on managerial skills in training of apparatchiki. In as much as regional integration strengthens the position of regional party committees at the expense of the central ministries, this process fosters increased political centralization. Non-territorial integrative mechanisms, such as the automated systems of management and program-goal planning also further this trend toward the centralization of decision-making, by creating centralized, integrated information networks.

Finally, in recent Soviet attempts to achieve higher levels of organizational coordination and integration among branches and ministries, law has been conspicuous by its absence. No normative acts exist to regulate the creation, management or accountability of the territorial-production complexes. In the area of regional planning, no legally empowered organization exists for the coordination and interfacing between complex territorial plans and branch plans. While regional bodies have the right to make proposals to the draft plans of ministries, the ministries are under no obligation to act upon those proposals. Given this lack of legal norms and a strong institutionalized body to coordinate regional plans with central ministerial plans, the entrenched vertical plans tend to predominate.
It is significant that the experiments to foster better coordination among the various ministerial and bureaucratic organizations involved in Soviet research and development proceed without any legal foundation. This lack of legal parameters to organizational innovation is beneficial in the sense that the responsible Soviet planners and party officials are unencumbered by legal strictures. On the other hand, the absence of legal mechanisms politicizes the reform efforts, pinning their success and application on the ability of local party officials to solve problems in an ad hoc manner. But should an experiment prove effective, it is difficult to apply it in another setting, precisely due to its idiosyncratic character. Furthermore, the very absence of legally defined powers, jurisdictions and norms for resolving conflicts hinders experimental integrative attempts, in some cases dooming them to failure before they begin.
Legal Aspects of the Computerization of Management Systems
in the USSR and Eastern Europe

by Peter B. Maggs

During the 1970's governments of the Soviet Union and the East European Countries undertook the tasks of creating the legal structures for mass production of computer hardware and software and for bringing computers into widespread coordinated use in management. The way in which this was done has shown the ability of the Soviet leadership to use law as an active instrument for change, to abandon old legal and ideological principles when they hinder economic progress, and to avoid negative impacts from restrictive legal rules of the Western countries. The short term economic gains are being bought at the cost of long term political risks. Computers introduce an entirely new form of information reproduction and communication. The rate of the growth of computer information networks and of the spread of microcomputer usage may exceed the ability of the authorities to control these new information media.

Within the framework of the Council for Mutual Economic Assistance, a legal structure was successfully created for the coordination of computer production and the maintaining of quality control and standardization. The USSR used existing ministries as the basis for the organizational structure of this industry. Other East European countries created powerful computer corporations. The corporate structure, as found in Robotron, the leading East German computer corporation, has been considerably more successful in providing service and software support than has the Soviet ministry structure. Soviet legal writers are well aware of the structural problems in software and service and have proposed a number of reforms designed to move such support onto a more viable basis with a greater emphasis on contract and profit. Beginnings have been made toward a microcomputer industry.
East European hardware and software design both for large computers and microprocessors has been drawn mainly from the United States. Neither export controls nor industrial property rights (patents, copyrights, etc.) have prevented this extensive transfer of technology.

During the 1980's a number of developments may be expected in the legal regulation of the East European industry. Major reforms will result in the creation of new organizations, particularly in the Soviet Union, to provide repair and software services on a national or international scale. Incentive schemes will be created to encourage software production. However, the unauthorized importation of foreign software and hardware design will continue, and so the East European countries are unlikely to enter into arrangements for increasing the degree of international legal protection against such unauthorized importation.

By the end of the 1980's, the members of the Council for Mutual Economic Assistance will have a developed base of computer hardware and software, and emphasis will shift to the creation and communication of information. The authorities will face serious difficulties in participating in the coming world information explosion while maintaining control of the political content of all information transfers.
Evidence of an incipient fuel crisis in the USSR and Eastern Europe is abundant. Especially for the USSR's East European neighbors, which rely heavily on Soviet oil and other resources, the economic strain is already evident.

The development of this problem has been accompanied by a series of predictable responses from the countries concerned, including stepped-up attention to fuel conservation and increased interest in alternative fuel sources, both exotic forms (e.g., wind, solar) and nuclear energy.

This paper examines two aspects of the development of nuclear power in the USSR and Eastern Europe: policy considerations involved in the move into nuclear power, and the legal framework for nuclear power activity.

On the policy question, the following points are important:

1. All of the East European COMECON countries have ambitious plans for nuclear power generation. If past accomplishments are any guide, they will have difficulty meeting plan targets, but will still develop a high level of installed capacity by 1990.

2. The USSR is the clear leader in the nuclear power field, and has given considerable technical and material assistance to its COMECON neighbors. At the same time, an impressive amount of cooperation in nuclear power, both within and outside of COMECON, has been accomplished.

3. For a variety of reasons, the issue of nuclear safety has been considered a less important problem in the USSR and Eastern Europe. But recently a minority view has begun to be expressed (both in the USSR and in Eastern Europe) urging the recognition of genuine safety problems that must be taken more seriously. Since the USSR is the basic source of safety standards for all of the countries concerned, this matter is most relevant to the USSR.

On the legal framework of nuclear power activity, the following points should be made:
1. "Nuclear law" is not nearly as well-developed a subject in the USSR and Eastern Europe as it is in the West.

2. Arrangements akin to licensing of nuclear facilities are used, but they appear not to provide the degree of procedural formality that is typical in the West.

3. Health regulations and other safety standards used in the countries under study are mostly of Soviet origin, and the Soviet standards, in turn, are often based on internationally-developed standards.

4. The level of secrecy and semi-secrecy with regard to legal provisions concerning peaceful uses of nuclear power is quite high. This is no doubt based on a number of considerations, including the connection with the military uses of atomic energy.

5. Virtually no provisions exist on civil liability for nuclear damage in the countries studied. Since the law on this subject has been extensively developed in the West, and since the consequences of nuclear incidents could extend beyond national boundaries, this should be considered a problem for the countries of the West.

Policy Recommendations: Two aspects of Soviet-East European nuclear power policy appear to have been given inappropriate attention in these countries: the general safety issue and certain aspects of nuclear law, particularly civil liability for nuclear damage. Since both of these concerns transcend national boundaries, Western efforts should be undertaken to encourage further work on these matters in the USSR and Eastern Europe.
Reports concerning deterioration of the natural environment in the Soviet Union began to appear regularly in the West about 25 years ago. Since the period coincided with Soviet postwar development, the reports should not have surprised anyone. But, apparently, they did. They undercut the oddly widespread assumption that environmental pollution and destruction were somehow peculiar to industrial societies that uphold private ownership of productive property and rely primarily on the market to regulate economic life; that, by contrast, societies of nationalized property and central economic planning were immune to such afflictions.

The assumption itself was not notable for its perceptiveness. But it was understandable how it had come about. In the U.S. private enterprise has been largely responsible for damage to the environment. Support for countervailing values and protective restraints has come mainly from the public sector, frequently under the label of "planning" (land use planning, river basin planning, regional planning, resource planning). The private and public interests are seen in perpetual tension; their relative strength changing over time. What was not sufficiently grasped, it seems, was that the tension inheres in the production-protection relation and that making the state entirely responsible for both functions will not ipso facto cause the tension to vanish. In fact, concentration of the two functions in a monopolistic public sector makes cover-up of the tension easier and, therefore, more likely. Planning is value-neutral. One can plan for good or bad, for life or death, for war or peace, for present gain or a future vision. The important question is who chooses the ends and how. When a small, closed clique has the power to set the direction of the economy and either decree or overlook the sacrifices necessary for its development and management, the outcome depends on their mind set. American corporate executives are typically rewarded for the profit they record today, not for moves to preserve the plant for future use. Khrushchev was rewarded with the top party post for a couple of good grain harvests after plowing up the semi-arid virgin steppe of Soviet Central Asia, not for proposals to husband the country's ecology for future generations.

Soviet leadership's roots lie in an ideology that glorifies machines, factorie and military might and judges success mainly in terms of physical product. Its concern about the natural environment has been ancillary and mostly verbal. But even the
words lack in conviction. Pronouncements at the 26th Party Congress (February, 1981) gave less attention to environmental protection than found in the few generalities of the previous Congress in 1976. Brezhnev only bemoaned the "inevitable growth in spending for environmental protection" implying that environmental protection could move up on the scale of priorities, if destruction of essential components of the environment (arable land, forests, water, air) became a limiting factor on production. Geographers and economists may be in a better position to assess where these limits are. But even one reading for law senses that depletion and contamination of land, deforestation, exhaustion and pollution of water, and the poisoning of air are becoming serious, especially in some regions.

The scientific-technical revolution exacerbates environmental despoliation in at least two ways. First, the pace of development accelerates and the magnitude of interventions in nature and their unforeseeable consequences expand. Second, entirely new forms of intervention become possible and are either employed deliberately to transform the natural environment or appear as by-products of other practices.

Radiation safety, disposal of hazardous wastes, widespread application of environmental poisons, reversal of rivers, weather modification, and the like are, strictly speaking, controversial subjects in the Soviet Union. Although mildly divergent views are published on various aspects of these problems, intense no-holds-barred discussion of the basic policy issues is unheard of. Development of nuclear energy, for instance, is state policy beyond the pale of debate. Even though there is reportedly only one site for hazardous waste disposal in the entire USSR (and an experimental one at that), the problem is presented as solved. Reversal of rivers and weather modification take on the air of panaceas. But most everything is put in future tense.

In conclusion: (1) Constraints in Soviet development by reason of environmental deterioration are beginning to be felt. Monitoring of Soviet environmental conditions should be an integral part of political and economic forecasting. (2) Soviet environmental conditions cannot be reliably monitored from the official Soviet reports, including approved textbooks, monographs, and journal articles, alone. Soviet popular press should be closely followed. Accounts by dissidents (whether emigrés or not) should also be paid close attention to. (3) Finally, it may be advisable to examine Soviet environmental conditions in relation to trends in human morbidity and mortality in the U.S.S.R.
Expanding commercial contacts between the Soviet-bloc countries and the West have resulted in considerable indebtedness on the part of many of the East European states vis-a-vis their capitalist trading partners. To surmount these balance-of-payment difficulties, most of them have had to turn repeatedly to the USSR to obtain hard currency credits (loans) in order to pay their bills. Though the amounts involved have not been unduly large (by world standards), such aid has played a significant role in the relations between the USSR and its close associates and has offered the Soviet regime an important means for exerting influence over the behavior of its allies and solidifying the economic and political ties binding the borrowers to the lender.

A set of intra-socialist rules has been devised for these purposes which are said to be more favorable to all concerned than the procedures operating in the capitalist marketplace: long-term repayment schedules, low interest rates, no extra fees, retirement of the debt through deliveries in kind rather than deposits of bullion or hard currency, a stable pricing system, prospective planning, focus on developmental goals by assigning top priority to purchase of capital, instead of consumer, goods.

The USSR is the only member of the socialist commonwealth with an inherent capacity to bankroll loans in gold and free currency. Increased reliance by the East European states on Soviet financial aid to cover their foreign trade deficits confronts the Soviet Union with both opportunities and problems. On the plus side, as sole treasurer of the socialist fraternity, the USSR can use its financial position to reinforce its partners' dependency on Soviet ma-
material largesse, ensure their continued loyalty, and determine their economic and diplomatic agenda. By dispensing such loans, the USSR also shapes the integration processes within COMECON in accordance with its own preferences and thus promotes the kind of regional rapprochement which furthers Soviet pre-eminence within the community's economic and political affairs. On the negative side, these "rescue" operations put a telling strain on Soviet financial resources and frequently constrain the USSR to accept in payment for its services goods of inferior quality than those it might have been able to acquire abroad by spending the money itself.

Although the Soviet Union has, as of late, advanced considerable sums in hard cash to its East European friends, the latter's requirements and appetite for western goods and technology seems to be rising steadily and the consequence could well be a drain on Soviet reserves beyond locally acceptable levels or tighter controls which could spell new intramural tensions from which the alliance's political unity and COMECON's economic performance could seriously suffer.
This essay examines the organizational and legal changes in the Soviet foreign trade system in the 1970s and 1980s. Particular attention is devoted to the competition between Soviet conservative and reformist perspectives on "the scientific and technological revolution" and East-West economic relations. American observers seem to know very little about the bureaucratic infighting within the USSR over the reorganization of the foreign trade apparatus. But we do know that traditional and modernizer positions were publicly articulated, that the struggle between them was for high stakes, and that the conservatives prevailed in the late 1970s. At the center of the conflict were two key Leninist principles—"the state monopoly of foreign trade" and "democratic centralism"—and their practical applications under contemporary conditions. Specifically, the relationships among at least nine sets of organizations were at issue.

Recent Soviet administrative and juridical adjustments fit in well with three important characteristics of the Brezhnev administration's approach to economic growth and productivity in general, and to foreign economic relations in particular. First, the Soviet leadership seeks to improve coordination of the USSR's industrial production and foreign trade activities. Second, the strengthening of the 70 or more foreign trade organizations is part of a trend throughout the Soviet bloc to increase the powers of intermediate-level organizations and to solidify branch monopolization. Third, the creation of specialized export-import firms within the foreign trade organizations exemplifies the Soviet penchant for incremental administrative changes, rather than systemic reforms.

Whether the recent Soviet organizational and legal changes will help to cope with the mounting problems of the Soviet economy is difficult to tell. There are many unanswered questions about the implementation of the key 1978 Soviet legislation. Moreover, there are at least six important limits to East-West economic cooperation (e.g., the Soviet leaders' perceived need to enhance the USSR's military potential, a process high correlated with maintaining the isolation of the USSR's scientific and technological community).
However, Soviet conservatives and especially modernizers contend that the USSR can deepen economic ties with the industrialized Western states without fear of excessive vulnerability to harmful political, economic, or social influences. The essence of Brezhnev's strategy is to stimulate increased scientific, technical, and production initiatives at home through greater centrally managed involvement in the global economy.

The implications of the present research for US policymakers are encapsulated in the following statement: "The Western Europeans and the Japanese have developed a much greater economic and political stake in stable trade with the Soviet Union than has the United States. Their successful penetration of the Eastern market is due in large part to active government encouragement and support for trade, to better knowledge of the planning and organization of the Soviet economic bureaucracy, and to more patience in doing business with the Soviets." (From US-Soviet Relations: A Strategy for the '80s, Report of a UNA-USA National Policy Panel on US-Soviet Relations, 1980, p. 59--emphasis added).
From the high Stalinism of the Soviet Union and Eastern Europe of the late 40's and early 50's to the contemporary age of "Scientific-technical revolution," the theoretical relationship of socialist law to Soviet-type societies has undergone significant change. It has been a transition from the law of the dictatorship of the proletariat to the law of "developed socialism."

The initial watershed for this change was of course the death of Stalin in 1953 followed by the gradual de-stalinization of socialist jurisprudence in general, including the revival of speculative legal thought. To a lesser but not insignificant extent, Khrushchev's ouster in 1964 which signalled the demise of the quest for a general theory of "all people's law," cleared the way for greater theoretical focus on the critical operational concepts of the law-society relationship. Subsequently, the increasing policy emphasis on STR under Brezhnev has stimulated more analytical rigor and a preliminary empirical orientation in current legal discourse.

Tracing the course of socialist legal thought since World War II to present, the disparity of methodological approaches to law then and now is immediately evident. The structural-function-alism and sociology of law of the late 70's seems politically and philosophically "light years" away from the formal-dogmatic approach dictated by Vyshinsky in the late 40's. In those Stalinist
times, a leading text on jurisprudence opened with a deferential reference to Zhdanov and the relevance of his general strictures for the author's then task at hand.\textsuperscript{5} In contrast, 30 years later a jurist begins a comparable study with a discussion of law, in particular "legal regulation" as the cynosure of a developed legal system.\textsuperscript{6}

In order to bridge the enormous theoretical distance from 1948 to the present in the European communist states, and to better comprehend the changes which ensued in the relationship of socialist law and society, I will outline a threefold framework for analysis.

1. \textbf{From law as ideology to law as social science}

During the period under discussion, socialist law was re-conceptualized from a facet of official ideology to a discrete social science. This trend followed not only Stalin's death but the death of Vyshinsky a year later as well, and the subsequent rejection of his jurisprudential legacy. In the sweep of the history of Soviet legal ideas, the purge of Vyshinskyism thus meant breaking out of the scholastic lockstep imposed on Soviet jurists in the late 30's, and a partial return to the intellectual style, although not the content, of Marxist legal thought of the mid- and late 20's.

After Stalin died, the reclassification of law from ideology to social science was a gradual and guarded step rather than an abrupt turnabout. A year after Vyshinsky's death, still during the political interregnum, the first major post-Stalinist text on
legal theory introduced law as a social science, but in a minimal and pro forma way without amplification or further development. A note of caution was added in a following section on "Partiinost' Marxist-Leninist Theory of State and Law." Later in Khrushchev's tenure, a leading jurisprudence text of the day reveals the progressive secularization of juridical science. Partiinost' is omitted although appropriate respect is paid relevant Party statements through the XXII Congress of the CPSU in 1961, law as a social science is presented at the outset and dealt with explicitly, with the assertion put forward that law is a distinct social science with its own peculiar subject matter--"juridical rules established by state authority." By the early 70's, the exclusivity of law as a social science was losing its currency. The authors of an authoritative volume on the general theory of law expressly stated that they had devoted a great deal of attention to the "sociological and social psychological aspects of law and legal regulation." A few years later, fellow jurists were addressing the methodological problem of distinguishing between psychological and juridical variables in evaluating data from an empirical study which indicated that people's assessors tended to be passive in their co-adjudication of civil cases. Thus, in the course of three decades law has passed from the realm of ideology into the sphere of social science. This transition has entailed fundamental changes in the way socialist jurists and policymakers alike, think about law as a system of ideas
relevant to the governance of Soviet-type societies. Law in the macro sense is no longer directly derivative from ideological pronouncements, exclusively subject to deductive analysis, and generally typified as a dependency of the state operating through a set of logically interconnected, abstract concepts or legal categories. By contrast, socialist law as an intellectual discipline and systemic component of the political system of developed socialism, is now at the same time relatively more autonomous of the state and more interdependently linked with cognate social sciences in carrying out its social mission, more the product of deductive as well as inductive logic, and it clearly shows signs of conversion into an embryonic policy science as social scientific jurists increasingly adopt Western methodologies and empirical techniques more conducive to operationalizing their basic legal concepts.  

2. From revolutionary role to regulatory role of law

Given the immensity of Soviet postwar reconstruction and the imperatives of reconsolidating the Stalinist system in the USSR as well as imposing it on the East European states, it is not surprising that socialist law continued to be cast in its revolutionary role during the late 40's and early 50's. Even after Stalin's death and the beginning of the "thaw," the revolutionary role of law was still found to be necessary in East Europe. In practical terms this was due to the fact the people's democracies were still then in their revolutionary-transformation phase called "building socialism," while the USSR had already entered "socialism." Thus, the new East European regimes continued to require the "sword" of
law to use Solzhenitsyn's apt metaphor. 14

Since law was tightly fused to the state as an arm of its coercive power, it is possible to speak of the revolutionary role of state and law under Stalinism. Their combined tasks included the liquidation of capitalism, the creation of socialist property and a socialist economy, the gradual elimination of class distinctions and the vestiges of capitalism in people's consciousness, and the rapid transformation of the socio-economic system on the basis of the Soviet model of the 30's. 15

As de-stalinization facilitated the re-opening of the arenas of legal philosophical discourse in the 50's, Soviet theorists began to explore the more benign and constructive opportunities for socialist law other than as a weapon in the class struggle. It was argued that in addition to its reciprocal influence on the economic base, law also exercised cross-superstructural influence on morality, on political and social institutions, on the development of language, the formation of socialist nations, and the strengthening of the family. 16 Law was no longer conceived of as just a medium for the projection of state power, but as an intermediary between state and society as well, in particular for the regulation of relationships between citizens. 17

With the (conceptual) appearance of "all people's state and law" under Khrushchev in the late 50's, the heavy reliance on compulsion of the law of the dictatorship of the proletariat began to diminish (at least doctrinally) as law was interposed between state and citizen not only as an intermediary but as a buffer. 18 By now
the revolutionary role of law was being superseded in the socialist general theory of law by the regulatory role of law as an essential component in the effective governance of the increasingly complex and differentiated developing European socialist societies.

In its newly emphasized capacity, law was assigned the general tasks of regulating relationships between citizens, citizen-state relations within certain constraints, and relationships between entities of the planned economy. The latter task has been stressed by jurists especially since the full-blown emergence in the 70's of the Party policy of carrying out the scientific-technical revolution throughout the states of the European members of COMECON.

Because STR has the tendency to broaden the gamut of legally protected objects, the scope of the regulatory role of law is being steadily enlarged. More and more social relationships are falling within the range of legal action. A partial listing of the new social objects of which fall within the regulatory purview of law include:

1. Atomic energy.
2. Computerization and automated management systems.
4. Exploration of the oceans.
5. New forms of communication and information.
6. Major new scientific centers and scientific-production facilities.

Where STR and the concept of developed socialism intersect,
law is intended to play a significant role in the eventual attainment of the ideal of "a scientifically optimized system of social relationships." 23

Socialist law in the post-Stalin period has evolved in terms of both its role and social significance. Accordingly, its central place in contemporary Soviet-type society is expressed in the following statement:

Law is an objectively necessary element of the social system as a whole, fulfilling its special function as regulator of the standards for work and consumption, the means by which all the social values of the present society are secured. 24

In closing this section, I would just add that law in the USSR and East Europe has been one of the principal and lasting beneficiaries of the de-stalinization process of the 50's and early 60's. As political intrusion into many aspects of everyday life of the society began to recede, the Party leadership, in the interest of social regulation and ultimately political control of the social system, gradually moved the refurbished law into the vacuum. In effect, de-politicization has been and continues to be offset by the on-going process of juridicization in the European communist states. 25

3. Contemporary socialist legal regulation: concept & functions

The juridical concept of "legal regulation" gradually emerged and moved to the fore of socialist jurisprudence and practice within the reformist legal policy context of the post-Stalin period. 26
Although the normative sphere of social regulation was rehabilitated in the mid-30's, the prerogative sector continued to dominate into the postwar period. Only after Stalin's death and the onset of de-stalinization did the legal reform process begin to appreciably strengthen the normative sector and pave the way for first its parity with, and later its precedence over the prerogative sphere in the day-to-day governance of Soviet-type societies.

This historic shift from prerogative to normative social regulation naturally took place first in the "socialist" USSR, but took a while longer in the East European states which were still "building socialism" in the 50's. As the Polish Party leader Bierut observed in 1955:

In conjunction with the process of transformation, the functions of the people's state are changing as well. Gradually the scope of the repressive organs is being reduced and their methods of work are changing, although they continue to play an important role. As the educational and cultural functions of the state grow, the functions in the area of our socialist economy are also being significantly expanded.

A year later, the XX Congress of the CPSU declared that curbing the prerogative forces was a priority policy. While bloc-wide compliance with Moscow's new line was expected, the Hungarian Revolution and its suppression by the USSR intervened, and most of the Party leaderships in East Europe used the Hungarian events as
justification to defer de-stalinization of the social regulation process. However, by 1959 at the XXI Extraordinary Congress of the CPSU Khrushchev renewed his offensive against legal Stalinism by calling for doctrinal change from the state and law of the dictatorship of the proletariat to "all people's state and law." The central feature of the development of state and law of "all the people" was the reduction of the compulsory-administrative sphere (read: prerogative) and the growth of the economic-organizational and cultural-educational functions (read: normative) of state and law. Subsequently, Khrushchev gave maximum emphasis to the normativization of Soviet society at the 1961 XXII Congress of the CPSU at which Vyshinskyism with its stress on "measures of compulsion" was formally attacked in the strongest possible political language. Khrushchev demanded that citizens be taught respect for the law which was now intended to supersede the former reliance on administrative means of governance. By the early 60's, normativism had finally begun to take precedence over prerogativism in most of East Europe as well.

In the course of this transition throughout the European communist states in the postwar period, the paramount task for law gradually evolved from the suppression of internal class enemies to the regulation of social relationships. As one prominent legal theorist expressed it in the early 70's, the class-suppressive function of state and law was in the process of withering away in the developed socialist society. Although law would still continue to be used as a weapon against anti-socialist elements in
society, a shift had occurred from the suppression of whole classes characteristic of the dictatorship of the proletariat, to the repression of just those individuals who violate the socialist legal order.

The contemporary regulatory emphasis of socialist law has arisen concomitant with the state's increased attention to its organizational-economic and cultural-educational tasks in the post-Stalin period. Law is seen as essential to the successful implementation of these tasks and, in this spirit, the 1961 Program of the Communist Party of the Soviet Union noted that the "improvement of the legal norms regulating" these spheres of activity must receive greater attention.

Already in the mid-50's the regulatory jurisdiction of law had grown substantially to encompass the legal regulation of industry, agriculture, science, culture, and education. However, beginning in the 70's, jurisprudential writing began to give particular attention to the place of the individual in this network of regulated relationships, stressing the legal regulatory task of reconciling the interests of the individual and society in a harmonious fashion.

This concern was further refined by focusing on the participant in a legally regulated social relationship and differentiating analytically between his/her subjective rights as an individual and his/her corresponding juridical obligations to society as a whole.

This social harmonization objective of contemporary legal regulation in Soviet-type societies has been further revised and enlarged in scope as a recent re-statement indicates:
In developed socialist society, law serves as the specific and effective means of differentiating, coordinating, and synthesizing personal, collective, and state interests within the framework of the interests of all the people. 39

In the general transition from prerogativism to normativism, and from the class-suppressive to the individual-regulatory orientation of socialist law, a perceptible shift in the relative weights assigned coercion and persuasion in the legal implementation process has become apparent. In its revolutionary role as a weapon in the class struggle, law had relied heavily on coercion in harnessing social energy, transforming the socio-economic environment, and maximizing the power of the state vis-a-vis the citizen. 40 In contrast, the post-Stalin period has witnessed both a doctrinal tendency and inclination in practice towards rectifying the imbalance of coercion and persuasion of the past in favor of the latter, in the process of ensuring compliance with state policy and legal norms.

Soviet and East European jurists base their thinking on the assumption that juridical norms without sanctions are not law, so the issue is limited to the relative emphasis assigned persuasion and compulsion in securing conformity with socialist legality. In fact during the mid-50's, an argument for the continuing need for coercion was expressly made on the ground that "The application of measures of state compulsion to violators of Soviet law is one of
the important means in the struggle with the survivals of capitalism in the consciousness of people."  

However by the end of the decade and the beginning of the 60's, the persuasion/compulsion mix was being discussed speculatively within the context of the newly formulated "all people's state and law" and Khrushchev's projected "transition to communism." In this setting, the projection of increasingly greater reliance on persuasion over coercion was considered a central operational mode of the ultimate process of the withering away of law.

During this period, the "educational role of law" was highlighted in contrast with Vyshinsky's previous reduction of law to coercion. In retrospect, the educational role of law under Khrushchev was a transitional concept between the revolutionary role played by law during the dictatorship of the proletariat and the contemporary regulatory role of law under Brezhnev's developed socialism.

In practical terms, law in its educational role was conceptualized as a medium for bringing a synthesis of state compulsion and social persuasion to bear on the state-citizen relationship. At this point, law was no longer thought of as primarily a class weapon and not yet reconceptualized as a more neutral social regulator; instead law was cast in a politically tutelary relationship to the individual, in quest of eventually bringing forth the "new man" of the utopian future. "He" was expected to gradually emerge within the prevailing hybrid institutional framework of the late Khrushchevian period, in which compulsion and persuasion coexisted.
in the juridical/non-juridical forms of the militia and people's courts on the one side, and the people's voluntary patrols and comrades' courts on the other. 44

This line of speculative thought and experimental practice was at its zenith when Khrushchev was ousted in 1964. Subsequently under Brezhnev, both thought and practice were gradually de-radicalized, the former being transformed into the current more present time-oriented and pragmatic regulatory conception of law, while the latter was reduced in scope and subsumed by the regular courts and ordinary police.

The final transition from coercion to persuasion as a dynamic, unfolding process of the era of developed socialism has been placed in abeyance. This transition is now being projected into an atemporal future as expressed in the following equation: the more fully juridical norms reflect socialist reality and command high social authority as well as consistent public respect, the less there will be need for state coercion as the rules of law begin to foreshadow "the future norms of communist society." 45

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A characteristic feature of socialist jurisprudence of the era of developed socialism is the attempt, which is by no means always successful, to express complex socio-legal phenomena in terms of inter-related operational concepts within a relatively coherent analytical framework. This is of course the result of classifying law as a social science. If concepts sometimes seem to lack clear empirical referents and conceptual linkages frequently tend to be
formalistic and of doubtful theoretical import, this is due to the relative newness of the enterprise of juridical social science rather than lack of intellectual effort.

The legal regulatory orientation of contemporary socialist law is one of the principal beneficiaries of this social scientific approach.

Jurists begin with the fundamental conceptual distinction between "law," their most general and abstract concept, and "conduct," their most empirically relevant concept. While law is described as having a definite ideational influence on human conduct, conduct itself is defined as "a real phenomenon of objective activity." A "social relationship," in turn, is defined as the conduct or activity of its participants, while at the next level of abstraction a "juridical rule" represents an idealization of conduct. The latter phrase is understood to mean that a norm of law is "an ideal form of future conduct," or, in its most precise definition, such norms are "models of conduct created by the legislator for the purpose of the optimal regulation of the conduct of people." Finally, to complete the conceptual network "legal regulation" regulates social relationships and in doing so, exercises an influence on human conduct. More specifically, legal regulation combines the general ideational influence of the law on the behavior of people with the special methods of influence which are peculiar primarily to the law.

While the place of legal regulation in the inter-relationship
of law and society is being clarified, even more theoretical energy is being devoted to the explication of the concept of legal regulation itself. In what is perhaps the most authoritative analysis of the problem during the 70's, the legal regulation process is demarcated into three identifiable stages:

1. First, the rule-making stage in which juridical norms defining and orienting human conduct in accord with the requirements of social development, are formulated.

2. Next is the operational stage when the rights and duties of subjects of law come into existence on the basis of the juridical norms which have been formulated.

3. Finally, there is the implementation stage when the "instructions of the juridical norms expressed in the rights and obligations of subjects, are realized in actual human relationships and become reality."

The three main stages of legal regulation in turn correlate with the three basic concepts of the system of legal regulation: (a) juridical norms; (b) legal relationships; and (c) actions implementing a legal subject's rights and duties. Each of these concepts is conceptualized as a "sub-system" through which such secondary concepts as normative juridical acts, legal consciousness, and legal culture are incorporated and integrated into the legal regulation system as a whole.

The concept of "socialist legality" is also included, but primarily as a political codeword rather than as a concept relevant to the emerging framework. Statements to the effect that socialist
legality is the "cementing link" and the "unity of all the elements of legal regulation," have little analytical utility and can probably be safely regarded as the jurist's pro forma acknowledgement of prevailing legal policy in the socialist camp. 54

In contrast, the legal relationship as subsystem clearly seems to be of far greater importance in operationalizing the conceptual system of legal regulation. The legal relationship is conceived of as the essential intermediate linkage between the stages and subsystems of norm formulation and implementation. In this capacity, the legal relationship serves to "'concretize' the general requirements of juridical norms applicable to given subjects."55

Metaphorically, the role of the legal relationship in the legal regulation process has been aptly characterized as that of a translator engaged in

the translation of the general instructions of juridical norms into subjective rights and obligations for actual subjects /of law/.56

Both the law-society relationship and the legal regulation system with its subsystems come together as components of a larger whole within the conceptual housing of "the mechanism of the influence of law on social life...."57 The breadth and scope of the "mechanism of legal regulation" is such that comparison is made to the overarching systemic concept of juridical superstructure. 58

Although it is conceded that the comparison falls short, the concept of "mechanism" is sufficiently broad to encompass social, psychological, and governmental mechanisms which contribute to the
functioning of the mechanism of legal regulation. 59

The "social mechanism of legal regulation" which is intended to describe only the "separate aspects of the social character of law" rather than an integral system, is positioned to mediate between the macro-governmental and the micro-psychological dimensions of the regulatory universe. 60 In spite of this caveat, elsewhere in the literature the concept of "structure" has been proposed as a synonym for the term social mechanism, 61 suggesting the possibility of bringing into sharper focus the following aspects of the latter concept by interpreting them broadly within the Western framework of structural-functionalism:

1. "The level and character of legal information" by which is meant that the effective functioning of law depends upon the individual citizen having knowledge and understanding of it. More broadly, this is reminiscent of the necessity of continuous and stable information flows to ensure system equilibrium as well as the role of the cognitive dimension in the ideational structure of political and legal culture.

2. "The disposition and orientation of the subjects toward law" which signifies the citizen's level of legal consciousness and the degree of his/her willingness to comply with legal rules. From the perspective of functionalism, this implies the existence of a political and legal socialization process in addition to the affective dimension of the subject orientation in political and legal culture.

3. "The social consequences of legal action" which means
that the reciprocal flow of information "influences the process of legal regulation, correcting and directing it." Amplifying on this fairly explicit borrowing from Western social theory, it is evident that what is clearly intended in this instance is output effect, the feedback loop, and positive as well as negative feedback flows which bear on the process of system maintenance.

4. "The social environment" which is meant in the sense of the "'legal climate' or general atmosphere of the condition of legality and the legal order." In the more familiar functional vocabulary, this last aspect represents the culture of a society in general as the internal environment for political and legal action in addition to the degree of "support" from the social system as a vital input into the political and legal systems.62

As I have attempted to demonstrate in this section, law manifests its influence on society through the medium of a hierarchical network of ideas, the conceptual base of which has its empirical reents in interpersonal and citizen-state relations. However, the law-society relationship is no longer necessarily unidirectional; the inclusion of a feedback concept indicates at least the theoretical possibility for reciprocal social influence on the shape of the law. Meanwhile, the legal regulation of volitional and economic relationships remains the cynosure of the law-society link.

Obviously, volitional relationships are most amenable to regulatory success. The concept of "legal activism" is relevant to this outcome. It describes participants in social relationships
as not merely addressees of juridical norms, but activists as well who, of their own volition, work to bring about the optimal results of the legal regulation process. Ideally, legal regulation attains its goal when participants in social relationships fulfill their juridical obligations voluntarily and are able to enjoy the rights to which they are entitled. Jurists assume that this is indeed the case in the majority of instances, especially in the regulation of "civil-legal" relationships which arise within civil, family, labor and other branches of law. This favorable state of affairs is attributed to a self-congratulatory presumed "conformity between the wills of the legislator and the people in socialist society. The legal regulation of economic relationships is far more complicated and therefore less susceptible to optimization. Although jurists assert that the juridical superstructure is more promiminate to the economic base than the moral, aesthetic, philosophical and other similar superstructures, this status brings no closer a solution of the legal problems of regulating the economy.

The main difficulty stems from a division of opinion among the jurists themselves over how to address these problems. It is agreed that the task before them of providing a systematic explanation of the influence of law on economic relationships as against volitional relationships, is considerably more complex because the aggregate of production relationships exists independently of the will of individuals and in fact constitutes the economic
base which of course defines all of the superstructures, including
law. However, jurists divide into two schools of thought on whe-
ther law regulates the economy directly or indirectly. 67

A similar dispute has more recently arisen over the relation-
ship of law to the scientific-technical revolution. There is
general accord that STR is producing a complex socioeconomic phe-
nomenon in the USSR and East Europe, but disagreement over whether
scientific-technical progress should be regulated by the norms of
several different branches of law, 68 or through the creation of
a new branch of "science law." 69

However these overlapping differences are finally resolved,
a consensus does exist that socialist juridical science must probe
more deeply into the "mechanism of the legal regulation of economic
relationships" in order to strengthen the influence of law on the
economy 70 by more effectively "organizing and stabilizing" the
structure of economic relationships. 71

The specific objects of contemporary socialist legal regula-
tion are diverse, including for example the regulation of property,
work, consumption, economic and cultural development, social wel-
fare, distribution, commerce, planning, state and labor discipline,
enterprise relations and management, and of course embedded in all
of the above, interpersonal and citizen-state relations. 72 How-
ever, the crucial question now being posed by socialist legal
scientists is how effectively does the law carry out its regula-
tory functions?
CONCLUSION: Evaluating the efficacy of legal regulation

Socialist jurists' primary responsibility for the foreseeable future is to continue to enhance the regulatory role of law by deepening and strengthening its influence on society. In order to accomplish this objective, it is necessary to evaluate the efficacy of legal regulation. This in turn will require the more rapid transformation of law into a modern social science.

Some progress towards systematic evaluation is already apparent. In recent years juridical science has moved from general declarations about the necessity of studying the effectiveness of legal norms to empirical sociological studies of the efficacy of individual norms and "legal" institutes.\(^73\)

In spite of this effort, it is felt that juridical science is lagging behind in the age of scientific-technical revolution. As yet, legal science is neither fully availing itself of opportunities afforded by STR nor satisfactorily meeting the demands generated by STR for more systematic social science knowledge of law.\(^74\)

A proposed research program for inquiry on the efficacy of law which may presumably galvanize legal research, encompasses four steps:

1. Hypothesize about the efficacy of special legal norms.
2. Explicate the intended social objectives of these norms combined with analysis of the results of their application in practice.
3. Measure the correlation between the objective of a norm
and the effect of its application.

4. Finally, interpret the results of research and on the basis of this, develop recommendations for improving legislation or law enforcement work.⁷⁵

Of these research tasks, the prescription on measurement seems to be attracting the most activity at this point in time. With Polish jurists and sociologists leading the way as early as the late 50's, most of the Western social science techniques for data-gathering and analysis are by now in the hand of the juridical community of the European communist states.⁷⁶ Included in this software transfer are the familiar techniques of sampling, interviews, questionnaires, direct observation, and statistical analysis.⁷⁷ Although these techniques are steadily being assimilated into socialist jurisprudence, the pace or absorption rate is apparently not fast enough. According to a recent treatise on legal sociology produced by the Institute of State and Law of the USSR Academy of Sciences, "empirical studies" on law are still not receiving enough emphasis in the overall research scheme.⁷⁸

The interpretive function of the basic research program appears to be its weakest link at present. Although inter-related legal policy recommendations by the Institute of State and Law tripled from 1966 to 1974, it is not clear that they were based on interpretive analysis of legal efficacy.⁷⁹ Lack of clarity at the stage of hypothesis-formation is one source of the problem, while the other is the jurist's inability to discern causal patterns accounting for phenomena which are impacted by non-legal as
well as legal factors. For instance, jurists understand that fluctuations in the divorce rate are the consequence of both legislative intent manifested through juridical norms and the regulatory process, and socio-economic factors beyond the parameters of law—but they have not yet been able to analytically isolate one set of factors from the other.

Therefore, the agenda for research on the efficacy of legal regulation involves sorting out certain theoretical questions and coming to terms with basic empirical issues. In the realm of theory, consensus exists on the task of eventually constructing a "middle-range level" theory of legal regulation, but dissensus prevails on the theoretical question of the "method" of legal regulation. One position holds that there is a single, unified method for the entire legal system, while the other insists that regulatory method is contextually-bound within the peculiarities of each individual branch of law itself.

An even more ambitious set of empirical issues await clarification solution. These tasks include the need to:

1. Determine criteria for the effectiveness of a legal norm.
2. Develop indices of effectiveness.
3. Distinguish analytically between juridical and non-juridical variables.
4. Establish which legal variables are quantifiable.
5. And, work out how to measure these variables.

Policy relevant evaluation of legal efficacy will elude socialist jurists so long as these critical methodological issues
remain unresolved.

Finally, the question remains of the relationship between STR and the evolving socialist legal doctrines which I have traced in this essay. Essentially, the rise of legal regulation as the central feature of the contemporary Soviet and East European legal systems occurred largely within the intellectual framework of socialist legal philosophy, but with significant political impetus from such metalegal policies as de-stalinization, the "transition to communism," and, more recently, the STR of developed socialism. In the present period, the political momentum of STR is having the effect of:

1. Stimulating the further conceptual elaboration of the process of legal regulation.

2. Underscoring more urgently the necessity of systematically evaluating the effectiveness of legal influence on society.

3. And, accelerating the impact of modern social science on the theory and practice of socialist law.

It is this last effect, the on-going influence of STR on the new ways socialist jurists are beginning to think about law that may in the long run have consequences for the shape of the state-society relationship in the Soviet-type systems of the European communist states.
NOTES


5 Ibid., p. 3.

6 Iavich, op. cit., p. 7.


9 _Teoriia gosudarstva i prava_ ed. P.S. Romashkin, M.S. Strogovich, and V.A. Tumanov (Moscow: Akademii nauk SSSR, 1962), p.7. After Khrushchev's ouster in 1964, the concept of "partiinost'" reappears in the juridical literature alongside the commitment to law as social science. See _Obshchaia teoriia gosudarstva i prava_, Vol. I: _Obshchaia teoriia gosudarstva_ ed. D.A. Kerimov and V.S. Petrov (Leningrad: Izd. Leningradskogo universiteta, 1968), Ch. I, Secs. 1 and 3. However, after the early 70's, partiinost' as a formal category is dropped again from the jurisprudential literature and has not reappeared to date.

10 _Sotsialisticheskoe pravo_ (1973), op. cit., p.7.


12 Ibid., p.148.


18 Ibid., p.337.
19 See Obshchaia teoriia gosudarstva i prava, Vol. II:


20 Gosudarstvo i pravo (1977), op. cit., p.284.
21 Petrov and Iavich (1974), op. cit., p.27.
22 Iavich (1978), op. cit., p.67.
23 Quoted in ibid., p.103, fn. 3. See also generally, Sharlet, "STR, Party Policy, and Socialist Law," op. cit.

24 Gosudarstvo i pravo (1977), op. cit., p.37.


32 Denisov (1972), op. cit., p. 275. On the law of suppression, see Kareva (1955), op. cit., p. 221.


34 Denisov (1972), op. cit., p. 281.


36 Kareva (1955), op. cit., p. 283.

37 Denisov (1972), op. cit., p. 260.


46 Ibid., p.21.
47 Gosudarstvo i pravo (1977), op. cit., p.135.
49 Gosudarstvo i pravo (1977), op. cit., p.135.
50 V.N. Kudriavtsev, Pravo i povedenie (Moscow: Iuridicheskaia literatura, 1978), p.25. For a slight variation, see Sotsialisticheskoe pravo (1973), op. cit., p.89: "Juridical norms ... program the behavior of people in conformity with the ideal model of the social relationship embodied in a norm."
51 Petrov and Iavich (1974), op. cit., p.21. East German and Hungarian jurists preceded their Soviet colleagues in this doctrinal direction and some of their work, translated into Russian, influenced Soviet juridical science. See, e.g., Gerhard Haney, Sotsialisticheskoe pravo i lichnost' (translated from German) (Moscow: Progress, 1971; originally published in Berlin, 1967); and Imre Szabo, Osnovy teorii prava (translated from Hungarian) (Moscow: Progress, 1974; originally published in Budapest, 1971).
52 Sotsialisticheskoe pravo (1973), op. cit., p.87. This volume is the fourth of a four-volume comprehensive study of the "Marxist-Leninist General Theory of Law and State" whose editorial board and author-collectives include nearly every major legal theorist in the USSR.
53 Ibid., pp.87-88.
54 Ibid., pp.88 and 94.

Sotsialisticheskoe pravo (1973), op. cit., p.91; and Alekseev (1966), op. cit. The latter impressive study probably inspired the former on this point.

Alekseev (1966), op. cit., p.3.

Sotsialisticheskoe pravo (1973), op. cit., p.94.

Ibid., pp.95-103. For a fuller discussion of the psychological mechanism, see also Alekseev (1966), op. cit., pp.62-74.

Sotsialisticheskoe pravo (1973), op. cit., p.96.


Sotsialisticheskoe pravo (1973), op. cit., pp.103-104.


See Sharlet, "STR, Party Policy, and Socialist Law," op. cit. The structure of the arguments in this dispute is analogous to the dispute over a proposed code of economic law in the USSR.

The number of policy recommendations grew from 52 to 178 in the eight year period covered.
83 Sorokin (1976), op. cit., p.69ff.
84 Iavich (1978), op. cit., p.171.
85 Gosudarstvo i pravo (1977), op. cit., pp.141 and 145.
CONSTITUTIONAL RIGHTS IN THE ERA OF SCIENTIFIC AND TECHNICAL REVOLUTION
(USSR AND POLAND).  by Stanislaw Pomorski

As originally planned this paper was to include the status of constitutional rights in three socialist states: the USSR, Poland and East Germany. The movement of the Polish industrial workers that commenced in the summer of 1980 brought, however, a new dimension to the subject matter. The official concept of constitutional rights as well as their limits has been, so far successfully, challenged by "Solidarity." The "Polish experiment", its ideology and practice, has wrought most important de facto changes in the Polish constitution without altering its text. Under the circumstances, some differences between official doctrines of constitutional/human rights adhered to in several countries of the Soviet bloc pale in importance. It seemed to me, under the circumstances preferable to focus rather on two countries instead of three (the USSR and Poland) but to go beyond the official doctrine and written constitutions. Consequently the present paper will consist of two parts. In part one, the official current Soviet and Polish doctrine of constitutional rights will be examined; part two will discuss the challenge posed to the official doctrine by the Gdansk agreement and its aftermath.

I. Soviet and Polish Doctrines of Constitutional Rights in the Era of
   STR: Continuity and Change.

Looking retrospectively at the Soviet and East European legal history one can distinguish at least three different concepts or models of the constitution as a legal and political document.

Model 1. The constitution is primarily a tool of political propaganda, a means of self-glorification of the ruling bureaucracy. By far its most important task is to advertise the "achievements," to petrify the status quo, without any political, let alone legal, commitments from the regime.
Quite understandably, under this model programmatic statements are frowned upon. The juridical function of the constitution as the basic law is insignificant, indeed so marginal as to be almost non-existent. The rules of any substance are scarce, political declarations of a highly abstract nature prevail. Generally the document is brief, its style elliptic. Even most important legal issues are left open, their resolution being either explicitly or de facto delegated to the ordinary legislation or to "the practice" of governmental agencies. There is no mechanism of constitutional review of legislative or administrative acts. The procedure for amending the constitution is simple, in principle constitutional amendments may be passed as easily as ordinary legislation. Provisions dealing with basic rights of the individual are given a "low profile": there are relatively few of those, they are phrased in a highly abstract language avoiding even appearances of any commitment by the regime, they are located somewhere at the end of a charter. There is no mechanism of their enforcement.

Model 2. Propaganda, self-glorification and ideological legitimization of the monopolistic power by the communist party still remain major functions of the constitution. Nevertheless it is assigned certain legally operational roles as well. First of all, in a system of bureaucratic laws, perceived as a system of commands, the constitution serves as a tool of rational, hierarchical structuring of the system, ensuring a definite order of hierarchy between various "sources of law"; a constitution at the top of the pyramid, being followed by ordinary legislation passed by the parliament, next coming presidential edicts, decrees of the central government etc. Second, the constitution coordinates the interaction of various parts of the legal system assuring its harmonious, non-contradictory character. Third, it serves as an
element of relative legal stability: policies and rules written in the
constitution are intended for a longer operation and are not to be easily
disturbed. Fourth, the constitution is used as a blueprint for the future
law-making activity; many of its provisions encapsulate the future legislative
developments. It is a tool of legal engineering. Under this model the
constitution serves as the active center of regulatory law, as a tool for
centralization, fighting centrifugal forces, keeping the local governmental
operators in line. It is a centralizing tool of the central super elite.

Under Model 2, provisions dealing with the basic rights of citizens are
given higher visibility than under Model 1: they are prominently placed in the
over-all structure of the charter, are more numerous and, at least in some
instances, so stated that their underlying policies are discernable.

Typically, under this model the constitution includes a number of rules of
some specificity. Superiority of the constitution as "the basic law" is
declared in the text. Some mechanism of scrutiny of ordinary legislation for
its compatibility with a constitution is set up, but invariably this function
is vested in the law-maker himself. Judicial review of the legislation is not
allowed.

Due to the highly abstract/ambiguous manner in which the constitutional
rights are formulated as well as due to the lack of any mechanism of their
enforcement - they rather represent solemn statements of benevolent policies
than individual entitlements enforceable against the state.

Model 3. The constitution serves as a basic document defining the nature and
the limits of the state power as well as the principles of responsibility of
the government before the society. The rights of the individual are stated
with relative clarity and precision. A meaningful mechanism for their
protection and enforcement is set up ("institutional safeguards"). The
The constitution is perceived as an agency of mediation between the individual and the state or, in other words, as a "container" of individual entitlements. Most socialist constitutions, until the 1960's followed basic traits of Model 1. The pattern was set by the 1936 USSR Constitution, primarily a manifesto with propaganda functions. Constitutions patterned after Model 1 did not go unchallenged. Especially at the times of 'troubles', during the periods of 'thaw' and relative instability of the communist regimes, various reformists, 'revisionists', advocates of 'socialism with a human face' would challenge concepts underlying model 1. They would, at the same time put forward various proposals for change along the lines of Model 3. This current of ideas was particularly strong in Poland in 1956-1957 as well as in Czechoslovakia in 1967-1968. It has recently reappeared in Poland as a part and parcel of the movement for democratic reforms.

Beginning in the 1960's socialist constitutions of the "second generation" began to appear one by one. These constitutions, being infants of the era of scientific and technical revolution, mark the change from Model 1 to Model 2. The change may be easily observed in the new Soviet Constitution of 1977 as well as in the 1976 revision of the Polish charter. A question of particular interest for the purpose of this paper is why socialist constitutions of the "second generation", in particular the Soviet and the Polish ones have given much greater prominence to individual rights than did their predecessors.

Several explanations of this phenomenon come to mind:

First of all under the Stalinist ideology and system of social control there was no room for individual rights rhetoric. The society was run by mass and arbitrary terror as well as by intensive indoctrination. This mode of control generated and was in turn reinforced by two, apparently contradictory, doctrines: the "theory" of ever sharpening class struggle and the "theory" of
total harmony of individual and social interests. (A familiar paradox of ever
sharpening class struggle in a classless society.) Those whose interests did
not coincide with the interests of the society (of course represented by the
state) were labeled enemies and subject to repressive measures, those who were
on the side of the state were supposed to identify totally with the goals of
the state. Under this style of consciousness there was no room for the
individual who, while not hostile toward the regime, still would want to pursue
his autonomous interests not necessarily overlapping with those of the
society.

While contemporary systems of state socialism are based on the same
fundamental principles of social organization as Stalinist systems, nevertheless the methods of social control changed. Mass and arbitrary terror
was abandoned and replaced by selective and much more predictable terror. An
average inhabitant of a communist country knows today how to avoid
imprisonment, while under the Stalinist system he was at a loss as to how to
avoid it. Intensive ideological mobilization as a major motivational mechanism
was dropped. The basic factor motivating the labor force is an expectation of
material rewards and a growing level of individual consumption. The need for
personal property, quite consistently with the said above, grew considerably as
evidenced by the new Soviet Constitution. The rhetoric of class struggle
was abandoned, the stress of the official doctrine is on social unity. The
regimes of "developed socialism" want to establish social peace and stability.
For this reason they want to give their citizenry some sense of security - the
rhetoric of "constitutional rights" serves pretty well the purpose.

Another factor which explains a new prominence of constitutional rights
are needs of "ideological struggle." Indeed more is involved here than the
emergence of human rights as an international issue, it has something to do with a major redirection of the Communist criticism of capitalism. According to the classical Marxist doctrine the reactionary nature of capitalism resides in its inability to sustain technological progress. The theory, in view of the technological success of modern capitalism, sounds so absurd that communists abandoned it quietly. After all it is modern technology that the Soviets are seeking to import from the West. Consequently the direction of the ideological attack was changed: the major vice of capitalism - it is now claimed, - is not its inability to sustain technological progress, but its inability to use modern technology in a socially beneficial, humanitarian way. Indeed the scientific and technical revolution in capitalist societies has had only, or at least mainly an adverse impact upon the quality of life. Only socialist systems are capable of humanitarian applications of modern technology. That is the reason why human rights are used as a weapon of the ideological offensive today. On the other hand the Soviet Union and other communist countries have been for many years challenged in the international forum for violations of human rights. The battle has been recently dramatized by the emergence of human rights as a major international issue, especially after the adoption of the two UN Human Rights Covenants in 1966. Internally, communist regimes have been challenged on the issue of human rights by various dissidents and dissident groups, many of whom rely on international legislation on human rights. It follows that human rights have been used in the ideological warfare as a battlefield for offensive as well as defensive purposes.

The factors discussed above make an increased interest in the rights of the individual quite understandable. Its most formal manifestation is a substantial expansion of the constitutional provisions dealing with "the rights of the citizens". Propagandistic and academic body of literature on the
subject matter grew considerably. Formulation of a "socialist theory of human
rights" became one of the high priority assignments for legal scholars\textsuperscript{11}
while some of the output in the field was praised as an outstanding
achievement\textsuperscript{12} In the Institute of State and Law of the USSR Academy of
Sciences a separate department of the Theoretical Problems of the Legal Status
of the Individual has been formed. In Poland also, academic interest in the
issue of human rights is on the rise as evidenced by the crop of books and
articles published in recent years.\textsuperscript{13} In both countries representatives of
at least three academic disciplines of law have busied themselves with the
subject matter, that is jurisprudence (or general theory of law),
constitutional law and public international law. In Poland, unlike in the
USSR\textsuperscript{14} some efforts were made at integrative an approach to human
rights.\textsuperscript{15} While intellectual content of the academic crop is clearly in
inverse proportion to its physical volume, the official doctrine, especially
some of its recent development, merits our attention. I will now review
briefly highlights of the Soviet and Polish doctrine with a particular focus of
the impact of STR upon the rights of the individual.

1. It is no longer claimed that socialism per se automically eradicates
conflicts between the individual and the state. Indeed, there seems to be a
growing recognition, however cautiously expressed, that such conflicts do exist
under socialism, and consequently, legal protection of the individual against
oppressive state actions still is, and will in the foreseeable future, an issue
of importance. Such conflicts do not, however, belong to the "essence" of
socialism, which manages to reconcile the major, "strategic" interests of the
society and the individual. Situations of conflict are marginal and arise
because of the imperfections in the functioning of the governmental machinery
or because of overgrown egoism of some individuals.\textsuperscript{16} The current Soviet
doctrine, supported on this score by the text of the Constitution emphasizes also the affirmative duty of the state to protect the individual rights against violations by others. 17

2. The state and the law - according to a standard Marxist position - are parts of a class superstructure, subject to historical changes, which are conditioned primarily by changes in the mode of production (economic base or infrastructure). Consequently Marxism rejects "the law of nature" approach to human rights as "idealistic" and "ahistorical": there is nothing "natural", "inborn" or "inalienable" about human rights, all rights are derived from the will of the state. "Human rights" are not different: they exist only because the state decided to confer them upon the individual. At this point the orthodox Marxist approach intersects with a positivist concept. 18 The fundamental difference claimed by Marxists, however, is that "the will of the state" is not abstract and arbitrary, but is always historically determined, first of all by material conditions of life but also by ideological factors as well as specific policies pursued by the state. 19 This positivist concept has been reflected in the terminology of the new constitutions: the new Soviet charter as well as the revised Polish constitution use the term "the basic rights of the citizens" rather than the term "human rights", which is associated with the natural law theory. Also the question of which rights belong to the category of "basic" has been resolved in a pretty formalistic, "positivist" way. Any rights included in the constitution are "basic," and any omitted from the constitution are not "basic." 20

The traditional positivist conception has not been, however, uniformly followed either in Soviet or in Polish writings. Beginning in the late 1950's several attempts have been made in the USSR at formulating, as Professor Brunner put it, a theory of "materialistic natural law". 21 Most notable on
this score are contributions by Professors Farber and Nedbailo. Farber more than once expressed the opinion that elementary rights of human beings such as the right to live, to eat, to have clothing, a dwelling, work, recreation and education as well as personal inviolability, freedoms of expression and of conscience, are rooted in the social relations between people.

"Irrespective of whether they are recognized by the state, these basic rights exist as a result of the development of society and constitute social possibilities for people to possess and to dispose of certain material and cultural goods."32

According to Farber, human rights, so understood, form a "social category", in order to become "legal rights" they have to be recognized by the state.

Nedbailo went at least one step further towards a "materialistic natural law theory." He felt that the individual derives from the conditions of social life the "moral and political rights" which are transformed by the state into "formal legal rights."

"The state does not serve as the source of the constitutional and other legal rights of the individual: the latter are rooted in the conditions of social life, in social relations".23

Shortly before his death24 Nedbailo openly challenged a positivist approach to the rights of the individual. He pointed out that Marxism does not deny the existence of inalienable human rights, but insists that such rights should be justified from a materialistic point of view.25

Most recent Soviet literature failed to develop these promising ideas, and academic writings which sprang up after the passage of the 1977 Constitutions have in substance reverted to the Marxist-positivist orthodoxy. These
writings, however, are full of lofty humanitarian slogans, and the "human individual" is routinely referred to as a "supreme value" in the system of Marxist axiology. Indeed, as Brunner correctly observed, it is impossible to say how much of it is a genuine humanitarian concern and how much propagandistic slogans for the sake of the ideological warfare.

While traditionally Polish literature took an orthodox Marxist-positivist approach to human rights some of the recent publications show unequivocal sympathy to natural law ideas. One cannot speak of any coherent theory yet, but rather of various manifestations of sentiments and longings for a socialist theory of "inalienable" or "basic" rights. And so Kazimierz Opalek, a leading Polish legal philosopher, pointed out that the ideas about human rights are rooted in social consciousness quite independently from what positive law has to say about them. Popular "axiological consciousness"—says Opalek—holds certain beliefs with strong natural law colorations: that human rights exist independently of the laws issued by the state authorities, and that those rights are rooted in factual physical and spiritual needs of people.

This "popular axiological consciousness" coincides with some currents of modern philosophy of law as well as findings of cultural anthropology. Certain contributions have been made also by international legislation suggesting universality of standards pertaining to human rights.

Anna Michalska, an eminent Polish authority on human rights, in her most recent article undertook a defense of the natural law approach, which, she feels, some Polish writers rejected much too categorically. The natural law concept of human rights is, according to Michalska, justified sociologically; simply society believes in their independent existence.

"Human rights is a sociological category and merit scholarly investigation. This investigation should
result in a constructive theory of human rights in a socialist state."³⁰

The theory should be applied in the legislative process so that human rights as a sociological category may be transformed into legal rights of citizens. Michalska devoted a large part of her article to a devastating criticism of a Marxist-positivist approach to the rights of the individual as intellectually sterile and practically unproductive.³¹

Neither Opalek nor Michalska went so far as to claim that human rights not transformed into legal rights by positive law confer any entitlements upon the individual or impose any duties upon the state.³² Nevertheless, Michalska's idea for the development of a "prognostic" theory of human rights, having as its inspiration "Marxist axiology" as well as popular images and sentiments,³³ is remarkable for its critical potential vis-a-vis positive law. Such a plea is particularly remarkable in the Polish context where "popular axiological consciousness", as evidenced by recent developments, is far removed from the official set of rules and practices.³⁴ We will have more to say about it a little later.

Some other highlights of the Soviet and Polish constitutional rights doctrine will be only briefly surveyed here. Most of them appear consistent with the communist perception of constitutional rights as solemn statements of benevolent policies rather than as individual entitlements. Moreover they seem to be pretty much geared toward proving superiority of the socialist constitutional rights vis-a-vis their bourgeois counterparts, and hence instrumental in the ideological battlefield.

1) Consistently with a traditional Marxist-Leninist position it is asserted that a major virtue of constitutional rights in socialist countries is their genuine nature as opposed to the merely formalistic character of bourgeois
That position is usually supported by eloquent quotations from Marx and Engels, who in fact criticized bourgeois democracy for its limited, formalistic character.  

Consistently with this tradition the current Soviet and Polish doctrines claim the primacy of social, economic and cultural rights over personal liberties and political rights. The explanation is that without the former, it is impossible to implement and enjoy the latter. It is also asserted that among various "guarantees" of constitutional rights the most important are "material" ones, whereas "institutional guarantees" are of secondary importance at best. Since the most important "material guarantees" include state ownership of the means of production as well as the socialist system of a centrally planned economy - citizens of socialist lands must be by definition more secure in their rights that all other inhabitants of the planet. At the same time the conspicuous lack of enforcement of constitutional rights in socialist states cannot cast any doubt about the genuine nature of their rights since "institutional guarantees" are not that important anyway. Under this line of reasoning the worst socialist system would be always superior to the best capitalist system of constitutional rights.

2) Several statements by Soviet and Polish party leaders about "close interdependence" of constitutional rights and duties, their "unity" and the like as well as inclusion of some "clauses" to this effect in the new charters, make it a fashionable topic for learned commentators. The "interdependence" was declared "a leading principle" of socialist constitutional law. Indeed the principle may be instrumental in watering down the very concept of constitutional rights to the point that they become completely meaningless as policy statements. "The principle" received quite diversified treatment from the commentators. It would be fair to say that most of those who addressed the
issue, propose to understand it as a harmless cliche to the effect that one who
lives in society and enjoys certain benefits should also shoulder some
duties. 40 There appeared, however, certain suggestions that wanted to
"operationalize" that slogan. And so in the USSR some suggested that under
developed socialism rights merged completely with duties. 41 Others, in the
USSR and in Poland, wanted to deprive some citizens of their rights on the
ground of their failure to fulfill their duties. 42 These "operationally" oriented theories were rebuked: 43 indeed they would be inconsistent with
the official perception of certain rights as statements of centrally
established policies, they would give too much discretion to local bureaucrats,
and would certainly be disfunctional in ideological warfare. So the grand
"principle" seems to be now pretty much back in its place: it is a
meaningless, and hence harmless slogan.

3) "The leading role of the communist party" as a fundamental principle of
social organization figures now much more prominently in both, the new Soviet
and in the revised Polish charters. 44 Curiously enough Soviet writers
hardly noticed any implications of the communist party's "leading role" for the
rights of the individual in socialist society.

In Polish literature two specific issues related to this matter were
raised. First, it was pointed out that making "the leading role of the party"
a constitutional principle means that the very existence of a political
opposition as well as any activity directed against the communist party are
constitutionally banned. Therefore the leading role of the communist party
marks the outer limits of political rights. 45 Since the party by itself
defines the reach and the scope of its "leading role", it follows that
political rights under state socialism are what the communist party says they
are. As the practice of all ruling communist parties has shown, their concept
of their "leading role" is nothing short of the total control over civil society. The only fair conclusion, therefore is that "political rights" in socialist constitutions, as unsupported by any real policy, are completely empty slogans.

Second, the leading role of the communist party immediately raises a question of its compatibility with the principle of equality of citizens in general and equality of citizens "regardless of attitude toward religion" in particular. Since, on the one hand, religious faith is incompatible with membership in the communist party, and on the other hand only party members have an access to the positions of power and influence, the very restatement of the constitutional "principle" exposes its total absurdity. Under the circumstances, Soviet writers elected to pass by the whole issue in silence. Some of their Polish colleagues having raised the issue with a commendable candor, offered embarrassingly crude answers which, leaving aside stylistic nuances, boil down to the following: true, party members, due to its leading role, occupy a special position in socialist societies. But this special position involves only additional duties and responsibilities; party members enjoy no special rights or privileges, the best evidence of which is the law itself, since it does not confer any such special privileges on party members.47 The above summarized line of reasoning is inordinately amusing for at least two reasons: First, for many decades the essence of Marxist criticism of bourgeois concept of equality has been that it is formalistic and hypocritical. When it comes to an analysis of a socialist system it appears that there is nothing wrong with a purely formalistic approach to equality, the approach which ignores most fundamental arrangements for the distribution of power and wealth.
Second, the approach flies in the face of the formally promulgated constitutional provisions. It takes no more than reaching for a standard commentary, whether Soviet or Polish, to find out that the leading role of the party means, among many other things, full control by the apparatus exercised over virtually all key positions in the country, which basically are reserved for the communists only.

The complete silence with which the Soviet literature passes by the issue, as well as an extreme crudeness with which Polish commentators dispose of it, can serve as an excellent sample of the political culture of lies.

There exists a discernible current in Soviet as well as Polish literature discussing a direct impact of STR upon the rights of the individual. One can distinguish roughly, two major orientations within the current. Some writers, consistently with the general party line, have taken a rather extreme position. STR in capitalist societies - they claim - produces nothing but problems, it exacerbates "contradictions of capitalism", has become a tool of a "reactionary military complex", it has been and is being used as a means of oppression of the individual. In socialist countries, on the other hand, STR has been employed for the best interests of the society, to increase well being and happiness of the individual. Writers of this propagandistic orientation almost always deal with the subject matter at a high level of abstraction.

Some other writers from the two socialist lands, let's call them for convenience sake the "moderates," approach the issue in a much more balanced fashion. The impact of modern science and technology upon human rights - they assert - is manifold also in socialist societies. Some of it is definitely negative and poses new problems, some of it is definitely positive in that it creates more favorable conditions for the enjoyment of individual rights/liberties. Finally, the "moderates" claim, certain aspects of STR
call for redefinitions of some of the rights, as well as create tensions between various rights and the underlying values. Among the negative aspects of modern science and technology two are particularly threatening from the perspective of the individual: destruction of the natural environment and invasions of privacy. Professor Zile's paper in this collection covers very well the first of the two mentioned areas. I would like only to supplement his observations by pointing out that at least some of the Polish writers took in this regard a more realistic position than their Soviet colleagues. They admit that the threat to natural environment today is universal, that it reaches all the population of the planet regardless of the socio-political system in any given country. Consequently the new human rights should be formulated and defended nationally as well as internationally, such as the right to clean air, the right to clean water, the right to quiet, the right to uncontaminated food, etc. These rights are not particularly colored by any class or national interests; they should be perceived as rights of human solidarity on a global scale.

Modern techniques of surveillance as well as techniques of storing information generated certain concern in Soviet and Polish legal literature because of considerable threat to privacy they pose. Professor Vengerov begins his interesting article with a statement that privacy (licznaia zhizn') has now become a constitutionally protected value. He emphasizes that the private sphere of life should be legally protected against interference by the state and the society since privacy represents an important precondition for a free, unhampered development of the individual. Proceeding from these general premises Vengerov points out to certain dangers to privacy coming from collection and storing of personal information within automated systems of management. The dangers include unauthorized dissemination of the information
as well as collection and storing of inaccurate information. There is a need for a comprehensive statute regulating in this area. The draftsmen of the statute should feel free to draw upon experience of foreign lands such as U.S., West Germany, Japan or Sweden.\textsuperscript{55}

Also Polish writers, who took as a point of departure various threats posed to personal life by modern technology, came up with the formula of the "right to privacy and intimacy". Such a formula, they argue, is flexible enough to respond to new problems, unpredictable at the present, due to the dynamic development of technology.\textsuperscript{56}

Whereas socialist literature, as we already pointed out, is not devoid of critical accents about STR in relation to human rights, optimistic tones definitely dominate in it. A major thesis advanced is that STR has had and will continue to have a salutary effect on the development of socialist democracy, and that at least for two reasons: First, modern technology liberates people from physical, hard, repetitive and uninteresting labor. It requires from a worker a much better educational level and much more intensive use of his intellectual faculties in the production process. In short: STR in the context of socialist economy generates a new type of a worker; better educated, more interested and creative.

Second, much of the labor, up to a point performed by people, is being gradually taken over by the machines. As a result the work time is generally cut down, while free time is on the increase. Both of these processes are, allegedly, very favorable for the increased participation of the working people in public affairs, and hence they reinforce the dynamic development of socialist democracy.\textsuperscript{57}

The enthusiasm about reinforcement of democracy by STR is somewhat qualified by a reflection that modern science and technology tend to change the
very nature of governmental operations in a way not necessary favorable for	opular participation. The more "scientific" administration and management
become the less they are accessible to the laymen. Therefore - the argument
goes - STR carries with it a danger of a "technocratic deviation."58
Having raised the issue various authors respond to it in different ways: A
leading Soviet authority Tikhomirov, dismisses the problem under an apparently
explanatory formula of "dialectical unity of the professional and the lay in
Soviet administration".59 One of the Polish legal theorists claims that
democratic potency of socialist system is so powerful, that the threat of a
"technocratic deviance" is not serious,60 whereas others perceive the
problem as sizeable.61
II. The Polish Experiment and the Socialist Concept of Constitutional Rights.

One must agree with Professor Seweryn Bialer when he says that,
"Events in Poland since August 1980, the struggle of
Polish workers for their rights, constitute a critical
turning point in the history of the Soviet imperium.
The situation, still completely unpredictable at the
onset of the new year, holds much more importance for
the future of the world communist movement, the
Soviet empire, and the Soviet Union itself than the
Hungarian Revolution of 1956, the Polish revolt of the
same year, the Czechoslovak reforms of 1968, and even
the Stalin-Tito rupture of 1947-48."62 (emph. add.)

At the end of April 1981 the situation is still unpredictable. But
whatever the future of the Polish experiment, we can say that so far the
working class managed to introduce profound as well as unprecedented changes in
the system of power indeed in the mode of social organization, in a communist
ruled country. The single most fundamental change is a de facto redefinition of the role of the communist party in its relation to the civil society. A direct correlate of that is a new position of the individual member of the civil society, and the new emerging concept of his rights.

A fundamental trait of social organization in Poland prior to August 1980, as well as in all other countries run by Marxist-Leninist parties, was monopolistic concentration of power in the party/state apparatus run by the central executive.63 ("the leading role of the Party", "democratic centralism"). The society as a whole, was supposed to follow a machine model of organization, according to which,

"One center of political and economic disposition, supplied with maximum relevant data and equipped with infallible tools for their interpretation, makes all the important decisions. The decisions, conveyed to various parts of the system, are faithfully carried out, and their implementation is quickly and exactly reported back to the center."64

A part and parcel of the machine model is total absorption of the civil society by the party/state apparatus: Any organizational activity of whatever kind outside and beyond state control is suspect and forbidden since it is likely to interfere with a smooth operation of the machine.65 Needless to say, full implementation of the machine model is rarely achieved in practice, there are always some enclaves in the society which manage to avoid subjugation. That happens, however, not due to the lack of efforts by the rulers.

The above outlined concept of total control of the party/state over civil society is based on and legitimized by several ideological assumptions. First is the assumption that the genuine "interests of the people" are objectively
definable, that they can be discovered through "scientific procedures."66

Second, only the communist party is capable of defining the true interests of
the people owing to the party's exclusive and intimate knowledge of Marxism-
Leninism. Third, that only the machine model can assure total rationality and
high efficiency of the economy.

The Gdansk Agreement, signed on August 31, 1980, and its gradual
implementations thereafter, introduced essential changes to this mode of social
organization and belies its ideology.

The agreement provides for creating new "self-governing labor unions,
genuinely representing the working class."67 (emph. add.) At the same
time, the new labor unions endorsed the principles of the Polish constitution
and in particular "the leading role of PUWP in Poland."68

The first statement about providing genuine representation of the working
class by independent unions hits at the heart of the ideological legitimation
of the communist power. It belies the second, the most fundamental assumption
on which communist power system is based. By ratifying the Gdansk agreement
the party Central Committee in effect admitted publicly that it has lost any
legitimacy to exercise power.

Doesn't however the plea of allegiance by the new unions to the
constitutional principle of "the leading role" of the party mean that
foundations of social organization have remained unchanged? The answer is: not
at all, provided that the crucial acknowledgement is read correctly, that is in
the context of other provisions of the agreement as well as its aftermath. Would
that answer suggest that the "leading role" clause should be treated simply as
a smoke-screen produced mainly for Soviet consumption? My answer to this
question is definitely negative as well. We are dealing in Poland with a new,
previously unknown phenomenon of a non-Leninist, non-totalitarian communist
party-state. The party leadership, pressed hard by the workers and left with little choice, reluctantly renounced its claim to total control over the most crucial segment of civil society - the urban working class. Not only did the workers win the right to organize in independent labor unions but also the right to strike. These two rights in conjunction, crucial on and by themselves, have been soon turned into a powerful means of pressure for new "concessions" as well as into a means of enforcement of the rights already won.

It is worth emphasizing that the Gdansk agreement includes also important provisions related to freedom of expression. Fundamental political freedoms proved to be so closely correlated with economic postulates that practically inseparable. This experience belies the official doctrine about "primacy" of social and economic rights.

The renunciation of total control over one segment of civil society has had very soon a spill-over effect. In no time individual farmers came up claiming their right to organize an independent union. Current reports from Poland indicate considerable revival of various professional groups which try to free themselves from party tutelage. The party has been for some time continuously loosing its control over civil society, whereas its leadership has been putting up with those losses as inevitable, at least for now. What then remains of the "leading role of the party" under the current Polish conditions? What the apparatus is getting in return for all its "concessions" and retreats?

First of all a rather broad social consensus that the communist party should retain its monopolistic position in running the government of the country, including management of the economy.

Second, that in exercising this function it will remain unchallenged by any rival party or political group as a pretender to take over of the government. The situation is paradoxical since the party which never had
broad popular support, which admittedly lost all ideological legitimacy to rule and sank in public esteem to the lowest possible point, is and, if the experiment continues, will be kept in power by broad national consensus. Being extremely paradoxical the situation is at the same time easily understandable: keeping communists in charge of the government is the only way of preventing Soviet intervention. Given this alternative it is not at all surprising that probably the most ardent supporter of the "leading role of the party" is the Church which conceives of itself as a guardian of national survival and an arbitrator in domestic conflicts. One is tempted to compare Poland of 1981 to a constitutional monarchy: the royal power is relatively limited, but as long as the king stays within the boundaries of his prerogatives, his position will be neither challenged nor disturbed. The throne is secure as long as the king behaves. (Needless to say the position of the monarch is filled by the party.)

Polish mode of social organization, still at the initial formative stage, is unprecedented in the history of communist states since it includes strong elements of pluralism, however pluralism qualified by special position of the communist party. Ruling communist parties have always exercised unlimited power without responsibility. Polish qualified pluralism calls for limited power and some responsibility of the party, with the exclusion of the ultimate political sanction, that is a take over by the competitive opposition. An essential aspect of Polish qualified pluralism is an open recognition of social conflicts as well as common understanding that conflicting interests should be reconciled and accommodated through peaceful means first of all in view of the external threat. There is, however, no one single group or organization in Polish society which would be powerful enough to command loyalty and obedience of all other groups and impose its own solutions. Conflicting interests are being accommodated through negotiated settlement between "equal" partners.
Characteristically the basic documents marking resolution of various crises are in the nature of agreements.

Recent Polish events have been strongly informed by democratic ideology conceptualized by many in terms of human rights, that is entitlement due to the individual independently of positive law.

Democratic values, in particular freedom of expression, have been placed very highly by qualified industrial workers and by intellectuals. Characteristically qualified industrial workers have been the only class in Polish society who combined strong democratic and egalitarian sentiments. One may wonder what were the sources of ideological inspiration. There are some reasons to believe that at least one of them has been international legislation on human rights which figures prominently in the Gdansk Agreement and in other legal documents.

It is easy to see even by a superficial observer what happened to some of the fundamental constitutional rights in Poland since August 1980. Freedom of associations and freedom of expression previously non-existent in a sterile party-controlled official world, were not only de facto brought to life and prominence but legally recognized by the regime. In my opinion, however, the emerging mode of social organization, called "qualified pluralism" combined with "popular axiological consciousness" of human rights calls even for deeper transformation of Polish law.

Obviously purely instrumental concept of law as a system of commands is under this conditions obsolete. In the world of qualified pluralism law must sooner or later be perceived as an autonomous agent of mediation between recognized conflicting interests in general and between the state and the individual in particular. Under such system the concept of constitutional rights must also change: first of all they will move to the center of the
legal universe, second, they will be perceived as clearly defined and enforceable entitlements.

If the experiment continues successfully, the Polish constitution will inevitably evolve towards Model 3 outlined at the beginning of this paper.
Footnotes.

1. By "socialist states" I mean those states which adhere to a social order built upon non-private ownership of the means of production. P.D. Wiles, The Political Economy of Communism, Cambridge, Mass. 1962, p. 3.


10. See note 4 and acc. text.
15. See A. Michalska, Podstawowe prawa człowieka w prawie wewnętrzonym i Pakty Praw Człowieka (Warsaw: W.P., 1976), as an example of an attempt at an integrative approach.
16. Vitruk et al., op. cit.
17. Id.
18. A. Michalska, Podstawowe prawa człowieka, pp. 32, 84.


29. Id.


31. Id., pp. 3-8.

32. Notes 28, 30.


34. See Part II of this paper.


37. "Guarantees" in this context mean arrangements for implementation.


41. Vitruk et al. (eds.), p. 89.

42. Vitruk et al. (eds.), p. 91;


44. Constitution of the USSR, art. 6; Constitution of PPR, art. 3.
45. Siemieniśki, "Podstawowe prawa...", op. cit., p. 213.
49. A. Michalska, "Koncepcja praw człowieka a postęp naukowy i techniczny", PiP 1976, No. 6, p. 5 ff.
51. Id.
53. Vengerov, "Zakonodatel'nye ...", op. cit., p. 53.
54. Id. at 44 f.
55. Id., at 55.
58. Id., pp. 159, 166; Michalska, "Koncepcja", op. cit., p. 12; J. Wroblewski, "Biurokracija, technokracja i demokracja", PiP 1979, No. 4, p. 15.
60. Wroblewski, "Biurokracja", op. cit., p. 28.


68. The Gdansk Agreement, op. cit., sec. 2.


71. The Gdansk Agreement, section 2.

Problems of vocational training have existing during the course of the whole history of mankind. They however have had a varied nature and have not had the same significance at different times. Using the terms of Marxist political economy, it is possible to affirm that the essence of these problems has been determined by the nature of productive forces and productive relations, and also the political system in different periods. This of course applies completely to the legal problems of vocational training. Thus the legal problems of vocational training in the Soviet Union which have arisen as the result of the scientific and technical revolution have their peculiarities. Not only the nature of these problems but also the ways they have been solved to a significant effect are conditioned by the political and economic system of the state.

Several problems which have arisen may be given as examples.

1. The receipt in the USSR of vocational training in many cases is accompanied by the obligation of the person who have finished a training school or institute to work during several years at jobs to which he is sent, rather than according to his own choice. Until 1956, the fulfillment of this obligation was ensured by means of criminal punishment. But what legal actions may the state apply against cases of refusing the obligation to work where assigned today? What area of Soviet law may be applied -- civil law, administrative law, labor law?

2. According to the opinion generally accepted among Soviet lawyers, the receipt of vocational training (including the obtaining of a work skill) is the constitutional right of Soviet citizens. In this connection, Article 40 of the Constitution of the USSR is usually cited. This article proclaims the "right to work" (including the "right of choice of jobs, type of occupation, and work"). It also provides that the right to work
is guaranteed, among other things by, "free vocational training, raising of work qualifications, and training in a new speciality." But what is the legal nature of the raising of qualifications and training in a new speciality? This question is far from scholastic. It is widely known that labor in the USSR is not a right, but also an obligation. Declining to work is punishable. Is the raising of skills only a right of the worker or also his obligation? Is learning a new specialty, a second one, a related one, or a generally necessary one? If it is, then may a worker be punished, for instance fired, for refusing this obligation? The answers to these and other questions will be given later. Here we will only note that Soviet lawyers are not unanimous on what the answers must be.

3. The improvement of the technology of production in the era of the scientific and technical revolution requires in many cases teaching workers new methods of work. Sometimes these new methods in their essence are simpler than the old ones. Teaching them is not complex, requires little time, and afterwards the work of the worker becomes easier, less dangerous and more productive. However, there are cases when the improvement of production conditions is in contradiction to the personal interest of the workers. At a factory in Kazan, as the result of significant technological improvements, harmful production operations were closed down in a number of shops. It should be noted that labor legislation provides certain privileges for workers "at jobs with harmful conditions of labor." These include a shorter working day, a supplementary paid leave, free food, more advantageous pension provisions, and sometimes also higher earnings. According to Article 44 of the Code of Laws on Labor of the RSFSR, the lists of production operations with harmful conditions of labor are subject to special approval. As a rule such lists are approved by the State Committee
of the USSR on Labor and Social Matters together with the All-Union Council of Trade Unions. From the time when the harmful conditions of labor disappeared in several shops of the factory in Kazan mentioned above the provision of benefits for harmful conditions was stopped for the workers in these shops. However some workers did not agree to work under the new conditions and began to seek transfers to other shops where harmful conditions remained, and of course the privileges connected with them also remained. The administration of the factory could not accomplish such a transfer and proposed to those who were dissatisfied with the new conditions of work to submit a request for discharge "at their own request." The workers refused to ask for discharge, but stopped coming to work. The question of their discharge on the initiative of the administration arose. But this turned out to be a very complicated legal problem. Labor law limits the possibility of discharge of a worker on the initiative of the administration to strictly defined cases. Basically they are listed in Article 17 of the Fundamental Principles of Legislation of the USSR on labor. Its text is reproduced almost literally in the labor codes of the union republics. However labor legislation did not provide for a case like that just discussed. On first glance it would have seemed possible to fire the workers for unexcused absence. But the failure of the workers to appear at work was not "absence without compelling reasons" (Para. 4 of Art. 33 of the Code of Laws on Labor of the RSFSR). The administration had not provided the workers with the work for which they were hired by labor contract. In addition, it was forbidden to require of the workers to do qualitatively new work to the extent that it was "not provided by the labor contract," (Art. 24 of the same code.) A.K. Bezina, who described this labor conflict in her work Questions of the Theory of Labor Law and Judicial
Practice ⁴ comes to the conclusion that the labor legislation in force is not ready for the regulation of conflict relations that have arisen between workers and the administration in connection with the steady improvement of the conditions of production.

Two basic systems of preparation of workers exist in the USSR. The first system includes many vocational and technical training schools in which young people obtain a job specialty. The second system includes various types of training or retraining of workers directly at production.

The production-technical training schools of the first system provide industry with about one third of the whole number of workers -- 2.2 million persons a year.⁵ Of the 6,800 jobs officially registered in the Uniform Wage-Rate and Vocational Handbook, over three quarters are obtained not in production and technical training schools but directly in production. The schools train for only 1,408 vocational categories.⁶ In addition to the six million persons who obtain their first job skill directly in production, over 20 million persons are annually involved in training for raising their skills, obtaining a higher vocational classification, learning the methods of work with new equipment or new technology, learning supplementary related or generally-useful job skills. (Related professions are those necessarily connected in the process of production. They participate in the preparation of the product either simultaneously or sequentially. Generally-useful skills are those necessary in all production operations, for instance driver, truck-loader.) Our work is devoted to the legal problems of both these systems of vocational preparation.

The activity of students of vocational and technical training schools is basically study and not work. This activity is regulated mainly by the principles and norms of Soviet administrative law, and not labor law.
However it cannot be said that students of vocational and technical training schools have no encounters with violations of labor law.

**Preparation of Workers in Vocational and Technical Educational Institutions**

The leadership of the Soviet state does not hide its dissatisfaction with the condition of the preparation of workers in vocational and technical training schools. The slow growth is noted of those technical schools that admit persons who have finished the secondary general education school. The educational programs lag behind the requirements of scientific and technical progress. Much attention is given to the preparation of workers in narrow specialities. Preparation of persons having several related vocations is insufficient. The social and political upbringing of the students lags behind their vocational training. One should take into account that the list of problems cited here is contained in the widely publicized decree of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSR "On the Further Improvement of the Process for Educating and Upbringing Students of the System of Vocational and Technical Training" of 1977. The actual situation is more serious but it is openly criticized only in departmental orders not designated for publication. One of the noted shortcomings deserves more attention.

**The Slow Growth of Technical Training Schools**

Three types of technical training schools exist in the USSR: 1. Schools preparing workers for the mass of jobs from students who have finished eight-year general education schools (term of study -- 1-2 years). 2. Secondary schools for the same group in which, along with a work skill of a higher level, the students obtain a secondary education formally equal to that which the secondary general education (ten-year) school gives (term of study -- 3-4 years). 3. Technical training schools which prepare skilled
workers from among graduates of secondary general education schools (term of study -- one to one and one half years).

Already in 1972, the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSR recognized the necessity "to develop technical training schools giving a working skill to young people who have completed a secondary general education school, to raise their role in the system of vocational and technical education in the preparation of a worthy addition to the working class, to popularize more broadly this important form of vocational preparation for young people."\(^8\)

It was noted that workers with a secondary education work more productively and study more easily than their fellow workers with an incomplete secondary education.\(^9\) However, the interests of state industry did not coincide with the personal interests of young persons with a secondary education certificate. The problem was that the overwhelming majority of school children who had finished the eight year school had already reached a decision on their future. Those who planed to enter universities or institutes remained in secondary school to finish the ninth and tenth grades. Their goal was to obtain a secondary education certificate and to try their luck on the entrance examinations at the chosen university, institute, or finally technical school where persons are admitted only with a secondary education. Those who decided to become workers, even with the highest skill level, prefer, as a rule, not to spend time on studying in the ninth and tenth grades. Instead, they, upon finishing eight-year school enter one of the two above mentioned training schools or go straight to an enterprise to learn a working skill directly in production. But what is the situation of those who could not get into a higher educational institution, not having passed the entrance examinations or not having achieved a high
enough score to get in? It cannot be said that these "failures" eagerly change their plans and enter technical training schools. In many cases these persons prefer to make effective use of the time for preparation for a second attempt for entry into a higher educational institution for the next year. Some of them do not work at all until the following entrance exams and study hard for the examinations. Another part, with the same goal, takes up some temporary light work. This work may be significantly lower than their potential possibilities, but it minimally obstructs their main purpose: preparation for entry into a higher educational institution. Personal observations have led me to the conclusion that the causes of such persistence are far from always explained merely by a strong desire to obtain a long since chosen profession or to study only in a long since decided university (although such instances also are possible). In many, if not in most of the cases, the adolescent enters the ninth grade of the general education school because of he (or she) has determined with the parent's participation not so much his future profession as his future social position. The adolescent has decided NOT to be a worker. It has been decided that he will be an office worker or engineer, or other employee in intellectual labor. By the choice a first step is made in attaching the growing young person in a determined social stratum, in providing him with the possibility of belonging in the future to the same social stratum in which his parents and relatives are and in which he himself grew up. Not having succeeded in getting into one higher educational institution. The adolescent prefers to move horizontally -- to another and to stay in the same social stratum, but not to transfer to another milieu. However the state, which centrally plans the formation, distribution and use of working cadres in the whole country, cannot be reconciled to the fact that a significant mass of young
people escape, even for a time, from control and are not subject to state planning -- the main imperative of the Soviet economy. The Constitution of the USSR in Article 40 provides citizens of the USSR the right of choice of job skills and type of occupation in connection with calling and ability. But this right is also given "taking account of social needs." The intensified campaign to bring young people into technical training schools or directly into production is conducted, basically, in three directions. First -- propaganda for working occupations. Second -- active orientation of students of secondary general education schools toward entry after finishing schools not in a higher educational institution but in a technical training school or directly into production. Besides creating the corresponding moral and political climate in the schools, the measures of "job orientation of young people" include the conduct of production training directly in secondary general educational schools. In this connection, for each school there is established a list of jobs, skills for which must be taught to the schoolchildren. The third way is the assignment of young people finishing schools to production as a Komsomol task on so called "Komsomol passes." It is necessary to note that in this campaign there are not only its leaders, but also persons bearing personal responsibilities for its results. These responsible persons in particular include workers in education -- from cabinet ministers to directors of schools and also the leadership of the Komsomol from the Secretary of the Central Committee to the secretaries of the local organizations of the Komsomol. Until recently the result of the work of ten-year schools was evaluated according to the number of students who entered higher educational institutions after successfully passing the examinations. Changes may be expected: as a new essential criterion of evaluation is proposed "an indicator of the number
of graduates assigned to production and to secondary vocational and technical training schools in accordance with the selected vocation. Criticism is aimed at the "past tendency of teachers collectives and parents to direct the graduates of secondary general educational schools only toward entry into higher educational institutions. This campaign, in which the personal interests, inclinations, and calling of young people in determining their future is sacrificed to social interests grows stronger each year. It should be taken into account that the object of the mass pressure are those who by virtue of their age are less capable of resistance and of independent decisions. Three ministries and the Secretariat of the Central Committee of the Komsomol report on successes achieved in the joint decree "On the Results of the Labor Placement of Graduates of Secondary General Educational Schools in 1979 and the Tasks of Agencies for Labor, Job-Skill and Technical and Public Education, Committees of the Young Communist League for the Direction of Young People into the National Economy and the Filling of Job-Skill and Technical Schools in 1980." In 1979, of 2,879,000 persons finishing general education secondary schools, over 656,000 (22.8%) entered technical schools. Every fifth of them was sent "on a Komsomol pass." Of the graduates, 1,136,000 (39.4%) went to work in various branches of the Soviet economy. Every other one was sent "on a Komsomol pass." Graduates constituting those of a whole class or even a whole school started to express the desire to go altogether to technical training schools, directly to industry, or to agriculture. Nevertheless, the plan for filling technical training schools in the country was not fulfilled. "A particularly alarming situation occurred in the RSFSR, where the shortfall of the schools constituted 40 thousand persons, in the Ukrainian Soviet Socialist Republic -- 7 thousand persons, and in the Belorussian -- 4 thousand persons." It is
decreed, incidently, that there be developed among the senior pupils "the desire to fill the ranks of the working class and the collective farm peasantry," and also to "improve the practice of sending" graduates of schools to technical training schools "on Komsomol passes." As for higher education, "for the purpose of creating the broadest possibilities for students" the pedagogical councils of technical training schools were given the right to permit students graduated with excellent and good average (4 to 5 on a five-point scale where 5 is excellent, 1 is very bad, and the lowest passing grade is 3.) to enter into the day divisions of higher educational institutions directly after finishing the training school. A limit was established: not over 10% of the graduates of the school. To fully evaluate the significance of the problem that graduates of the training schools had to encounter, it is not inappropriate to recall the words of the "International Covenant on Economic, Social and Cultural Rights" on the right to work "which includes the right of each person to earn a living by labor which he freely selects or to which he freely agrees." In the perspective of the long term development of the system of vocational and technical training two tendencies can be noted. In the first place, a further centralization of the system. In the second place, a preference for the creation of secondary vocational and technical training schools and technical training schools, i.e. those which graduate workers with a secondary education. The retention of the vocational and technical schools graduating workers without a secondary education depends upon the successes of scientific and technical progress. These schools (with a term of study of one to two years) prepare workers for those branches of industry where the amount of auxiliary and subsidiary work is high along with a low level of mechanization of labor. The higher the level of mechanization and automation of production processes and auxiliary jobs, the more the
quality requirements for working cadres will grow. And then, according to a leading specialist in vocational and technical training, M.A. Kovrigin, the preparation of workers in vocational and technical training schools that do not provide a secondary education will be insufficient. On January 1, 1979, the number of these schools constituted 22.6% of the total number of training schools of the system of vocational and technical education. They put out 21.3% of the overall number of graduates of the system of State Professional Education. If M.A. Kovrigin is right, then, according to the change in the number of vocational and technical training schools preparing workers of the so-called mass auxiliary skills, it will be possible to judge the successes of mechanization and automation of production processes and auxiliary jobs.

In 1980 a new "statute on Vocational and Technical Educational Institutions in the USSR" was approved. We will consider some of its provisions. The Statute states that study in vocational and technical training schools is free. Free vocational and technical education was proclaimed in Article 40 of the Constitution of the USSR and in Article 2 of the Fundamental Principles of Labor Legislation. However the consistency of realization of this principle elicits some doubts. Education is in fact free in the sense that students are not required to pay tuition. But in the process of study, the students produce finished products. As training goes on, more and more of this production is ready for sale. This applies equally to products produced in workshops and to production which students of the vocational and technical training schools prepare directly at enterprises during the time of production practice there. Where is the income from the sale of these products? It turns out that the students are paid one-third of the earnings due them for this work and the remaining two-thirds remain at the disposition of the vocational and technical training
schools. Forty-five percent of the net income from the production activity of the schools is returned to the state as a tax, and the remainder is spent for the operating needs of the school. It is entirely possible that such a practice is economically justified. However it is useful to have a clear impression of the qualified nature of the principle of free job skill training in the schools.

Beside the vocational and technical training schools of the system of the State Committee of the USSR on vocational and technical training, many ministries, departments, and organizations have their own vocational and technical training schools. However the procedure for admission to these schools, the programs and study plans, the periods of study and the lists of skills which are studied, as well as all the questions of awarding the graduates a specific skill rating (rank or class) are established by a centralized procedure by the Main Administration of Vocational Training (Articles 3 and 9 of the Statute). The vocational and technical training school is given the task of preparing all-around developed technically trained workers for the national economy, who "satisfy the needs of modern production and scientific and technical progress and also the perspectives for their development." One of the main tasks," according to Art. 4 of the Statute is the "formation among the students of a Marxist-Leninist world view, instilling in them high moral qualities, Soviet patriotism, socialist internationalism, a communist attitude toward labor and social property, readiness to guard and multiply the revolutionary and labor traditions of the working class." Among the main tasks is indicated also "preparation for defense of the socialist Motherland." Thus the educational process in a vocational and technical training school also includes military training and compulsory ideological indoctrination excluding the right to freedom of thought, religion, to independence
of beliefs, which according to the Universal Declaration of Human Rights, "every person" must have.

Production training must as a rule, be conducted at those enterprises and in those localities where the student will have to work on finishing the school. The working day of the student during the time of production practice is determined by the educational plan. However it must not exceed the length established by labor legislation for the corresponding categories of employees (depending upon age, conditions of production, etc.). For those who study one year or longer, holidays are established. The time and length of the holidays is determined by the study plans.

The rule on granting pedagogical councils of technical training schools the right to permit graduates having only excellent and good marks in all subjects to enter higher educational institutions directly after finishing the training school has been extended to secondary vocational and technical training schools. In this case the same quota applies: up to 10% of the graduating class. Graduates who have obtained a diploma with excellence are given the unconditional right to enter a higher educational education directly after finishing the school. They do not need the permission of the pedagogical council for this and they are not affected by the 10-percent limit. These graduates, in addition, have a "preferential right in assignment to work." This means that they are the first to select a place of worker from the list of enterprises received by the educational institution for job assignment. To obtain a diploma with excellence one must have the highest grade of "five" in production training. In addition he must have "five" in not less than 75% of all other subjects. In the remaining 25% of subjects he may have a grade not lower than "four."

To enter a vocational and technical training school it is necessary to
have an eight year or secondary school education, to be not over thirty years old (in evening schools, where study is without a break from production, there is no age limit). Students undergo a medical checkup. The medical requirements depend upon the nature of the future job.

Among the obligations of the student of the vocational and technical training school listed in the Statute, one can find the obligation to raise one's ideological level and to be intolerant toward all "antisocial phenomena." The articles relating to financial support and to the right to receipt of money earned are stated vaguely and imprecisely. With respect to the rules for social insurance, it is stated that they are approved by the Council of Ministers. With respect to payment for products made during the process of production, Article 38 of the Statute provides that students are paid monetary amounts according to the norms and valuations in effect, but "payment to students for work done is made by the established procedure and in the established amounts." The procedure, the amount, and who establishes them are unknown.

Upon finishing the school, the graduates are obligated to work not less than two years at those enterprises to which they are sent. As a rule, the assignment of graduates is made before the start of production practice. Students who were sent to the school by the enterprises where they worked previously are sent to these enterprises. Enterprises are obligated to provide graduates of the schools with work in accordance with the vocational and skill level obtained and also to provide housing. Incidentally, this obligation is mentioned also in Article 80 of the Fundamental Principles of Legislation on Labor. Before the start of work graduates are given a vacation of a length established by the Code of Laws on Labor for the enterprises where they are sent to work. This leave is paid for them by
the enterprise on the basis of a wage rate for the skill category which the graduate was awarded upon finishing the school. The time of study in the school is counted in the work record as part of the general work record (is counted in the award of pensions) and also as uninterrupted (is considered with respect to a whole series of privileges and also in the award of benefits for temporary disability). Frequent instances have been observed of an unsatisfactory attitude toward young workers and of bad use of the graduates of the schools. It was noted that in the overall group of those discharged at their own request, half were young workers who had worked at the enterprise less than a year. On June 9, 1980, the Council of Ministers of the USSR issued a decree "On Measures for the Further Improvement of the Use of Graduates of Vocational and Technical Educational Institutions at Industrial Enterprises, Construction Sites, and in Agriculture." In this decree, once again the importance of raising the skill level of young workers taking into account the modern requirements of scientific and technical progress was noted. All organizations -- from ministries to enterprises -- were ordered to take a series of measures for the improvement of the use of graduates of the schools, for creating the necessary housing and living conditions for them. It was established that a young worker may not be discharged without a preliminary careful consideration of the motives of the request for discharge, taking of measures for the elimination of the reasons for young workers' leaving production. It was proposed to issue a Statute on the Assignment of Graduates of Vocational and Technical Training Schools and to provide in it for a basic departure from the practice of assignment of graduates by teams, in impersonal groups: "providing in it the broadening of the practice of personal assignment of graduates of these educational institutions." As a supplemental
guarantee of the correct use of graduates of the schools, the local agencies of the job-skill and technical training obtained the right to reassign graduates of the schools to other enterprises if it turned out that the enterprise to which a graduate of a school was sent was not ready for his reception and use. These are the legal problems of vocational and technical training in the schools of the system of the Main Administration for Vocational Education.

Some Problems of the Preparation of Working Cadres in Production

It would be hard to say that the state of preparation of working cadres in production causes the leaders of the USSR more satisfaction than the state of affairs in the system of job-skill and technical education. For scientific and technical progress to have a positive effect on the tempo of development of modern production, there is needed "an uninterrupted growth of the level of education and the vocational skills of the working people. In connection with this the training, retraining and raising of the skills of workers directly at production is becoming ever more significant." The cited Decree of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSR "On Measures for the Further Improvement of the Training and Raising of Skills of Workers at Production" provides that the level of this work "still does not correspond fully to the demands of the Twenty-Fifth Party Congress." The decree contains many recommendations on how to improve the state of affairs. One may note the instruction that at the center of attention of Party, trade union, and Komsomol organizations must be not only the job-skill training of workers, but also their upbringing and also general education and economic training. For the purpose of improving the planning of vocational training, it is decreed that five-year tasks be established in a centralized manner
for all ministries for the preparation of skilled workers in production. In turn, the ministries must give the subordinate enterprises annual tasks. Moreover, tasks must be given separately for the raising of the skills of women. The decree provides: "Giving great significance to the further improvement of the vocational training of women, it is provided that women workers having children up to eight years old undergo retraining and raising of skills with a break and with the retention for the time of study of the average monthly earnings." The meanings of this measure will become clear if the following is taken into account. Women constitute 51% of the workers and office workers in the economy of the country. In a number of branches of industry, the productivity of labor among women is higher than among men. However the actual situation is such that a woman must choose between work and raising children. A woman having a child cannot let herself spend her time on raising qualifications at the end of the working day. The low standard of living, the insufficient earnings plus the difficulty of obtaining food and consumer goods for the family in connection with the absence or low quality of home appliances force a woman in the Soviet Union to spend an excessive amount of time on housekeeping and takes excessive physical and nervous energy. To this must be added the well-known fact of the shortage of kindergardens and such a quality of service that many parents, if their wages permit, prefer to live financially less well off life, and not to send their children to kindergardens and child care centers, at least for the first three years. Housework in the Soviet family is considered as in the past to be women's work. It is impossible to avoid mentioning the extraordinarily low level of medical and hygienic service for women. First Secretary of the Bashkir Province Party Committee, Akhunzianov, reports that in Bashkaria it
The difficulties of combining work in production with the raising of children sometimes puts before women the problem of choice; either to leave work in production or to refuse to have a second child," is the way A.M. Kovrigin cautiously formulates the problem. He reports that although the level of education of working women is somewhat higher than for men, nevertheless the level of their skills is significantly lower than men's. And the causes of this are rooted in the greater distraction of women from work for the performance of material functions and housework.

"In this connection," M.A. Kovrigin concludes, "it is necessary to ensure the expansion of possibility for recite by a women BEFORE marriage not only a secondary education but also a specific skill in a vocational and technical training school." However this proposal is a half measure and cannot solve the problem. The fact is, that in the conditions of the scientific and technical revolution, the raising of qualifications must be repeated periodically. And if, according to date, in 1979, each worker underwent retaining each 6 or 7 years, then in the near future, retaining must be repeated more often. The decision to send women for retraining, freeing them from work and retaining their average wage for them is meant to help solve this part of the problem of raising the skills of women and obviously may be effective. The leadership has evidently developed a systematic approach to the problem of women's work in production. The Constitution of the USSR proclaimed in 1977 the "gradual reduction of the working day for women having young children." Until now, however, the only realization of this promise is seen in the introduction of the short working day to attract supplementary cadres -- nonworking pension
recipients and women with children for a half or quarter working day. Of course the earnings also in this case will be proportional to the working time. In addition a new list of heavy or harmful jobs where women's work is forbidden has been approved. It has been established that for the time of study of a new speciality, women freed from hard or harmful work have the right to receive during six months their former average wage. The freeing of women from this work is taking place, it must be said very slowly. The new list did not appear by itself when the harmfulness of the jobs included in the list became known. The level of industry and of science was sufficiently high to reveal the harmfulness of many jobs where women are used most intensively. But a threat of serious negative demographic changes was required to move from loud words on "the care of the Party for Soviet women" to move to action. The growing interest of the state in the lightening of the labor of women and the conditions of the study is based on a sober economic calculation: "A woman occupied in machine building, the light, or the food industry, according to the calculation of economists, repays expenditures on learning a job-skill, raising the skill, and also the expenditures for care of a child in children's institutions in less than three years."23

The preparation of working cadres in production is regulated in the USSR basically by two legislative acts. The codes of laws on labor of the union republics speak of the privileges and rights of those who are involved in job-skill training (equally applicable are the corresponding norms of the Fundamentals of Legislation of the USSR on Labor). The Model Statute on the Procedure for Training Workers in production regulates the types and forms of vocational training. Both legislative acts are relatively new. In the Fundamental Principles and the codes which preceded them, questions of vocational
training were almost not touched upon at all, although the codes contained a chapter "On Apprenticeship." In fact all questions were decided by departmental instructions or directives of the Government. The Model Statute, approved March 4, 1980, replaced an old one of 1968. E. Kamashev, an official of the State Committee on Labor of the USSR responsible for preparation of cadres in production, states that the appearance of the new statute was proceeded by an All-Union "scholarly and practical conference" on the theme "Basic Directions of Raising the Effectiveness of the Use of Labor Resources in the Light of the Decisions of the Twenty-Fifth Congress of the Communist Party of the Soviet Union." Many of its recommendations were adopted by the leadership of the country and were reflected in the Model Statute. This Statute was approved by three organizations — the State Committee on Labor of the USSR, the State Committee on Job-Skills and Technical Training of the USSR and the Secretariat of the Komsomol. On the basis of it, taking into account the particular features of the branches of industry, "branch statutes" are to be issued.

Below are the norms of the Statute which have a direct relation to the labor rights and duties of workers.

1. The following types of vocational training at production are established: training of new workers; retraining, and training of workers in a second job skill; raising the skill level of workers. The definition given for each type entails certain legal consequences.

Training of new workers is defined as the "vocational training of persons who previously did not have skills, the list of which is approved by the State Committee on Vocational Training of the USSR by the procedure established by law." Previously workers who transferred to a new enterprise and taught a
new skill there were included in the accounts as "new workers, trained in production." This created conditions under which job-changing was beneficial for the employees of technical training. Now only those workers who did not previously have a skill listed in the state list may be included in the account as "new workers." In distinction from students at vocational and technical schools, persons accepted for training directly in production enter into labor relations with enterprises and not into trainee relations. It is namely for this reason that the Statute introduced the obligatory rule: "persons sent for training must be previously acquainted with the requirements for work by trade, with the conditions and payment of labor, with the rules of internal labor order and safety technology, with hygiene norms and rules, production (job) instructions, possibilities of raising skills and promotion." All these conditions constitute, in essence, the content of the labor contract (Art. 8 of the Fundamental Principles).

The preparation of new workers is made in three forms of training: individual, group, and course. For the two latter forms training groups of 10 to 30 persons are created. The term of instruction is not more than six months. In individual cases, when six months are insufficient, the period may be increased "only with the permission of the State Committee on Vocational Training of the USSR." The preparation for vocations connected with the servicing of boilers, cranes, and certain other complex and dangerous jobs is to be done in formal courses. Individual instruction in these vocations is not permitted.

Retraining and training for a second skill is organized for the training of workers released at enterprises as the result of technical progress, growth of the productivity of labor, and other changes, and also for those workers who have shown a desire to change their present skill in connection with the
needs of production. "Training workers in a second skill is organized for broadening their skill profile, preparation for work under conditions of brigade or other collective form of organization of labor, and also for multiple skill jobs." An analysis of this formulation, particularly in the part we have italicised, leads to the following legal conclusions: (1) The term "second skill" does not signify a quantitative limitation and relates equally to any number of additional skills necessary in work under conditions of a collective form of labor, for instance a system brigade (which is required to fulfill a whole system of tasks, sometimes from the beginning to the end of a cycle). It also relates to any number of related jobs. (2) In the statute previously in force, training in multiple skills was considered one of the forms of raising of skills. But it is not merely a matter of emphasizing the greater importance of this type of training or in changing the gubric of statistical reporting. This change entails serious legal consequences. (3) Training for related skills, despite all its desireability, has ceased to be a labor obligation of workers. The concrete labor obligations of each worker are stated in the labor contract. The general obligations of all workers and office workers are stated in two legal acts: the Fundamental Principles (and the codes of laws on labor) and also in the Model Rules of Internal Labor Order. The latter were published by the State Committee on Labor of the USSR by agreement with the All-Union Central Council of Trade Unions on September 29, 1972. According to these Rules (Art. 11 (1)), workers and office workers are obligated "to systematically raise their operational (production) skill." Until now, so long as training in multiple skills was one of the types of raising skills, it was one of the labor obligations of workers. Accordingly the administration had the right to demand its
fulfillment. The essence of combining jobs is Soviet labor law consists
of the fact that the worker must do, besides his regular obligations, work
which previously was being done by another worker. Compensation for this
second job is determined by the administration. However in no case may it
exceed 50% base wage rate of the worker. Comparatively recent supple-
mentary payment for combining jobs could not exceed 30% of the base wage
rate of the replaced employee. It should be noted that the earnings of
a worker in the USSR consist of the wage rate and (depending upon the level
of skill of the worker, on the one hand, and the degree of complexity of
the work, on the other) and also a system of supplementary payments. Although
the relation between these two parts is not permanent, it is possible with as-
surance to affirm that neither of these two parts is sufficient to maintain a
minimum standard of living. Judging by statistical data, the combining of
jobs is more pleasing to management than workers in the Soviet Union. From
Table I, it appears that among various forms of raising skills, training in
combined skills occupies one of the last places. Although in the table,
taken from the work of M.A. Kovrigin, a Soviet specialist in technical train-
ing, the percent of those involved has gone down over twenty years from 16.7%
to 8.8%, in fact this percent is significantly less. The fact is that one
and the same rubric includes training not only in joint skills, but also simply
in second skills when the worker leaves his speciality for a new one. This is
particularly popular among young people seeking their place in the process of
enrichment of experience. Thus in the percentage of those who were involved
in training in a joint skill under the most conservative approach constitutes
not over 4.4% of the general number of persons involved in raising skills ac-
cording to the previous method of accounting. Obviously it is hopeless to
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<td>Number of workers raising their skills — total</td>
<td>42,960</td>
<td>100</td>
<td>62,748</td>
<td>100</td>
<td>17,741</td>
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<td>including</td>
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<td>at production-technical course</td>
<td>14,025</td>
<td>33.3</td>
<td>18,363</td>
<td>29.3</td>
<td>3,989</td>
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<td>at courses of training in second and combined skills</td>
<td>7,019</td>
<td>16.7</td>
<td>8,580.7</td>
<td>13.7</td>
<td>1,844</td>
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<td>at special purpose courses</td>
<td>7,900</td>
<td>18.8</td>
<td>9,757</td>
<td>15.5</td>
<td>2,168</td>
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<td>in schools of advanced methods of work</td>
<td>6,303</td>
<td>15.0</td>
<td>7,466</td>
<td>11.9</td>
<td>1,642</td>
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<td>in schools for highly skilled workers</td>
<td>—</td>
<td>—</td>
<td>55</td>
<td>0.09</td>
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<td>in people's universities</td>
<td>—</td>
<td>—</td>
<td>1,264</td>
<td>2.0</td>
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<td>in schools of economic knowledge and other types of economic training</td>
<td>—</td>
<td>—</td>
<td>26,360</td>
<td>42.0</td>
<td>10,888</td>
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force a worker to engage in training for a combined specialty. Given the existing shortage of manpower, particularly in distant districts of the country, measures of compulsion are impossible. The future will show whether or not a certain increase in pay for replacing a second employee will be effective.

Improving the skills of workers is vocational training "directed at the consistent improvement of vocational knowledge, habits, and skills in an existing vocation." It has already been noted that improving skills in a labor obligation of workers and office workers. Theoretically, an employee may be discharged for refusal to improve his skills. Such a possibility exists not only in the USSR, but also in all Eastern European countries in the Soviet block. Thus, for instance, judicial practice and labor law doctrine in Poland recognizes refusal to improve skills as one of the causes which can make the discharge of an employee necessary. In the USSR this problem is not solved uniformly in practice. The Labor Code of the RSFSR contains, at first glance, two possibilities for discharge for refusal to improve one's skills. Article 33, which gives an exhaustive list of the cases when the administration may break the labor contract on its own interest, refers, in the first place, to the failure of the worker to fit the work done "as the result of insufficient skills" (paragraph 2 of Article 33), and in the second place, to the systematic failure without compelling reasons of the worker or office worker to fulfill the obligations placed upon him by the labor contract or the Model Rules of Internal Labor Order (paragraph 2 of Article 33). In the first case discharge in connection with insufficient skills affects the obligation to improve skills not directly, but indirectly encouraging the process. Fault of the employee is not required for discharge on this basis. It is entirely possible that education, age, or other individual peculiarities will not permit the employee
to achieve a higher skill. In this case he must be offered work where his skills will be sufficient. But those employees who have the possibility of improving their skills also may be put to the choice: either go and study or be threatened with discharge or transfer to less skilled work with lower pay. Transfer instead of discharged is mentioned here because discharge in connection with insufficient skill is allowed only in the case that it is "impossible to transfer the employee, with his consent, to other work" indicated in the same Article 33 of the Code of Laws on Labor of the RSFSR. The second case involves two or three refusals to improve skills, refusals leading to two or three disciplinary or social (e.g., imposed by a comrades' court) sanctions for a worker to be discharged for systematic non-fulfillment of labor obligations. According to Article 8 of the Fundamental Principles of Legislation on Labor, a working person who has concluded a labor contract is obligated to do his work "obeying the internal labor order." This provision, by itself, is hardly objectionable. What is doubtful is the legality of certain demands upon workers contained in the Model Rules of Internal Labor Order. Such demands, in my view, include obligations of workers not only to carefully and timely fulfill the work norms, but also to achieve overfulfillment of these norms; not only to work observing the quality established by technical standards, but also to "improve the quality of production"; not only to guard the property of the enterprise at which they work, but also "to strengthen socialist ownership"; finally, not only to have the habits and knowledge (The scope of this knowledge is defined in the Uniform Wage Rate and Skill Guide for each job.) necessary for the fulfillment of the work provided by the labor contract, but also "to systematically raise their working (production) skill."

It must be said that all these obligations (with the exception of one: the
strengthening of ownership) not only are not included in the labor contract but are also not included in the area of obligations of Soviet citizens indicated in the Constitution of the USSR. Chapter VII, "Basic Rights, Freedoms, and Obligations of Citizens of the USSR" lists the obligations of Soviet citizens in Article 59-69. Here can be found the obligation to guard nature, to care for the preservation of monuments, to strengthen ownership (not one's own, but socialist), but in Article 60 dedicated to the labor obligations of Soviet citizens there are no indications of the obligations which the State Committee on Labor of the USSR -- the author of the Model Rules -- additionally imposes upon workers and office workers in the Soviet Union. It seems to me that the Model Rules in this respect are against the constitution. An interesting evolution is observable. In the old Code of Laws on Labor of 1922, there was Article 52 which stated that the Rules of Internal Labor Order could not contradict the laws on labor or the collective contracts. Later the mention of collective contracts was removed. The Commentary on the Code published in 1966 explained the removal simply: now, "on the contrary the collective contract cannot contradict the Rules of Internal Labor Order." 34 The current labor legislation contains neither the text nor the principle of Article 52 of the 1922 Code.

Incidently, in court practice, cases on the discharge of workers for refusal to improve skills or for insufficient skills are encountered rarely. Significantly more cases of this type are encountered on the discharge of office workers. The cause of this is the fact that enterprises always need unskilled workers and not merely highly-skilled workers. For a worker who does not want to study but who does his job in good faith, work always can be found. Improving skills must result in raising the skill-classifications of
the worker and in turn raising of his wage. But in many cases this is unpro-
fitable for the brigade or shop. It is given a determined wages fund and it
has already distributed this fund in the most, in its opinion, just or expedient
manner. An increase of the earnings of a worker who has raised his skills must
be made at the expense of this same, already allocated fund. Therefore rais-
ing of skills in a number of instances contradicts the interests of the employees
of the enterprise. Kharkov Professor M.I. Baru did not agree with the decision
of the Supreme Court of the RSFSR on the case of the operator G. G. was sent
to a two week course of advanced methods of work. During this time his earn-
ings were maintained. G., without compelling reasons failed to attend the
classes and was fired for this. The judicial bodies of Bashkiria rejected
G.'s suit for reinstatement at work. The Supreme Court reinstated G. on the
ground that he was freed from fulfilling labor obligations during these two
weeks. Criticizing the position of the Supreme Court of the RSFSR, M.I. Baru
writes: "This position is based on the incorrect idea that raising skills is
a moral and not a legal obligation. This position does not correspond to today's
demands and it should be rejected." Baru criticized the positions of a number
of other specialists in labor law for not considering the raising of skills to
be an obligation. M.I. Baru only forgot to note that both the decision of the
Supreme Court and the positions of his colleagues which he criticized were pub-
ished BEFORE the publication of the latest Model Rules of Internal Labor
Order of 1972. The previous Rules of 1957 did not consider raising skills to
be a labor obligation for workers. M.I. Baru published in 1978.\textsuperscript{35} It seems
however that M.I. Baru is also wrong on the merits of his criticism. Although
operator G. was absent the courses to which he was directed, and although from
1972, the raising of qualifications became an obligation of workers, nevertheless
failure to attend courses may not be equated to absence from production work in the decision of the case on the proportionality of the disciplinary sanction to the crime. Operator G. was freed of his labor functions for the time of the classes. Therefore his act, although reprehensible, did not make it necessary to apply to him the extreme measure of disciplinary sanction. It should be added that the laws regulating the procedure for the consideration by the courts of labor cases do not forbid the consideration not only of the fact of commission of the act, but also of the proportionality of the punishment imposed for the act. Two well known Soviet specialists in labor law, E. Gershanov and V. Nikitinskii, for instance consider that "discharge from work under Paragraph 3 of Article 17 of the Fundamental Principles of Legislation on Labor (analogous to Paragraph 3 of Article 33 of the Code of Laws on Labor of the RSFSR -- Iu. L.) should be considered as an extreme measure. Therefore even in the case when there are formal grounds for discharge, the court may render a decision on reinstatement at work if the violations of labor discipline committed by the employee are not so serious as to recognize leaving him at work as incompatible with the interests of production." 36

However, in connection with the case of operator G., another question arises: the problem of monetary liability for nonfulfillment or improper fulfillment of the obligation of study for improving skills. The employees, in addition to retaining his earnings is granted supplementary funds for travel and living expenses during the time of study if the courses to which he is sent are in another city. Can the repayment of these expenditures be demanded if instead of attending courses the employee has taken a holiday? V.N. Artem'ev reports that since this question is not answered in labor legislation, it is decided differently in different branches of industry. In some branches only
expenditures for training are recovered by the procedure for compensation, in others all amounts received by the employee for this time are recovered.\(^37\) Agreeing with the opinion of A.S. Pashkov,\(^38\) V.N. Artem'eva considers that such recoveries are illegal since vocational and technical training in the USSR is illegal. She recommends early dissolution of the contract for improving skills. But this way does not solve the problem, at least in those cases when it became known that the worker had failed to attend the course after the course was over, as was the case with operator C. Chechoslovak labor legislation does not approve such recoveries. Hungary looks on this problem differently: a worker who has received benefits and has been absent from a course must be brought to responsibility by the director of the enterprise and addition loses the part of wages corresponding to the time of absence. As a whole however, in the labor legislation of a number of East European countries there exists the "principle of responsibility of persons studying for misuse of benefits provided in connection with study."\(^40\) (The content of these benefits will be considered below.) The new Model Statute has established the following forms of raising skills of workers at production:

(1) Production and technical courses. They are created for deepening and broadening knowledge, habits, and skill of workers in vocations they already have, to raise them to the level corresponding to the needs or production. The length of training is up to six months without a break and up to three months with a break from work. Groups for instruction must consist of ten to thirty persons. If it is not possible to organize courses, individual instruction is permitted, "as an exception." Training at courses finishes with examinations or tests.
(2) **Special purpose courses.** These are created for the study of new equipment, materials, and technology which is put into use in production and of the rules for their use. Questions of the economics of production and raising the quality of production may also be studied at such courses. The training ends with an integrative assignment.

(3) **Schools for the study of advanced ways and methods of work.** These are created for the purpose of mass mastery of the ways of work of the most experienced and successfully working workers. The statute calls them "leaders and innovators of production who have achieved a significant growth in the productivity of labor, a raising of the quality of production," and also improvement of all the other technical and economic indicators. The new statute broadens the scales of activity of these schools. In industry, shop, factory, branch and all union schools are created. An all-union school is organized by a ministry of the USSR jointly with the Head Committee of the Exhibit of Achievement of the National Economy of the USSR. This committee is responsible for the distribution (popularization) of the most successful methods of work in all areas of the Soviet economy. Branch schools are organized by republic or all-union ministries of the respective branch. In all cases trade unions take part in the organization of the school on equal basis. The length of training is from 30 to 100 class hours. As necessary, training may take place with leave from work. Training in the schools concludes with an integrative assignment. In many branches of industry it has been a custom to send those workers who are not fulfilling their production tasks or are producing defective output to the schools of advanced ways of work.

(4) **Brigade leaders' courses** are a new form of raising qualification. Before the passage of the new Statute, three year schools of master workers
existed. They provided a secondary education. Now they have been abolished as a form of raising skills at production. But they may be created in the form of classes in the system of evening (or shift) secondary general education schools. The reason for the abolition consists of the fact that the position of master worker, in connection with the task of raising its importance, will be replaced by specialists with higher and secondary education. The issuance of secondary education diplomas when the quality of this education was very far from secondary has been stopped. The introduction of brigade leaders' courses was caused by the necessity of creation of a permanent reserve of brigade leaders with knowledge on the level of the requirements of the scientific and technical revolution. This reserve became necessary in connection with the fact that in the eleventh five year plan "the brigade form of organization of the incentive for work must become basic." The task of the courses was formulated in the Statute: "raising the level of knowledge of brigade leaders in the area of fundamentals of scientific organization of labor, production and administration, of legislation on labor, leadership of labor collectives and also labor protection and safety technology." This form of raising qualifications will not be open to all, since to enter it a special "Assignment" is required. "Assignment to brigade leaders' courses is made on the recommendation of the heads of the respective subdivisions of enterprises and organizations taking into account the opinions of the brigade leader, the council of the brigade or the council of brigade leaders." Training at the courses concludes with a test or defense of a graduation project.

This is the structure of state organization of vocational training of workers at production. Training is conducted either by professional instructors
or by specialized workers who show their experience in work. The latter, however must be taught the bases of pedagogy according to the program of the State Committee for Vocational and Technical Education. Both receive compensation for this work. For some this is their basic earnings, for others a supplement to their earnings in their basic profession. The statute speaks of other non-state forms of raising skills in production. These are so-called "social forms of raising the cultural and technical, economic, and political level of workers." They include schools of communist labor and fundamentals of economic knowledge, People's Universities and various "schools," "universities," and "circles" of a similar nature. They are created "jointly by the administration and social organizations of the enterprise or the superior organization." As a rule training in them is conducted on the basis of a social assignment (Party, Komsomol, or trade union), i.e., without monetary compensation. In addition, the Statute lists other types of activity aiding the "growth of skill of workers." These include training without a break from work in evening and extramural general education schools, secondary specialized and higher educational institutions, evening (or shift) vocational and technical schools; "independent work for the raising of one's own cultural and technical level, participation in the movement of innovators and inventors, in scientific and technical creativity."

We have seen that in two forms of the state system of raising the skill of workers at production, the training ends with examination. This area is also not without lawsuits. As the result of examinations for the establishment of a skill classification (a so-called reclassification) store sales clerk R. was discharged on the basis of Article 33 of Paragraph 2 of the Code of Laws on Labor of the RSFSR for insufficient skill. In the consideration of
her case in court, it appeared that the skills commission gave her questions on all sorts of things, but not on the work of a sales clerk. She was asked who was the minister of trade in the RSFSR, what were the basic directions of the scientific organization of labor in trade, what was the motto of the trade organization, etc. The court reinstated R. at work. In an appeal rejected by the Supreme Court of the RSFSR, the defendant trade organization argued that the questions of the commission "did not go outside the limits of the knowledge which she (the sales clerk -- I. L.) should have in accordance with the Wage Rate and Skill Guide." It should be noted that formally the appellant was right. The Model Statute states that the skills commission must act "in accordance with the requirements of the general provisions of the Union Wage Rate and Skill Guide of jobs and vocations for employees." The same is mentioned in Article 5 of the "Statute on the Procedure for the Attestation and Award of Skill Classifications to Persons who have Mastered Working Vocations in Various Forms of Training." A.A. Miasnikov, an employee of the Central Scientific Research Institute for Labor Reserves of the State Committee on Labor of the USSR called attention to a contradiction between the Guide on the one hand and the Code on the other. While Article 86 of the Code, developing the provisions of Article 83 of the Fundamental Principles declares that workers have the right upon finishing training to obtain work in accordance with the skill attained and the skill classification awarded, the Guide proceeds from the opposite principle. According to Article 12 of the General Provisions of the Guide "the award to a worker of a skill classification or raising it is done taking into account the complexity of the work." In other words, it is not that work is provided in accordance with the skill, but the skill classification is approved depending upon the nature of the work available
A.A. Miasnikov considers that "such a provision artificially slows the skill growth of workers and at the same time contradicts the law." Although the award of classifications is made in accordance with the provisions of the Guide, however almost everywhere at enterprises, the average skill grade of workers is below the classification of the jobs. Miasnikov states: "the skill of a worker must be higher than the classification of the work -- this is one of the chief conditions of quality of labor." A systematic sociological study of Gorki and Gorki region (From the point of view of the representativeness of the object of study it may be said that the Gorki region is among the most developed regions and therefore the overall picture in the country must actually be worse.) gave interesting supplementary information. M.N. Rutkevich writes: "If one supposes that workers of classifications I and II (and also without a classification) are engaged in low skill work; III and IV -- average skill work, V and VI high skill work, then the share of the abovementioned stratum (of workers of low skill work -- I.L.) in the industry of the USSR constitutes approximately 26.3%. In many branches and at many enterprises this percent is still higher." At the same time it was established that "work of the fifth and sixth category is performed by only 15.8% of the workers studied, but 28% (of the workers) are paid according to these classifications. And on the contrary, in fact 34.8% of the workers work under the first and second classifications, but only 20% have these classifications." In other words, "there are 1.5 times more jobs of the first and second classification than workers of the first and second classifications than workers of the first and second classifications, while places where high skills are required are approximately twice less than highly skilled workers. . . . As a result a so-called "shortage" of employees of low skill labor arises and
the enterprise either artificially raises the pay of workers of the first and second classification or replaces them with workers of the third and fourth categories, causing the latter a feeling of dissatisfaction with their labor. Here we have encountered a situation where the overall structure of jobs in a country, where the proportion of unqualified labor is high, slows and restrains the development of the skill structure of workers. Under such circumstances it is entirely unrealistic to expect compulsion of workers to raise their skills on a mass basis. Industry still does not need this!

But if it is the situation that the state in fact (until now) does not need a general increasing in skills, classification, and correspondingly pay, then what can each individual person who wants all this count on? He wants to exercise his right to vocational training to raising skills, to raising classification and, of course, of raising his earnings. This right is given to him by Article 40 of the Constitution of the USSR and by labor legislation. How can someone defend his right if he meets a refusal: he is not accepted to a course of raising skills, or having the possibility of finishing the course does not raise either his classification or his earnings. Are their real legal means of defense of this right of the Soviet citizen if this is really his right and not a duty which is mentioned only when it is advantageous to the Head Employer -- the state. In legal literature it is possible to encounter various proposals for the establishment of a right to appeal, but in Soviet legislation a defined procedure still does not exist according to which a citizen could attain a defense of his right to vocational training or his right to work if he is refused. There also does not exist a right of judicial defense. Nor is there any specially established institution, special instance for the consideration of appeals for such violation. There is not, in essence,
any guarantee of the realization of the right to vocational training, the
inguarantee of the realization of the right to vocational training, the
right to raising skills, nor, for that matter, of the right to work. "In
any event, the absence in the legislation of clear guarantees of the protec-
tion of the given right, as for any other," V.N. Artem'eva tells us, "should
not be considered as an argument against its existence." After this rever-
ence which is natural in the conditions of censorship, she of course called
for the issuance of a "uniform all-union legislative act which would regulate
these questions which are "particularly timely and promising is the fullest
and most precise regulation in legislation of legal facts with which the ori-
gin of the given right is connected; the volume and limits of the rights and
duties included in it, the finding and reinforcing of the simplest and most
effective means for realizing it; the determination and improvement of guar-
antees for obtaining, achieving and protecting it."

The Model Statute says nothing definite about the conditions for payment
for labor in case of vocational training of trainees and workers. It
merely states that these conditions "shall be established in accordance with
the legislation in force." Special chapters in the Fundamental Principles
and the Codes of Laws on Labor establish privileges for workers and office
workers combining work and study.

Production training for professional preparation and raising of skills
must be organized by enterprises at their expense. This includes all types
of production training including the individual form.

As a rule, before the start of training of workers, the administration
concludes labor agreements with all specialized, skilled workers and other
persons who must conduct production training. If they are freed from their
basic work, then they retain their average earnings but are not given additional
compensation. Production training and also theoretical classes are conducted
during ordinary working time as established by the labor legislation for the
given category of workers. Neither the Fundamental Principles nor the re-
public codes of labor regulate the problem of earnings of workers for the time
of job-skill training. The norms for payment of trainees are printed in the
commented editions of the codes of laws on labor. The general principle of
this payment is that at the start of training trainees are paid 75% of the
wage rate for the first (lowest) classification, and with the course of time
this percent is reduced, reaching 20% at the end of the period of instruction.
Moreover, from the moment when students start preparation of finished products
in the process of training they are also paid a wage according to the norms
and the valuations in effect at the enterprise. Approximately the same method
of payment is used for the labor of workers for the time of their retraining
or training for a second vocation. If "young persons" are sent to courses for
the preparation of workers directly by enterprises (with a break from work)
they are paid 50% of the wage rate of their future work, for the occupation
in which they will study. 50 In the remaining cases the procedure for payment
for labor for the time of job skill training with a break from work is deter-
mained in each branch of industry by the respective ministries.

Article 187 of the Code of Laws on Labor obliges the administration to
create for workers undergoing production training or studying in educational
institutions without a break from work "the conditions necessary for combining
work and study." In particular it is a matter of forbidding assigning workers
for the time of their study to overtime and other jobs which could hinder;
to present them as much as possible with work close to the new speciality and
skill acquired.
According to Article 84 of the Fundamental Principles, workers studying without a break from work in general education schools and vocational and technical educational institutions "shall be granted a reduced work week or a reduction of the length of daily work while retraining earnings by the established procedure." The work week is reduced by one to two days or for the corresponding number of working hours for the ninth through eleventh grades of general education school. Reduction of the working time for workers studying in the fifth through eighth grades is regulated not by the Code of Laws on Labor, but by special all-union or republic law. Temporarily the rules established for students of the ninth through eleventh grades are applied to these persons. In total, during the course of the academic year, workers may not be freed from more than thirty-six working days which obviously is connected with the fact that the length of the academic year in night schools is thirty-six weeks. For the days they are freed from work, workers studying in the schools receive 50% of their average earnings, but "not less than the established minimum wage." At the request of workers studying in the ninth through the eleventh grades, they may be granted in addition up to two days of time free from work. In this case wages are not paid. For taking examinations workers may be provided a leave of four to twenty working days depending upon the grade they are in. This leave is paid "based upon the wage rate or salary." At the request of the workers their annual leave must be joined to the leave in connection with the training or the examination. Benefits of approximately the same nature are provided to those workers who study without a break from work in the evening vocational and technical schools or in evening or extramural higher and secondary specialized educational institutions. Moreover if the extramural secondary specialized (technical school) or higher (institute
or university) educational institution is located in another place the worker is paid once a year half the cost of travel there for taking examinations or laboratory work and once more for diploma examinations.51

In concluding the statement of benefits and privileges provided to workers in connection with study without a break from work it is necessary to recall the provision contained in Article 34 of the Code of Laws on Labor of the RSFSR. This article lists the persons to who a privileged right to remain at work is granted "in case of reduction in the number of staff of employees." Among those who in case of equal productivity and skill must enjoy "preference in being left at work," the law names "employees raising their skill without a break from production in higher and secondary specialized educational institutions." It has already been noted that given the current situation with respect to manpower this rule rarely has to be applied with respect to workers. From the table reproduced below it appears that while of the overall number of workers and office workers taught new professions at specialities, workers constituted 98.33%, of those who underwent training for raising skills workers constituted (according to the data for 1979) only 41.26%.

Preparation and Raising Skills of Workers and Office Workers at Enterprises, Institutions, and Organizations (in Millinois)

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<td>training for raising skills</td>
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<td>workers among these</td>
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The time has come to answer the question posed at the very beginning of this paper: what are the legal means against those who upon finishing a vocational and technical school refuse their obligation to work for several years not by their own choice, but on assignment by state agencies. The generally accepted method is forbidding the hiring of those who are obliged to take work at a place determined by the stage manpower planning agencies. But what is to be done if such a prohibition is evaded and an employee is hired where he prefers to work? The opinion of lawyers is divided two ways. Some suppose a subsidiary application of civil law, i.e., the recognition of the contract concluded as invalid on the basis of Article 48 or 49 or 40 which are closest to the given situation. Others consider the way to reestablish order is Article 254 of the Code of Laws on Labor of the RSFSR which establishes "supplementary bases for cancelling the labor contract of certain categories of workers and office workers under certain conditions" instead of recognizing it invalid. They cite the penultimate part of this article which states the following: "The legislation of the USSR and, in the limits defined by it, the legislation of the RSFSR may establish supplementary bases for the cancelling of the labor contract of certain categories of workers and office workers for the violation of the established rules of acceptance at work and in other cases." It is completely obvious that the last words of this article concern cases of deprivation of access to work connected with secrecy and also cases of discharge of independently-thinking persons. This explains the formulation of the law in which clarity is squeezed out by secrecy. Taking the liberty of intervening in this discussion, it may be asserted that neither method is legal. The labor contract is not a civil-law transaction. Therefore the norms of the civil code are not applicable to it. Article 254
of the Code of Laws on Labor cannot be applied until a statute is issued which does not simply forbid the hiring of graduates of vocational and technical schools assigned to work in another place, but establishes that such hiring, as an illegal labor contract, must be cancelled on the basis of Article 254 of the Code of Laws on Labor of the RSFSR. Then the "supplementary basis for cancellation of the labor contract" required by this article will appear. The question being considered however is not of practical interest. If the leadership considers it necessary to fire everyone who refuses the obligatory assignment, a statute will be promulgated or yet one more secret instruction "not for publication" will be promulgated. In fact the leadership prefers a method of choice: depending upon the concrete case. One of the causes of such an approach rests on the understanding that the planned assignment is by no means a clearly correct and rational assignment. In many cases a refusal of the obligatory assignment corrects awkward blunders of the centralized planning of the assignment of graduates. An illustration is a sad story published not long ago in newspaper Komsomol'skaia pravda.54

The parents of a vocational-technical school graduate wrote to the editors complaining that their daughter was unable to find a job that made use of what she had learned. The editors interviewed the head of an enterprise who complained that schools were disregarding the enterprise's indication of its needs and were enrolling too many people in some specialities and too few in others. The editors found that the schools report enrollment only in total numbers, not by specialities to superior agencies.

The editors then talked to school directors who replied that many of the plant requests are for semi-skilled labor and that the school is a three year course for skilled labor. They also pointed out that sometimes additional
students are admitted to avoid taking an uneconomically small group. The re-
sult is that some persons who receive a high skill are then assigned to re-
latively unskilled jobs.

The editors concluded that the primary problem is the lack of detailed
information on personnel needs with which planners could better chart the
course of development of technical training.

We have summarized this article at length because it deals not with random
occurrences but with something which is typical for all the areas of the
Soviet economy. Not only typical but innate, condemning many beginnings to
failure. But this is going beyond the legal questions of vocational and
technical training in the USSR.

2. On jobs with harmful and difficult conditions of labor, for a brief introduction see Trudovoe pravo, Entsiklopedicheskii slovar', 4-e izd. (Moscow: Sovetskaia entsiklopediya, 1979), pp. 358-359.


8. The Decree of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSRs, No. 497, June 23, 1972, SP SSSR, 1972, No. 12, item 67, was also devoted to the further improvement of the system of vocational and technical training." One may recommend to those interested in the history of vocational and technical training that they become acquainted with the decrees of the same organizations of April 2, 1969, No. 240 "On Measures for the Further Improvement of the Preparation of Skilled Workers in Educational Institutions of the Systems of Vocational and Technical Training," SP SSSR, 1969, No. 9, item 54; "On Measures for Broadened Training and Placement at Work in the National Economy of Young People Finishing General Education Schools in 1966" of February 2, 1966, No. 83, SP SSSR, 1966, No. 3, item 26; Decree of the Council of Ministers of the USSR "On Measures for improving preparation of Skilled Workers and Provision for them by Enterprises and Construction Sites," Dec. 20, 1962, No. 1303, SP SSSR, 1962, No. 21, item 181. This is an incomplete list. Emphasis in mine.


10. In the Soviet writing it has already been noted that universities teach mainly persons from well-off Soviet families. See for instance V. Zaslavski and Y. Luryi, "The Passport System in the USSR and Changes in Soviet Society." Soviet Union/Union Sovietique, 6:2 (1979), 137.

11. See, e.g., Decree of the Central Committee of the Communist Party of the

12. Supra note 9, p. 40-41.

13. Ibid.

14. Joint Decree of the State Committee of the USSR on Labor and Social Matters, Collegium of the State Committee of the USSR on Vocational and Technical Training, Collegium of the Ministry of Education of the USSR, and the Secretariat of the Central Committee of the Komsomol, March 29, 1980, Biulleten' (Goskomtruda) 1980, no. 6, 14-22.


16. Supra 9, p. 54.

17. See, e.g., Decree of the Council of Ministers of the RSFSR of Dec. 22, 1967, "On the Procedure for Distribution of Income Received from Production Activity of Professional and Technical Training Schools," SP RSFSR, 1967, No. 28, item 179; Sovetskoe trudovoe pravo, (Moscow: Iuridiekeskaia literatura, 1976, p. 446; see also supra note 7, Art. 13, decree about payments to students of technical training schools.


19. SP SSSR, 1980, No. 18, item 106.

20. Supra note 5.

22. Supra note 9, p. 15.

23. Supra note 6, p. 12 and supra note 9, pp. 103, 115.

24. Supra note 9, p. 15.

25. The old Model Statue of October 18, 1968 is in almost all Soviet collections of laws on labor. See also Normativnye akty po ispol'zovaniu trudovykh resursov (Moscow: Iuridicheskaia literatura, 1972): 350-358. For the new model statute see Biulleten' Gosudarstvennogo Komiteta SSSR po trudu i sotsial'nym voprosam, 1980, No. 5, pp. 3-14.


27. Biulleten' Gosudarstvennogo Komiteta SSSR po trudu i zarabotnoi platy, (1972), No. 12.


29. See on this question Kommentarii k zakonodatel'ству o trude (Moscow: Iuridicheskaia literatura, 1976): 251-255 (commentaries to Article 38
of the Fundamental Principles and Article 87 of the Code of Laws on Labor of the RSFSR.

30. On the systems of wages for workers in the USSR see above note 29, pp. 204-214 (Commentary to Article 80 of the Code of Laws on Labor).

31. Supra note 9, p. 104.


33. See N.G. Gladkov, "Osobennosti prekrashcheniia trudovogo dogovora v PNR," Sovetskoe gosudarstvo i pravo (1980), No. 5: 106.

34. Kommentarii k zakonodatel'stvu o trude (Moscow, 1966): 110.

35. M. I. Baru, "Kriterii pravovogo regulirovaniia vysokoproizvoditel'nogo truda," Sovetskoe gosudarstvo i pravo (1978), No. 8: 57. Some Soviet theoreticians of law, despite the publication of the new Model Statute, consider as before that raising skill is not a legal obligation but a moral duty. Such, for instance, is the point of view of V. N. Artem'eva: "The question of the legal nature of relations for raising skills is disputed. . . we consider raising qualifications to be a right and simultaneously a moral obligation of a working person." See her recent monograph Pravo sovetskikh grazhdan na professional'nuu podgotovku i povyshenie kvalifikatsii (Minsk, 1981): 81.


41. *Supra* note 26, p. 67.

42. Ibid.


47. P.N. Fedoseev, "Sovetskaia sotsiologia XXVI S'ezdu KPSS; rabochii klass v usloviakh razvitogo sotsializma, Sotsiologicheskie issledovaniia" (1980), No. 4: 17.


50. Supra note 29, 597-599.
51. Supra note 29, 490-622.
52. Supra note 32, p. 402 (cited from supra note 9, p. 115).
53. Supra note 4, 19-38.
Western observers as well as Soviet specialists have noted the lack of effective coordination among territorial and branch organizations in the USSR as the prime cause of various organizational and economic maladies: overlap and redundancy, slow rates of assimilation of new technology, lack of standardization of parts and equipment, over-utilization or under-utilization of labor reserves and material resources, production of inferior or unwanted products, etc.

Achieving the effective and efficient coordination of organizational units is difficult in any situation or society. Western management theorists have noted that as scientific knowledge advances the environment that surrounds scientific and technical work becomes increasingly diversified and therefore uncertainty threatens performance. In short, over time the discrete tasks in which man has been engaged have increased not only in number, but also in heterogeneity. In order to cope with this increased uncertainty organizations must establish and integrate the work of subunits that can effectively cope with even more varied subenvironments. As differentiation proceeds, problems of coordination and integration become more extreme. The thrust of much of the modern management science literature is devoted to searching for effective strategies for managing organizational interdependencies to achieve both high levels of differentiation and integration. In the West these tendencies have taken the form of basic experimentation with organizational structures. J. W. Gardner notes that traditional organizational structures themselves are the major impediment to effective horizontal coordination:

What may be most in need of innovation is the corporation itself. Perhaps what every corporation (and every other organization) needs is a department of continuous renewal that could view the whole organization as a system in need of continuing innovation.

As the demands for both differentiation and integration become more acute, top management has found it necessary to devote more and more of its attention
and resources to the achievement of these organizational states.

The ability of modern organizations to achieve integration is influenced by several factors, including geographic proximity of subunits, organizational size, range of organizational activities, variety of technologies employed and congruence of organizational structures among subunits.

Economic theorists note that organizations cope with demands for increased integration in two forms: "vertical" and "horizontal integration." According to the prevailing view vertical integration involves acquiring organizational control and property rights over the sources of semifinished and raw materials, or over distribution channels to the ultimate consumer. It is concerned with a single flow of materials and services from raw states to consumable form within one corporate entity. Such consolidations have often been initiated for defensive reasons—to reduce uncertainties about access to raw material sources and to markets. For whatever reason they occur, they have had the indirect effect of removing certain transactions of goods and services from the open marketplace and placing them within the purview of a single organization. The marketplace is, of course, one type of integrating device, and consolidations that convert marketplace transactions into intraorganizational transactions will not be viable over time unless the intraorganizational integrating devices prove more effective than the marketplace. With more sophistication in the design and use of integrating devices, more such vertical consolidations will be warranted. The limits on what can be done efficiently within a single organization will be pushed back.

A somewhat similar trend marks growth by horizontal integration. This is the process by which companies diversify into new product lines, becoming "conglomerates." Again, these expansions are often initiated for defensive reasons—spreading of risks, shifting from a declining to an expanding array of goods or services, etc. Such an expansion, however, is likely not to be viable
over time unless the organization creates among these diverse product and service
activities a flow of ideas and methods superior to their dissemination among
separate organizations. Horizontal integration will not be warranted unless a
synergistic effect is achieved. Again it comes back to the organization's
ability to create superior integrating methods—in this instance, for the
exchange of help, expertise and technologies among various divisions. As the
capacity for solving these organizational issues increases, horizontal expansion
will be fostered. Again the limits of what can be done more efficiently within
a single organization will be pushed back, and organizations with this capacity
will expand.

Applied to the USSR, in the absence of a market mechanism and given the
peculiarities of the Soviet planning system, vertical and horizontal integration
must be defined in slightly different terms. Vertical integration in the Soviet
context refers to the coordination and unity of organizational units directly
subordinate to one specific branch or ministry. In some cases, the production
of a single product from raw material to finished good proceeds within a single
branch. However, more commonly, the production of a good in the Soviet Union
entails the cooperation (often by legal contract) of units subordinate to two or
more branches or ministries. The latter process is an example of horizontal
integration.

By most accounts, the system of horizontal integration works relatively
efficiently in the mass production of goods in the USSR. Integrative mechanisms
and relations in such circumstances have been forged over long periods of time
and are relatively stable. Uncertainties that do creep into the smooth functioning
of the system are cushioned through various formal and informal strategies:
contracting for necessary materials from more than one supplier, hoarding spare
parts, etc. However, the more dynamic
organization, the less appropriate will be these stable, but relatively rigid mechanisms for horizontal integration.

Scientific and technological research and development is precisely the type of endeavor that entails high levels of uncertainty and thus requires equally high levels of organizational flexibility. Achieving horizontal integration under such circumstances is not only challenging, but success in this area is essential if the USSR is to keep abreast of the United States and other advanced industrial societies of the West. In short, scientific and technological progress in the Soviet Union is first and foremost an organizational problem, rather than simply a problem of expanding scientific knowledge or acquiring more advanced technologies.

Donald Barry, among others, has charted the growing sensitivity of Soviet specialists (including jurists) to the organizational component in scientific and technical progress. This paper examines Soviet attempts to experiment with organizational forms in order to achieve more effective horizontal integration and greater structural flexibility. The problem is a multifaceted one involving regional and interbranch coordination, planning, socio-economic development and balancing utilization of resources and budgetary expenditures. Thus, the analysis includes both spatial (territorial and regional) integrative mechanisms and non-spatial approaches to improving inter-organizational communications, planning and coordination.
Regional Development and Horizontal Integration

We can identify two basic types of approaches to "structuring in" more effective coordination among organizational units. The first involves the creation of regional or territorial coordination centers that preempt the usual vertical lines of command and communication. The second approach, a non-spatial approach, entails linking organizational subunits (regardless of their physical location) into an integrated network. The latter usually takes the form of integrated information systems, rather than the integration of actual tasks or technological processes.

Territorial approaches to horizontal integration are better suited to those situations in which the required cooperation and coordination among subunits entails more than simply the exchange of data. Where mutual and coordinated action is required on a common object (piece of equipment, experimental project, etc.), geographic proximity becomes increasingly important, depending upon the nature of the technological processes employed. Long-linked technologies are characterized by serial interdependence among the various stages in the sense that process y can only be performed after the successful completion of process x. Although distance among subunits that perform these sequential, serial tasks may raise costs or introduce inefficiencies (through transportation, packaging, damage, etc.) geographical dispersal of subunits may be economically rational due to their location near needed resources (raw material, labor, energy, etc.).

However, scientific and technological research and development most frequently takes the form of an intensive technology. Intensive technologies draw upon a variety of techniques and pools of expertise to create new objects or achieve changes in some existing objects. But the selection, combination and order of application of tasks are determined by feedback from the object itself. Since
intensive technologies require the frequent and dynamic interplay of diverse
techniques, capacities and skills, they usually result in the spatial clustering
of organizational components in a single center (e.g. research and development
laboratories, experimental research institutes, etc.).

Until relatively recently Soviet pronouncements on regional development
and economic policy stressed the Leninist line of "evening out" regional and
national differences. This objective was explicitly stated in the Directives
for the Ninth Five-Year Plan (1971-1975) as it had been in preceding plans.
However, in December 1972 in a major break from preexisting policy, Brezhnev
stated, "Now that the problem of leveling of the development of the national
republics has on the whole been solved, we are able to approach economic questions,
first and foremost, from the point of view of the interests of the state as a
whole, of raising the effectiveness of the national economy of the USSR, allowing,
of course, for the specific interests of the union and autonomous republics." 5

Since 1972 the stress has shifted to the development of regional
complexes based on the exploitation of sources of energy, labor reserves and raw
materials. The Directives for the Tenth Five-Year Plan (1976-1980) made no
reference to evening out levels of development among republics. In the area of
science and technology the new policy orientation called for the accumulation and
utilization of scientific and technological potential wherever they occur. In
as much as economic rationality mandates development of regional complexes to
exploit science and technology resources, the new policy may have the effect of
narrowing the gap between "scientific capitals" and the periphery. According to
specialists in the USSR, the increased requirements of the Soviet Union's
modern economic development under the conditions of the scientific-technical
revolution require further "regionalization" of science at the all-union, republic
and branch levels. 7
There are several centrifugal tendencies that reinforce this policy of territorial development of science and technology in the USSR. Among the most compelling is the relatively more rapid growth rates of scientific and technological potential in outlying regions and the rapid development of major science and engineering centers that draw on the unique material resources of these regions. In recent years several branch ministries have followed the example of the Academy of Sciences and have undertaken similar deconcentration in an attempt to further the regionalization process. One major innovation in the past decade has been the creation of multibranch regional science centers. The Siberian Department of the Academy of Sciences, the Ural and Far Eastern academic centers, the North Caucasus center for higher education, regional centers of the All-Union Institute of Agricultural Sciences and the Academy of Medical Sciences all were conceived and developed over a relatively short period of time. As of 1979 there were 17 large territorial research centers in the USSR, including four subordinate to the USSR Academy of Sciences and five affiliated with the Ukrainian Academy of Sciences.

Progress toward the goal of regionalization of science and technology in the USSR can be measured by the dispersion of scientific and technical workers of the Academy of Sciences and the republic academies. In 1977, 52 percent of all such specialists lived and worked outside the R.S.F.S.R., 13.9 percent in the Ukraine, 6.3 percent in Belorussia and Moldavia, 14.4 percent in the Transcaucasian republics, 12.5 percent in Kazakhstan and Central Asia and 4.9 percent in the Baltic republics. More than 26 percent of all scientific and technical personnel in academic institutions work east of the Urals, including 11 percent in Siberia and the Far East.

These figures show relatively high levels of deconcentration, especially considering that in 1951 almost 90 percent of the institutes affiliated with the
The trend toward the territorial deconcentration of research is evident not only in organizations subordinate to the Academy of Sciences, but also in ministerial and branch research and development activity. Table 1 shows increases in research and development activity from 1970 to 1975 in every region of the USSR with the exception of Kazakhstan and the R.S.F.S.R.

The spread of scientific and technical expertise in the USSR under the policy of regionalization is also evident in the number of cities with large concentrations of scientific researchers. At the time of the revolution only four cities had more than 1,000 scientific researchers. Today more than 98 cities have that number. A breakdown is provided in Table 2.

Soviet specialists deny that the spatial development of science and technology should be decided solely on the basis of geography or demographic potential of the region. They argue that such an approach would create inappropriate priorities, benefiting regions with high population densities and dooming regions with low population density to technological backwardness. Given the rapidly increasing population of Central Asia, this argument can be read to stress the protection of the high priority reserved for European Russia, as well as the presumed furtherance of regionalization of science and technology.
<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ukraine</td>
<td>40.0</td>
<td>41.2</td>
</tr>
<tr>
<td>R.S.F.S.R.</td>
<td>19.9</td>
<td>16.7</td>
</tr>
<tr>
<td>Transcaucasia</td>
<td>11.2</td>
<td>11.7</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>10.8</td>
<td>10.3</td>
</tr>
<tr>
<td>Belorussia</td>
<td>6.9</td>
<td>8.0</td>
</tr>
<tr>
<td>Baltic</td>
<td>6.5</td>
<td>7.1</td>
</tr>
<tr>
<td>Central Asia</td>
<td>4.7</td>
<td>5.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2. Number of Cities with Given Number of Scientific Workers, 1914-1975.

<table>
<thead>
<tr>
<th>Category</th>
<th>1914</th>
<th>1950</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>university centers</td>
<td>12</td>
<td>33</td>
<td>63</td>
</tr>
<tr>
<td>over 20,000</td>
<td>0</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>over 10,000</td>
<td>0</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>over 5,000</td>
<td>0</td>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>over 1,000</td>
<td>4</td>
<td>32</td>
<td>98</td>
</tr>
</tbody>
</table>

Regionalization notwithstanding, the location of research and development installations in the large cities generates centripetal tendencies that are superimposed on the above-mentioned centrifugal tendencies and lead to the formation of unique geographical concentrations of scientific and technological resources. The data in Table 3 illustrate that a small group of the Soviet Union's largest cities have retained their dominant position in research and development despite clear and pronounced trends toward the regionalization of science and technology and the accelerated growth of research potential in new regions and cities that previously were virtually devoid of scientific facilities. Although the number of research organizations in Moscow, Leningrad, Novosibirsk, Kharkov and Sverdlovsk and the union republic capitals is growing at a slower rate than in the USSR as a whole, this lagging growth has not adversely affected planned allocations, nor the number of specialists employed in research and development activities in those cities. In some cities (Moscow, Leningrad, Kiev, Minsk, Tashkent and Tbilisi) the number of science cadres is growing more rapidly than the national average. In the R.S.F.S.R. over one half of the scientific and technological resources (scientific cadres and allocations for research and development) are concentrated in three cities: Moscow, Leningrad and Sverdlovsk. In the Ukrainian SSR the same is true of Kiev, Kharkov and Donetsk. In the other 13 republics more than one half of their science and technology resources are concentrated in the capital city. In 1975 more than one half of the Soviet Union's research potential was located in 11 cities: Moscow, Leningrad, Kiev, Kharkov, Novosibirsk, Sverdlovsk, Minsk, Tashkent, Alma-Ata, Tbilisi and Baku. If we add to these another 11 cities (Donetsk, Gorkii, Riga, Perm, Kazan, Dnepropetrovsk,
Table 3. Research and Development Allocations by Region and City, 1970-1975.

<table>
<thead>
<tr>
<th>Region</th>
<th>1961-65 (rubles)</th>
<th>1966-70 (rubles)</th>
<th>1971-75 (rubles)</th>
<th>Total Investment per Capita</th>
<th>Relative Levels (USSR = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1961-65</td>
</tr>
<tr>
<td>USSR</td>
<td>1093</td>
<td>1486</td>
<td>2008</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>RSFSR</td>
<td>1189</td>
<td>1627</td>
<td>2270</td>
<td></td>
<td>109</td>
</tr>
<tr>
<td>Northwest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volga-Vyatka</td>
<td>1904</td>
<td>2572</td>
<td>1486</td>
<td></td>
<td>128</td>
</tr>
<tr>
<td>C. Chernozone</td>
<td>1470</td>
<td>1999</td>
<td>2008</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Volga Valley</td>
<td>1096</td>
<td>1677</td>
<td>1486</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>N. Caucasus</td>
<td>1239</td>
<td>1913</td>
<td>2008</td>
<td></td>
<td>83</td>
</tr>
<tr>
<td>Ural</td>
<td>1756</td>
<td>2417</td>
<td>2008</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>W. Siberia</td>
<td>1386</td>
<td>1812</td>
<td>2008</td>
<td></td>
<td>93</td>
</tr>
<tr>
<td>E. Siberia</td>
<td>1511</td>
<td>2134</td>
<td>2008</td>
<td></td>
<td>102</td>
</tr>
<tr>
<td>Far East</td>
<td>1792</td>
<td>2911</td>
<td>2008</td>
<td></td>
<td>121</td>
</tr>
<tr>
<td>Ukraine</td>
<td>952</td>
<td>1260</td>
<td>1652</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td>Donets</td>
<td>1468</td>
<td>1896</td>
<td>2325</td>
<td></td>
<td>99</td>
</tr>
<tr>
<td>Southwest</td>
<td>955</td>
<td>1325</td>
<td>1934</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>South</td>
<td>1639</td>
<td></td>
<td></td>
<td></td>
<td>110</td>
</tr>
<tr>
<td>Belarus</td>
<td>644</td>
<td>1233</td>
<td>1766</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>810</td>
<td>1213</td>
<td>1435</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1527</td>
<td>1846</td>
<td>2268</td>
<td></td>
<td>140</td>
</tr>
<tr>
<td>Georgia</td>
<td>721</td>
<td>1052</td>
<td>1255</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>857</td>
<td>1030</td>
<td>1214</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Lithuania</td>
<td>932</td>
<td>1357</td>
<td>2094</td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>Moldova</td>
<td>753</td>
<td>1132</td>
<td>1625</td>
<td></td>
<td>69</td>
</tr>
<tr>
<td>Latvia</td>
<td>1143</td>
<td>1616</td>
<td>2224</td>
<td></td>
<td>105</td>
</tr>
<tr>
<td>Kirghizia</td>
<td>798</td>
<td>1072</td>
<td>1299</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>845</td>
<td>1029</td>
<td>1211</td>
<td></td>
<td>77</td>
</tr>
<tr>
<td>Armenia</td>
<td>1024</td>
<td>1508</td>
<td>1656</td>
<td></td>
<td>94</td>
</tr>
<tr>
<td>Turkmenia</td>
<td>1167</td>
<td>1663</td>
<td>2166</td>
<td></td>
<td>107</td>
</tr>
<tr>
<td>Estonia</td>
<td>1341</td>
<td>1899</td>
<td>2317</td>
<td></td>
<td>123</td>
</tr>
</tbody>
</table>


Rostov, Cheliabinsk, Krasnoiarsk, Irkutsk and Vladivostok) the figure approaches 80 percent.

The developed social infrastructure of large cities, the higher skill level of the labor force, the concentration of scientifically and technologically intensive branches of industry, the developed transportation infrastructure and the intensiveness of intercourse altogether form a specific urban environment that is maximally oriented toward the perception of the results of the scientific-technical revolution and that promotes the growth of research and development activity. Soviet authorities note that the age and accumulated prestige also insure a disproportionate weight in favor of cities such as Moscow, Leningrad, Kiev, Kharkov, Tbilisi and Baku.

Geographical concentration also allows progress in establishing more effective communications systems and more intensification of the beneficial influences on scientific and technological activities in adjacent areas, creating prerequisites for the specialization and coordination of research activity on a territorial scale.

The impediments to regional integration are several. First, as we have noted, principal concern and attention in the Soviet Union historically has been directed to intra-branch and intra-ministerial relations. Second, because of the superior-subordinate relationship implicit in this vertical network and because allocations, institutional support and directives flow down this chain of command, vertical integration is reinforced by powerful incentives. Soviet specialists frankly observe that regional potential for research and development has lagged due to insufficient organizational reinforcement. Unlike the well-delineated vertical framework existing within ministries and branches, territorial integration is hampered by the lack of a powerful integrative mechanism.

Recognizing this problem, in recent years Soviet economists, jurists and planners have proposed various regional organizational forms. Three in
particular deserve more detailed analysis: territorial-production complexes (territorial'no-proizvodstvennye kompleksy-TPK); regional interbranch science centers and interbranch regional planning.

Territorial Production Complexes:

The foremost mechanism for dispersing research and development activity through the USSR, yet attempting to provide some degree of integration, is the territorial-production complex. Although they differ in structure, composition, relation to branch ministries, and relation to territorial state organs, they have several distinguishing characteristics. They are interbranch organizations devoted to a specific type and object of management. Within one territorial-production complex there participate enterprises and organizations subordinate to many ministries and departments. For example, in the Saiansk TPK more than 20 ministries and departments are cooperating. The goal of the cooperation is to have the units in the territorial-production complex act as a single dynamic system.

The specialization of the complex depends first of all on the raw material reserves of the territory and on the base for industrial expansion. For instance, the Western Siberian TPK specializes in the extraction of oil and gas, as do the Tomsk and Tobol'sk petrochemical combines. The Kursk TPK specializes in the extraction of iron ore and quartz, while the Oskol'sk combine specializes in electrometallurgical technology. In contrast to other territorial formations, TPK are not always encompassed within the boundaries of existing kraia, oblasti, autonomous oblasti or okrugi and, more often than not, undertake not only an interbranch character, but also an inter-territorial character.

The management of territorial-production complexes may take the form of either interdepartmental organs subordinate either to the Council of Ministers of the USSR, or to the Councils of Ministers of the union-republics. The legal basis for forming such bodies exists in article 19 of the Law on the Council of Ministers
The first territorial-production complexes were created by the Ninth Five-Year Plan in 1971. The Plan delineated seven large areas in which TPK would be created: North and Central European USSR, Southern European USSR, Urals-Volga Valley, Kazakhstan, Central Asia, Siberia and the Far East. With respect to individual complexes, the Plan apparently set forth general development plans for seven "national economic complexes"—the West Siberian plain, the Angara-Yenisey region, the Aldan-Chul'man-Udokan region, Timano-Pechora, South Tadzhikstan and TPK associated with the Orenburg gasfields and the iron ore deposits of the Kursk Magnetic Anomaly. In the latter two cases, territorial-production complexes were formed by uniting preexisting organizations, much as ob'edineniia had been formed throughout the USSR earlier.

The movement to create territorial production complexes gained momentum after the November 1978 Plenum of the Central Committee at which Brezhnev noted, "This is a major new achievement—the development and expansion of territorial-production complexes, especially in the eastern regions of the country."22

Below we summarize the major existing territorial-production complexes, grouped by region:

1. TPK's in European Russia

a. Orenburg. This complex covers an area of 40,000 km² and had a population of 850,000 at the beginning of 1976. The complex, already well advanced, is centered around a large gas deposit in Central Orenburg oblast. During 1971-1975, investment in the project totalled 5.3 billion rubles. Industrial development has focused on gas refining and petrochemicals, but has also included machinery and light industry. In the Tenth Five-Year Plan the complex was to be broadly expanded, with the construction of a third section of the Orenburg gas processing plant, extension of pipelines to the Czechoslovak border (both CMEA projects) and expansion of capacities for producing equipment related to oil and gas, agriculture and metallurgy. The pipeline was scheduled to be finished in late 1978 and to reach full capacity by 1981.

b. Kursk Magnetic Anomaly (KMA). Underway for more than 15 years, this large complex seems to be viewed as embracing all of Kursk and Belgorod oblasti in the Central Black Soil Zone of the R.S.F.S.R. The total population was 2.6 million at the beginning of 1976. Taken as a whole, it is a fairly diversified industrial
region, with an ore mining complex created to exploit a huge deposit of high grade iron ore. Bauxite reserves and sources of construction materials, as well as fertile agricultural soils are also present. During 1971-1974 some 2.8 billion rubles were invested in the development of this complex. The principal project in the Tenth Five-Year Plan was the scheduled completion of the first section of a large electro-metallurgical plant based on new technology to produce 1.8 million tons of steel, with a second section to be started later. The second section of a nuclear power plant at Kursk, with two 1,000 MW reactors, was to be completed, and agricultural development was to be fostered as part of the region's participation in the Non-Black Soil Zone development project; on which 35 billion rubles (one-fifth of all agricultural investment) was to be spent during 1976-1980.

c. Timano-Pechora. Located in the Northwest Economic Region in the Komi ASSR, Arkhangelsk oblast, and the Nenetskii national oblast, this complex occupies 450,000 km² and had a population of 630,000 at the beginning of 1976. During 1966-1974, 13.3 billion rubles were invested in developing the coal, bauxite and iron ore resources of the area, as well as in the construction of associated industrial plants. During the Tenth Five-Year Plan, additional reserves of oil and gas were exploited, along with construction of the first section of a gas processing plant and an electric power station. The agricultural potential of the region was developed as part of the priority project to develop the Non-Black Soil Zone.

2. Western Siberia. Described as still in the beginning stages, this giant undertaking comprises 1.8 billion km² in Tiumen' and Tomsk oblast with a population of 2.5 million at the beginning of 1976. Development centers around the vast oil and gas deposits in the area. During 1966-1974 some 17.4 billion rubles were invested in the complex, which by 1980 was targeted to contribute nearly half of the total output of petroleum and over one-third of the total output of gas, if plans are met. The Tenth Five-Year Plan provided for beginning the construction of petrochemical combines at Tomsk and Tobolsk, building of oil refineries and gas processing plants, extension of oil and gas pipelines, and completion of the second section of the Surgut thermal power plant.

3. TPK's in the River System of the Angara-Yenisey. The five complexes generally considered to be parts of the system are located in Krasnoiarsk krai, Irkutsk oblast, and Tuvinskii ASSR. They are: Bratsk-Ust-Ilimsk, Central Irkutsk, Central Krasnoiarsk, Saian, and Lower Angara; still others are on the drawing board. Investment in the five complexes totalled 28 billion rubles during 1966-1974. Basically, they are centered around the construction of a series of huge hydro-electric-power plants on the river system of the Angara-Yenisey, along with the exploitation of local reserves of fuels and minerals and the building of energy-intensive industrial centers. The first two complexes, were planned for completion in 1980 together with a large sulphate pulp plant at Ilimsk (also a CMEA project). Under active expansion is the Central Krasnoiarsk TPK, thus far heavily dependent on the world's largest hydro-electric plant. Future industrial expansion in the area will be stimulated to a considerable degree by exploitation of the Kansk-Achinsk brown coal deposits, one of the largest development projects started in the Tenth Five-Year Plan. Several huge thermal electric power plants are planned, to use the relatively low-cost coal, which will be mined by open-pit methods. Development of this
complex is scheduled to extend over 15-20 years and to involve construction of paper combines and petrochemical plants. As development proceeds, several subcomplexes are supposed to be formed. The entire complex covers an area of 416,000 km² and had a population of 1,850,000 at the start of 1976. Also actively under development is the Saian TPK, which centers about the creation of power-intensive industries to be served by the Saian-Shushenskoe hydro-electric power plant, which, when completed in the 1980's, will surpass Krasnoiarsk as the largest in the world. The TPK occupies 140,000 km² and has a population of 730,000. Ultimately, it is supposed to contain 100 enterprises, including 12 large machinery plants located at a single site. At present, a giant aluminum plant and a railway car plant are being built, and electrical equipment plants were scheduled to be started in the Tenth Five-Year Plan. Perennial delays in completing projects in the Saian complex occasioned a Council of Ministers' Resolution in June 1976 calling for a speedup. The TPK, which centers around the creation of the Boguchan hydro-electric power plant and the exploitation of forest and mineral resources.

TPK's along the BAM. The BAM, a 3,200 km railroad extending from Ust' Kut near Krasnoiarsk to Komsomolsk in Khabarovsky krai with an extension to Neryungari in Southern Sakha, was begun in 1974 and is scheduled for completion in 1983. The Sakha extension from Tynda on the mainline BAM was completed in 1977. The BAM will provide transport access to vast natural resources in East Siberia and the southern part of the Soviet Far East. The most important of these resources are the Udokan copper deposits, the Chul'man deposits of coking coal, the Aldan iron ore deposits and extensive reserves of timber. Construction of the BAM has provided the impetus for grand projections of the outlines of future TPK's to be developed within its service area. In their book on the BAM, Shabad and Mote list eight such complexes. However, planning for these future creations is in an embryonic state and there appears to be little consensus as to the goals and priorities of the complexes. The TPK, the planning for which seems most advanced, is the Southern Sakha TPK. One author states that it is being given priority, as a test case to learn whether this form of development along the BAM mainline area is economically feasible. Occupying an area of 251,000 km² with a population of 70,000 at the beginning of 1976, this complex is to be based on exploitation of huge coking coal deposits in the Chul'man region and on a large iron ore deposit at Aldan. The Tenth Five-Year Plan indicated the intent to begin formation of the TPK during 1976-1980. Development will start with the exploitation of coal deposits, a project being financed with the help of the Japanese, in return for future product deliveries. A coal cleaning plant is to be built first, followed by woodworking and phosphate fertilizer facilities. Power for the area is to be supplied by the Neryungrinskii thermal power plant now under construction.

5. Kazakhstan. Three TPK's are actively under development in Kazakhstan. The largest is the Pavlodar-Ekibastuz TPK located in Pavlodar oblast' in Northeast Kazakhstan. The complex was the subject of a CPSU-Council of Ministers resolution. The complex centers around large deposits of coal suitable for strip mining, a variety of non-ferrous and other metals, thermal electric power plants using coal, and a diversified collection of industrial plants in the city of Pavlodar. Power from the complex is to be transmitted via long distance lines to European Russia. A 1,500 kv direct current line is to be built, connecting Kazakhstan with Tambov, southeast of Moscow, a distance of about 1,500 miles. Construction was not scheduled to begin before 1980, however. The technology for efficient transmission over such distances has not been mastered anywhere in
The Tenth Five-Year Plan provided for expansion of a number of plants and electric power facilities, completion of a ferro-alloy plant and the start of construction of an oil refinery. A second major complex—Karatau-Dzhambulski—is located in Southern Kazakhstan and centers around the largest deposit of phosphorus in the USSR. Lead and zinc deposits also are present. Two large plants for processing phosphorus and producing phosphate fertilizer were scheduled for completion during 1976-1980, along with commissioning of increased capacities for producing chemicals and for expansion of the light and food industries. The third complex—the Magishliak TPK—comprises an area of 28,000 km² and a population of 230,000, located in Western Kazakhstan on the Caspian Sea. The complex, which centers about sizeable oil and gas deposits, seems still to be in an embryonic stage. Its development continued in the Tenth Five-Year Plan with expansion of oil and gas production, completion of the second section of a gas processing plant, and increased capacities for chemical production using gas by-products. Evidently, considerable uncertainty about the size and quality of oil and gas reserves delayed decisions about future development of this complex.

6. South Tadzhik TPK. The concept for this complex was developed during the 1960's and its formation was begun in 1972. It occupies 534,000 km² and had a population of 2.3 million at the beginning of 1976, over two-thirds of the total in the republic. The complex is based on availability of cheap hydro-electric power to be obtained from the Nurek power plant scheduled for completion in 1979 and the Rogun power plant to be started during the period. Principal consumers of this power will be a large aluminum plant and an electrochemical combine now under construction. Irrigation facilities are being built, in order to expand general agriculture and cotton acreage. Future plans call for development of a textile industry and machinery and metalworking plants in the area to use the republic's rapidly growing labor force. Investment in this complex has totalled 820 million rubles, according to a report in early 1976.

The completion of these projects can be presumed, but what remains unresolved is the degree to which these territorial-production complexes will be developed. One school contends that the complexes should be aimed primarily at tapping energy sources and extracting raw materials with a bare minimum of development of related industries and social infrastructure. Others argue that the objective should be to develop diversified industries around the extractive industries, with the requisite establishment of permanent large population centers. A key factor in such a policy choice lies in the supply of manpower. Efforts to induce people to settle in the inhospitable climates and less developed areas of the Soviet Union have enjoyed little success. In addition, there has been a consistent out-migration from the regions of Western Siberia. (See Table 4).

The Soviets are also facing severe constraints on the supply of investment

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<tbody>
<tr>
<td>Total</td>
<td>4.8</td>
<td>2.9</td>
<td>2.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Working Age</td>
<td>9.6</td>
<td>8.2</td>
<td>5.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>4.7</td>
<td>3.1</td>
<td>2.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Working Age</td>
<td>7.7</td>
<td>6.0</td>
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<tr>
<td>Total</td>
<td>4.8</td>
<td>4.8</td>
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<tr>
<td>Total</td>
<td>4.0</td>
<td>1.9</td>
<td>1.6</td>
<td>-0.2</td>
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<tr>
<td>Working Age</td>
<td>1.6</td>
<td>0.04</td>
<td>0.7</td>
<td>0.7</td>
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</table>


Data are based on estimates of mid-year populations. Projections assume "medium" rates of mortality and fertility and no net migration. Following Soviet practice, the population of working age is defined as males age 16-59 and females age 16-54.
funds. Given the general lag in Soviet economic growth that generates these funds, it is doubtful that Soviet planners will allocate the large sums necessary to construct high-cost housing and service facilities in these regions. Indeed, the construction of such large-scale intensive projects themselves may prove too great a strain for the Soviet economy. (See Table 5).

Law and the Territorial-Production Complexes

During the formation of territorial-production complexes there are three identifiable stages and law plays a crucial role in each stage of development. First, is the designation of territorial limits and the structure of the TPK. Law in this stage functions to define the methods for creating the complex as a single, complex organization whose decisions are legally binding on its constituent units. As was noted in the decree of the Central Committee and the Council of Ministers of July 12, 1979 "On the Improvement of Planning and Strengthening Coordination of the Economic Mechanisms for Increasing the Effectiveness and Raising the Quality of Labor," there are as yet no normative acts regulating the creation of territorial-production complexes. USSR Gosplan and the Council of Ministers of the R.S.F.S.R. and interested ministries and departments of the USSR oversee the development and performance of TPK's located in Siberia and the Far East, regardless of the departmental subordination of their constituent industrial production enterprises and organizations.

The second stage in the organization of TPK's is the construction of industrial enterprises--the creation of the production infrastructure. At this stage, the task of legal regulation consists of protecting the coherence and performance of the complex as it develops necessary material resources, labor reserves, constructs industrial plants and social-cultural and housing facilities. The third stage in the creation of territorial-production complexes involves the operation of the TPK's. Management in TPK's is incremental and ad hoc--that is,
Table 5. Total Investment per Capita by Region, 1961-1975.

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<tr>
<th>Research in all USSR cities</th>
<th>1970</th>
<th>1975</th>
</tr>
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<tbody>
<tr>
<td>number of organizations doing research</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>number of research topics</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>planned allocations for research on given topics</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

- In Moscow, Leningrad, Kharkov, Novosibirsk, Sverdlovsk, and union republic capitals:
  - Moscow: 45.8, 45.8
  - Leningrad: 45.8, 45.8
  - Kiev: 45.8, 45.8
  - Kharkov: 45.8, 45.8
  - Novosibirsk: 45.8, 45.8
  - Sverdlovsk: 45.8, 45.8
  - Minsk: 45.8, 45.8
  - Tashkent: 45.8, 45.8
  - Alma-Ata: 45.8, 45.8
  - Tbilisi: 45.8, 45.8
  - Baku: 45.8, 45.8

- In other cities in the USSR:
  - Moscow: 45.8, 45.8
  - Leningrad: 45.8, 45.8
  - Kiev: 45.8, 45.8
  - Kharkov: 45.8, 45.8
  - Novosibirsk: 45.8, 45.8
  - Sverdlovsk: 45.8, 45.8
  - Minsk: 45.8, 45.8
  - Tashkent: 45.8, 45.8
  - Alma-Ata: 45.8, 45.8
  - Tbilisi: 45.8, 45.8
  - Baku: 45.8, 45.8

Total in 11 cities:
- Moscow: 45.8, 45.8
- Leningrad: 45.8, 45.8
- Kiev: 45.8, 45.8
- Kharkov: 45.8, 45.8
- Novosibirsk: 45.8, 45.8
- Sverdlovsk: 45.8, 45.8
- Minsk: 45.8, 45.8
- Tashkent: 45.8, 45.8
- Alma-Ata: 45.8, 45.8
- Tbilisi: 45.8, 45.8
- Baku: 45.8, 45.8

Total in 11 cities: 45.8, 45.8
In other cities of the USSR:
- Moscow: 45.8, 45.8
- Leningrad: 45.8, 45.8
- Kiev: 45.8, 45.8
- Kharkov: 45.8, 45.8
- Novosibirsk: 45.8, 45.8
- Sverdlovsk: 45.8, 45.8
- Minsk: 45.8, 45.8
- Tashkent: 45.8, 45.8
- Alma-Ata: 45.8, 45.8
- Tbilisi: 45.8, 45.8
- Baku: 45.8, 45.8

Total in 11 cities: 45.8, 45.8
In other cities of the USSR: 45.8, 45.8
it differs from case to case. To date no statutes have been promulgated, regulating the management of TPK's, delineating their legal status, rights and powers, nor defining their accountability. According to N. S. Barabasheva, Senior Consultant with the Center for Problems of Production Management of Moscow State University, the most pressing demand immediately facing jurists is the creation of well-defined legal foundations for dividing subsystemic regulation, while securing the main competence of the TPK as a dynamic, interbranch organization. Barabasheva also notes the absence of structured forms for the resolution of disputes arising between different decision centers and control points within territorial-production complexes. She advocates the enactment of a body of regulating norms, taking the form of a single, codified act, such as a statute on TPK confirmed by the Council of Ministers of the USSR. Such a statute would include three specific groups of normative provisions: norms regulating the general process of forming territorial-production complexes and regulating their decision processes. The second group of norms would establish the procedures for establishing organizational construction and production and the building of organizational infrastructure. The third group of norms would regularize coordination of the various branches, interbranch and territorial mechanisms that are represented in the TPK's. Barabasheva also proposes the creation of a commission under the direction of Gosplan or the Council of Ministers to direct the development of all complexes. The legal status of such a commission is not yet specified. At present, in many situations the role of coordinator is taken upon itself by Party organs to insure the actions of the TPK's do not conflict with decisions and policies of other bodies in the region. Recognizing the interbranch nature of the complexes, she feels it is essential that there be a collegium representing the member enterprises, participating ministries, departments and local state and party organs for consultation and coordination of their functioning.

Perhaps the most difficult jurisdictional dilemma confronting a territorial-
production complex is how to coordinate its complex activities in those situations (more frequent than not) when it occupies territory in two or more kraia or oblasti. Furthermore, the TPK is a dynamic form of organizing production and its boundaries may change over time. In an attempt to manage inter-territorial coordination, the Law on Krai and Oblast' Sovety established that the executive committee of the Sovet for the territory in which the lead organization of the TPK (its center) is located has the right to direct the inter-territorial management of the complex. (In a similar way to which the lead organization or branch is given supervisory authority in interbranch management.)

In some cases affiliated with the territorial-production complexes and in other cases independent of them, there exist in the USSR today 17 regional interbranch science centers. These concentrations of sophisticated research, educational and production complexes are becoming the dominant form of territorial organization of science and technology in the Soviet Union. The problem of integrating regions and developing their scientific and technological bases is a multifaceted one including such elements as the development of information services for the region; intensification of production in a given region through the effective utilization of scientific and technological resources; creation of conditions for the assimilation and diffusion of scientific and technological innovations; establishment of a basis for scientific and technological cooperation among various economic regions; and guaranteeing the improvement of education and cultural programs serving the entire population of the region. The Siberian and Northern centers are testing and debugging designs and technological processes for application in extremely harsh climatic conditions—especially those relating to oil extraction, oil refining, gas extraction and petrochemistry. The major difficulties encountered by the centers are the lack of centralized and interbranch support and testing facilities supplied with the necessary equipment and located in appropriate regions.
At least one source indicates that partially due to their isolation, the regional interbranch centers devote a disproportionate share of their time and resources to basic research and generally devote less attention to applied research.

Organizational rigidities also hamper the efforts of regional interbranch science centers by creating a degree of departmental separateness. For example, scientific research and project-planning institutions and organizations in the Ukraine are subordinate to almost 80 ministries and agencies, while the same type of institution is subordinate to more than 50 ministries and agencies in Siberia. The research and development potential concentrated in Kiev alone is subordinate to 57 ministries and agencies, while the research and development potential of Novosibirsk is subordinate to 38 ministries and agencies.

The integral combination of the branch and territorial approaches to the organization of research and development will depend on the ability of the Soviet system to modify current structures and norms of behavior. Specifically, local organs of power must have expanded and more clearly defined powers. According to Korenewskaja, the planning apparatus is weak in most cities and many city Sovety have no planning departments whatsoever. Those local planning departments that do exist are frequently staffed with unqualified personnel. Furthermore, as yet no legal mechanism has been developed for coordinated planning on the regional or territorial basis.

Horizontal Integration and Regional Planning

The planning arrangements that underlie the creation of territorial production complexes are now being utilized in other regional contexts, most notably in planning for scientific-technological and industrial development of Moscow, Leningrad, Moscow and Leningrad oblasti.

Regional planning, although it does not necessarily entail the creation of a new
organizational form, does offer some promise in furthering regional development, 
a special "complex" city plan has been developed for Moscow - incorporating all 
enterprises and organizations in the city independent of their ministerial or 
branch connections. The plan is formulated by the Moscow gorispolkom with the 
cooperation of USSR Gosplan. The plan's most significant function is to regulate 
the utilization of labor resources and construction organizations. The Moscow 
planning committee directly subordinate to the gorispolkom not only projects 
labor reserves ahead for 1985 to 1990, but also establishes personnel limits for 
every enterprise and organization.

As a result of the Moscow plan, the number of construction projects was 
reduced from 5,000 in 1976 to 3,100 in 1980 and the number of buildings started was 
reduced from 2,000 in 1976 to 1,000 in 1980. Thanks in part to these planning 
efforts over the past five years the social services in Moscow have been improving 
 faster than the population increases. The Moscow model is being applied more 
widely to other cities and oblasti. Experimental plans for the complex economic 
and social development of the cities of Moscow, Leningrad, Minsk, Vitebsk, Brest 
and Leningrad and Sverdlovsk oblasti have been widely used elsewhere. In the 
Ukraine, complex plans exist in all cities and regions.

However, N. Maslennikov, Deputy Chairman of the R.S.F.S.R. Council of Ministers 
and Chairman of R.S.F.S.R. Gosplan, recognizes that these complex regional plans 
are still largely "analytical" and not "directive" in character. They frequently 
consist merely of a summary of plan indicators for the enterprises and organizations 
in the region without actually attempting to resolve such problems as the allocation 
of labor reserves and material resources among branches or the management of natural 
resources and the development of necessary social services in order to serve the 
population.
In addition, Maslennikov states that to date a mechanism for coordinating and interfacing between complex territorial plans and branch plans has been insufficiently worked out. While regional bodies have the right to make proposals to the draft plans of ministries, the ministries are under no obligation to act upon those proposals. He also maintains that there is insufficient coordination between USSR Gosplan and planning agencies of the various republics and regions.

Regional planning in Moscow as elsewhere suffers because of the lack of strong bodies to coordinate regional planning. Consequently, the well entrenched vertical (sectoral) planning tends to predominate. According to F.E.I. Hamilton, even the territorial-production complexes tend to be "idealized geographical interpretations of ex post facto Soviet reality, rather than essential tools of regional development policy."  

Partially to overcome this weakness, a special regional research and advisory unit within USSR Gosplan known as the Sovet organizatsii proizvoditel'nykh sil (SOPS), has been established to strengthen the territorial dimension of economic plans. Apparently it is SOPS which converts the policies and directives of the five-year plans into territorial terms. As yet, the effectiveness of this organization has not been assessed.

Another body of considerable relevance to regional planning and development is the Interbranch Commission on the Placement of Industrial Enterprises. The Commission was created five years ago by R.S.F.S.R. Gosplan to review proposals for the creation of new industrial enterprises in the Russian republic. Of the 1,083 proposals received in the first three years, 58 were approved for location in small and medium-sized towns and the number approved for large and metropolitan cities was systematically reduced. As a rule, in the European portion of the R.S.F.S.R. there is a tendency to favor reconstruction and expansion of existing enterprises, while in the eastern regions, to build new construction. Similar commissions have been created in all autonomous republics, kraia and oblasti.
Non-Territorial Mechanisms for Horizontal Integration

Horizontal integration may be fostered not only through the creation of regional or territorial clustering of organizational units involved in scientific and technological processes, but also through non-spatial mechanisms. Non-territorial mechanisms of integration are most appropriately employed when the means of integration are informational.

In the Soviet Union management theorists, jurists and planners have experimented with two principal modes of non-spatial integration: centralized automated information networks and complex program-goal planning.

Information Networks:

From the discussions of cybernetics in the 1950's and 1960's to the present, there has been considerable interest in the USSR in creating an integrated computer information network linking all enterprises, ministries and departments to Gosplan. The 1961 Party Program placed a high priority on the creation of such a network. By mid-1964 the Institute of Cybernetics of the Academy of Sciences of the Ukrainian SSR and the Central Economic-Mathematics Institute had each proposed a design for a nationwide network of computer centers. On March 20, 1966 Izvestiia reported that the Central Committee and the USSR Council of Ministers had adopted a resolution establishing such a network. 44

However, the realization of these hopes came in a disjointed and incremental fashion. Various enterprises, ministries and organizations have created a wide array of information/computation centers and processes. These vary in their scope, degree of sophistication and technical capacities. The result is a highly differentiated and unintegrated complex of diverse informational systems, in some cases overlapping and in other cases isolated from one another.

Among the most prominent types of information networks existing in the USSR today are:
1. Interconnecting computation centers (kustovye vychislitel'nye tsentry-KVTs). These networks usually exist within one association, yet are connected with similar systems in other associations. Their principal use is the standardization of interassociational transfers.

2. Computation centers for collective use (vychislitel'nye ts entry kol lektivnogo pol'zovania-VTsKP). These facilities are designed for small users, for whom computer/informational technology is too expensive or otherwise inaccessible on an individual basis. By linking several such users into a collective, the system becomes more cost-effective and also helps in establishing coordination among all users.

3. Branch network computation centers (otraslevye seti vychislitel'nykh tsentrov-OSVTs). These networks link all major enterprises, associations and departments within one branch. Branch networks now exist in 60 branches (ministries) and perform more than 375 classes of high-level coefficient tasks.

The integrative impact of each of these networks is largely internal to a given branch, organization or enterprise. Substantial problems still exist in linking information networks into a larger grid that would foster greater interorganizational coordination and integration. The development of these intrasystem networks is an important first step in the creation of the larger integrated network.

The most ambitious attempt to link up information systems into a nation-wide network is OGAS, the All-State System for the Collection and Processing of Information for Reporting, Planning and Management of the Economy. OGAS is the present-day successor of the program initiated in the 1960's to build a nation-wide computer network. The director of the project, D. G. Zhimerin, describes the system as a four level hierarchy of interdependent automated management systems. At the top are informational subsystems of each ministry and state committee. At the second level are systems for each of the 15 republics. The
third level consists of about 200 regional time-sharing centers. At the lowest level OGAS envisions approximately 25,000 individual systems operating within individual enterprises and associations.

The most significant progress appears to be occurring at the middle range, with the creation of automated systems of management. Automated management systems (described in much fuller detail in the following paper by Peter B. Maggs) are designed to improve the utilization of information processing capabilities in management, increase the integration of existing automated management systems, and insure the effective exchange of information among sectors in the formation of economic plans.

As we see in Table 5, there are more than 3,800 such systems in operation in the USSR, most employed by enterprises and associations or in coordinating technological programs. Yet, it is only at the territorial level and branch levels that these systems are beginning to saturate the potential "market" of users. For instance, 94 percent of all enterprises still do not have automated management systems.

Automated systems of management apparently enjoyed the most rapid growth during the mid-1970's. Table 7 shows the number of systems initiated each year in the Belorussian republic. 1975 stands out as the year in which automated management systems were introduced in most enterprises and branches. This was also the final year of the Ninth Five-Year Plan and may reflect a certain degree of "storming."

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<tr>
<td>in enterprises and associations</td>
<td>151</td>
<td>838</td>
<td>210</td>
<td>1,199</td>
</tr>
<tr>
<td>technological programs</td>
<td>170</td>
<td>564</td>
<td>590</td>
<td>1,324</td>
</tr>
<tr>
<td>territorial organs</td>
<td>61</td>
<td>631</td>
<td>180</td>
<td>872</td>
</tr>
<tr>
<td>branches or ministries</td>
<td>19</td>
<td>168</td>
<td>45</td>
<td>232</td>
</tr>
<tr>
<td>for processing information</td>
<td>13</td>
<td>108</td>
<td>55</td>
<td>176</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>414</strong></td>
<td><strong>2,309</strong></td>
<td><strong>1,080</strong></td>
<td><strong>3,803</strong></td>
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Source: *SSSR v tsifrakh v 1978 g.* (Moscow: Statistika, 1979), p. 76.

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<tr>
<td>in enterprises and associations</td>
<td>2</td>
<td>41</td>
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<td>1</td>
<td>2</td>
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Although the intention of the automated system of management is to further horizontal communication, standardization and integration among organizations and enterprises across all branches in the economy, at present in the draft decisions on the branch automated management systems (OASU's) only "pre-plan" problems are addressed. According to existing data, in 12 branch automated management systems, fewer than three percent of its planned tasks and operations have been introduced.

The problem of standardization among different automated management systems is being resolved by the utilization of a standardized series of computers (ES) and standardized software (ORMM). Nevertheless, there have been substantial problems of linking automated management systems with other information networks, such as the ASPR (avtomatizirovannaia sistema planovkh raschetov).

Program-Goal Planning:

The second non-spatial mechanism to achieve increased horizontal coordination and integration is program-goal planning. According to Soviet sources, complex goal planning did not originate lately, but in the GOELRO plan of Lenin. However, the intense interest shown in various forms of program-goal planning and management in the USSR appears to derive not from indigenous Soviet experience, but from Western management scientific advances (e.g. PPBS, MBO, PERT). These matrix management structures, which were widely adopted in Western industrial firms in the 1960's have drawn considerable attention in the USSR. Especially active in promoting various matrix management approaches have been specialists in the Institute of the USA and Canada and the All-Union Research Institute for System Analysis (VNIISI).

Today program-goal plans are widely used. The 1976-1980 Five-Year Plan for Latvia included 11 complex plans for the most important economic, scientific-technical and social problems of the republic. In 1977 12 additional plans were prepared, aimed at the elimination of heavy physical labor, creation of a republic-wide
Automated system of management (RASU), establishment of a unified quality control system in industrial production and a plan for the protection of the environment, among others. These plans were drafted by the Latvian Council of Ministers and the Latvian Gosplan.

In complex plans there are three levels of management: the leading organization coordinates the over-all plan, coordinators of subprograms, and units for executing individual programs, actions, tasks and assignments. In the Latvian example of the 1977 plan for the "Protection of the Environment and the Rational Use of Natural Resources in the Latvian SSR" the first function is being performed by the republic Gosplan because of its interbranch, centralized character and because it enjoys a favored strategic and operative position to supervise the program's coordination. Yet, subprograms were apportioned to republic ministries that retain their own functional specializations and lack effective means of coordinating their activities with other ministries.

One significant alteration in the normal vertical lines of authority is seen at the local level. In the case of the Latvian program for the environment, local Sovety were given a controlling role in insuring that the concrete goals of the program were complied with by enterprises, associations and other organizations located in their jurisdictions, regardless of the departmental or branch affiliations of those organizations.

The Latvian example demonstrates the utility of designating a "main organization" (golovaia organizatsiia) to lead the systematic work of planning and technological progress in a given region and to carry out coordinating functions. The experience with the establishment of complex programs has shown that those commission worked well that had the support of a "main organization."

The same program-goal approach has also been applied to scientific and technological matters. Projects affecting several branches of the economy or several associations are outlined and coordinated in "coordination plans"
approved by the State Committee on Science and Technology. Coordination plans detail the full research-production cycle, specifying resources and personnel needs as well as estimates of total cost. The Eighth Five-Year Plan (1966-1970) incorporated 246 coordination plans covering 3,000 projects. This allocation represented 40 percent of all funds earmarked for science.

The coordination plans were replaced by "scientific-technical programs" in the 10th Five-Year Plan (1976-1980). The change reflects the commitment to focus on fewer projects and primarily ones having direct potential for diffusion into production. Approximately 200 such plans were incorporated into the Tenth Five-Year Plan. The scientific-technical programs are coordinated with investment plans to insure adequate allocation of material and technical resources. Control over priority projects is also facilitated by reducing the number of projects.

Conclusions

Perhaps the most evident consequence of the scientific-technical revolution in the USSR, as elsewhere, is the proliferation and differentiation of organizational units. The Soviet leadership, managers and scholars demonstrate increasing awareness of the organizational impediments to scientific and technical progress. They recognize that the scope and complexity of administration in the Soviet Union creates serious problems for the coordination and integration of activities of organizations which are subordinate to various ministries. A major difficulty in achieving horizontal, interbranch coordination in the USSR is that it disrupts the well-established vertical, ministerial command structure.

Integration of diverse organizational units may take regional (territorial) or non-regional forms. There appears to be a tendency to favor regional integration in the USSR, especially for those organizations employing long-linked or intensive technologies. In both intensive and long-linked technologies, the technological process usually entails the coordinated and integrated application of expertise on
a common object. In as much as the process involves a material object, transportation costs and other factors usually favor clustering organizational units in one region. By contrast, mediating technologies typically involve the integration of various organizational units where the mode of integration is non-material—in most cases, information exchanges.

Soviet experience with territorial-production complexes, regional interbranch science centers, associations and other regional integrative forms indicates that regional integrative mechanisms are more easily assimilated into the Soviet system when they coincide with existing political/territorial boundaries. One of the most perplexing problems for Soviet planners raised by the territorial-production complexes is that they frequently incorporate more than one krai or oblast'.

An important factor in the success of regional integration is the impetus provided by regional party committees. Given the absence of any other powerful, institutionalized regional integrative mechanism, the Party appears to be assuming this role. The strengthening of party control may, thus, prove to be economically rational. Regional party organizations appear to be increasingly aware of their integrative role and are placing a larger emphasis on managerial skills in training of apparatchiki. In as much as regional integration strengthens the position of regional party committees at the expense of the central ministries, this process fosters increased political centralization. Non-territorial integrative mechanisms, such as the automated systems of management and program-goal planning also further this trend toward the centralization of decision-making, by creating centralized, integrated information networks.

Finally, in recent Soviet attempts to achieve higher levels of organizational coordination and integration among branches and ministries, law has been conspicuous by its absence. No normative acts exist to regulate the creation, management or accountability of the territorial-production complexes. In the area of regional planning, no legally empowered organization exists for the coordination and
interfacing between complex territorial plans and branch plans. While regional bodies have the right to make proposals to the draft plans of ministries, the ministries are under no obligation to act upon those proposals. Given this lack of legal norms and a strong institutional body to coordinate regional plans with central ministerial plans, the entrenched vertical plans tend to predominate.

It is significant that the experiments to foster better coordination among the various ministerial and bureaucratic organizations involved in Soviet research and development proceed without any legal foundation. This lack of legal parameters to organizational innovation is beneficial in the sense that the responsible Soviet planners and party officials are unencumbered by legal strictures. On the other hand, the absence of legal mechanisms politicizes the reform efforts, pinning their success and application on the ability of local party officials to solve problems in an ad hoc manner. But should an experiment prove effective it is difficult to apply it in another setting, precisely due to its idiosyncratic character. Furthermore, the very absence of legally defined powers, jurisdictions and norms for resolving conflicts hinders experimental integrative attempts, in some cases dooming them to failure before they begin.
The author wishes to acknowledge the assistance of the Documentation Center for Soviet and East European Law of the University of Leiden, the Harvard University Russian Research Center, the Kennan Institute for Advanced Russian Studies, and his graduate assistant, Mr. Martin Hohe.


4. Ibid., pp. 17-18.


7. Ibid., 38.

8. Ibid., 39.

9. Ibid.

10. Ibid.

11. Ibid., 40.

12. Ibid.


14. Kanygin and Botvin, Ibid., pp. 43-44.

15. Ibid., 45.

16. Ibid.

17. Ibid.

18. Ibid.


21. Ibid.


27. Ibid.

28. Ibid.

29. Ibid, pp. 48-49.

30. Ibid., p. 49.

32. Ibid.
33. Ibid.
34. Ibid., p. 47.
35. Ibid.
37. Maslennikov, op. cit.
38. Ibid., p. 60.
39. Ibid., p. 61.
40. Ibid., pp. 61-62.
43. Maslennikov, op. cit., p. 60.
44. Izvestiia, March 20, 1966, p. 3.
46. Ibid.

51. Ibid.


53. Ibid.

54. M. Raman and L. Eikhman, "Primenenie programno-tselevogo metoda--
effektivnyi put' povysheniia urovnia planirovaniia i upravleniiia," *Planovoe

55. Ibid.


57. Ibid.
1. Introduction*

An assessment of the state of the automation of management systems in the USSR was given in an article in Pravda on May 12, 1980, by D. Zhimerin, a prime mover in the computerization movement. ¹ He pointed both to major aspects of progress -- the creation of over 4370 automated management systems and also the work yet to be done -- the fact that 94% of the industrial enterprises still do not have automated management systems. In hardware, he cited the achievement of the creation of the Unified Series of third-generation computers and the start toward the creation of information networks and timesharing systems. He also cited major problems, such as the continued predominance of obsolete machine-readable media, such as punched cards and paper tape and the shortage of high-capacity disk memory units. In software, he cited the progress toward the creation of software service organizations and program libraries.

Zhimerin did not point out that nearly all the major advances in hardware and software in Eastern Europe during the 1970's were the result of copying American hardware and software.² This copying policy raises many questions of international patent, copyright, and trade, secret law, questions which will be discussed in the course of this paper, even though they have been ignored in the Soviet legal literature. The fact that an extensive reading of Soviet legal literature on the organization of the computer industry has revealed no mention of the fact that the hardware design and the software for the "Unified Series" of computers were copied from IBM suggests incredible ignorance, deliberate concealment, or censorship.

The more important legal questions, however, ones which have been extensively discussed by Soviet commentators, are those involved in the development
of the legal framework for the creation of an automated system of management. This development has shown the capability of the Soviet leadership to use law as an active instrument for change, and the willingness to abandon old legal forms when they hinder economic progress. Many of the changes have been difficult ones involving breaks with past practice. However the example of the successful development of a computer industry should greatly facilitate the gradual shift of the Soviet economy from an emphasis on heavy industrial production to a "post-industrial" economy of high technology, service, and information. While economic reform in the Soviet Union is sometimes thought to involve decentralization, the creation of an automated system of management has required or led to a high degree of centralization in many respects.

The creation of a computer hardware industry has required the achievement of a new level of coordination among the CMEA member countries, and has made extraordinary demands on the legal institutions for quality control and standardization. The creation of a computer service industry required a radical departure from the goods production emphasis typically in the past of the planned economies, a departure which is not yet complete. The creation of a software industry has involved the placing of information production on a basis equivalent to goods production, with consequent ideological as well as technical legal problems. The plan to create a national economic information network has required a reexamination of the economic and legal bases of information collection and transfer.

For the purposes of analysis the production and distribution of hardware, software, and economic information will be treated separately, since they are governed by quite different legal arrangements.
2. Hardware

Organizational Structure

The planned economies of the Soviet Union and Eastern Europe have long experience in the development of mass production of industrial products. Computer production however has posed new problems of international coordination, rapidly changing product lines, and quality control. An attempt has been made to deal with these problems by creation of new institutional structures at the level of the Council for Mutual Economic Assistance and by the entrusting of new responsibilities to existing institutions within the member countries. An Intergovernmental Commission for Cooperation of the Socialist Countries in Computer Technology and a Coordinating Center for Computer Technology were created. Provisions were made for their cooperation with the Council for Mutual Economic Assistance by a 1972 Protocol. Actual technical planning was done at the Scientific Research Center for Electronic Computing Technology in Moscow.

Within the USSR, the computer hardware industry was restructured by a 1966 decree. The detailed breakdown of hardware tasks in the decree may have reflected a political need to assign various agencies the roles they believed they deserved in this important project and also an assessment of their competency to do the job. The State Planning Committee was put in charge of planning computer production. The State Committee of the Council of Ministers of the USSR on Science and Technology was given the task of analysing Soviet and foreign computer technology and developing basic directions and tasks for development. The Ministry of the Instrument-Building, Means of Automation, and Control Systems was given the responsibility for computerized control systems, automated planning and administrative systems,
and for contractual work for installation and repair of computers. The Ministry of the Radio Industry was given the task of setting up a network of computer centers in accordance with technical tasks set by the Central Statistical Administration, the development of general purpose computers, computer peripherals, for installation and repair of its production, manufacture of electronic components. The Ministry of Instrument-Building was obligated to create an All-Union Planning and Installation Combine to design and install computer and control systems.

In some Eastern European countries, a corporate form of organization was adopted, with companies such as East Germany's Robotron being given structures and responsibilities similar to those of computer companies in capitalist countries. 6

Contracts for Computer Sales

In the USSR, contracts for computer sales are governed by the Special Conditions for Supply of Products of Instrument Building. 7 These special conditions specify the procedure for planning the distribution of computers and the terms of their sale.

The distribution of computers is not unlike the planning scheme used for other scarce equipment. The combines and main production administrations producing computers (or their ministries) are required to present draft production plans to the Main Administration for the Purchase and Sale of Instruments by July 10 of the year before the plan year. Approved production plans are due not later than twenty days after the approval of the plan for the development of the national economy of the USSR. Organizations authorized to purchase computers are also required to present their specifications to the Main Administration during the planning process. If specifications
are presented before approval of production plans, they are subject to correction during a fifteen-day period after the production plans are approved.

Actual planning of distribution is the responsibility of the Main Administration, which is supposed to issue orders attaching buyers to producers well before the start of the plan year (120 days before for custom and complex computers, 65 days for regular products). Contracts are then required to be concluded on the basis of these orders in accordance with the usual Soviet planned contract law.

A number of special rules apply to the supply of computers and control systems. The rules concerning installation of smaller computers relieve the supplier of almost all responsibility, placing this responsibility on the buyer, who may be poorly equipped to carry it out. All the supplier has to provide are "instructions for installation." The recipient is obliged to have qualified technical personnel ready who have been trained at the supplier's enterprise. Unless agreed otherwise by contract, installation is the responsibility of the recipient. It is provided however that larger computers and control systems should be installed and put into operation by the seller.

The 1979 version of the conditions for delivery contains two major changes affecting the delivery of computers. The first reflects the trend toward greater centralization of the supply of complex computer systems. It provides for an unusually long lead time for plans for the supply of large computer control systems for automated systems of management, so that the organization responsible for these systems, the All-Union Specialized Trust "Soiuzsistemkomplekt" of the Ministry of Instrument-Building, Means of Automation and Control Systems of the USSR, can have time for the complex planning
necessary for the implementation of these systems. Presumably the addition
of this section reflects a move from responsibility at the enterprise level
to responsibility of "Soiuzsistemkomplekt" for assembling the necessary
components of these systems and making sure that they work together. If
this is so, it should be a major step toward efficiency, since few enter-
prises could be expected to have either the technical expertise to assemble
such systems or the resources to deal with missing elements in the system.
Even if enterprises could provide this expertise, it would mean extensive
duplication of labor.

Also new is a provision which may reflect the continued difficulties
the Ministry of Instrument-Building is having in the production of computer
peripherals. It provides that shipment may be made in separate units, and
that contracts may provide for payments for units as they are delivered pro-
vided that prices have been established for the units. This new provision
would appear to considerably lessen the pressure upon the supplying organiza-
tion to supply every last piece of peripheral equipment, and might leave an
enterprise in the position of having paid 99% of the price of a computer
system without having received a piece of equipment essential to its opera-
tion.

The contractual scheme used in the German Democratic Republic contrasts
sharply with that in the USSR. The manufacturing organization, Robotron,
makes very specific guarantees of the operation of the computer. Thus for
a Unified System 1040 (Equivalent to an IBM 360/40), the guarantee was for
80% usable time, with a mean time between failures of 24 hours, and a mean
time to repair of 6 hours. Each item of the guarantee was independent of
the others. Thus if the mean time between failures was 48 hours, but only
75% of the time was usable, the guarantee would not be met. The existence of such a guarantee implies the provision of substantial customer engineering services by Robotron, since it seems highly unlikely that the requirement could be met otherwise.

Service

In the USSR an organizational structure has been created to allow the centralization of hardware services. As this structure begins to function in practice, one of the most serious remaining problems of the Soviet computer industry may be overcome. Initially, Soviet computer manufacturers generally sold computers as "raw metal," without long guarantees or any service contracts. While this type of organization is typical of Soviet planning, and perhaps quite appropriate to heavy industry, it is totally unsuited to the computer industry, where service may be more important to success than the initial hardware. Why did the USSR initially adopt this disastrous arrangement, and what has led the USSR to change it? Because computer purchasers had no organization of their own, they were probably not able to have the input into the process of structuring the legal relations that the computer manufacturers had.

The situation in which each Soviet computer purchaser was forced to set up its own primitive and inefficient service operation was severely criticised by numerous Soviet writers, who pointed out the lessons of American and Western European practice. The result has been high level pressure for change, which has led to the creation of the new national service organizations. This change might have come in two different ways. The enterprises selling computers might have taken on the service obligations also. Alternatively, as actually happened, in the USSR a separate service organization might have been created.
Tables I and II show the organization of the computer service network as described in 1978\textsuperscript{10} and 1980\textsuperscript{11} Soviet publications. No explanation has been found for the discrepancies in the descriptions.

**Contracts for Rental of Computers or Sale of Computer Time**

Computer time shares certain economic characteristics with such services as the provision of airline seats or hotel rooms. If these services are not used on a given day, their value is totally lost. There is essentially no difference in the cost of maintaining a computer that runs 24 hours a day and one that runs 1 hour a day other than the salaries of any operating personnel, the electricity and heating or cooling for the room where the computer is located, and consumable items such as printer paper and punched cards. As more modern computers come into use which require no operator and no special environmental conditions, and which use terminals instead of cards and paper, even these costs are disappearing. Thus it makes great sense for one computer to be used by several enterprises if no one enterprise has enough work to use it full time.

There are two ways in which computer time is sold in the USSR. First is the planned sale of computer time to enterprises by computer service bureaus. A legal structure for such sales has been created, but such sales are just beginning due to the lack of the necessary hardware and communications facilities.\textsuperscript{12} Second is the sale of surplus computer time by an enterprise to other enterprises. This practice has become fairly widespread, despite the lack of legislation specifying contractual terms and procedures. Soviet authors have suggested that a model contract should be promulgated
governing this situation and have pointed out that the normal provisions of the Civil Code governing the contract for rental of movable property are not all entirely applicable.\textsuperscript{13}

\textbf{Legal Implications of the Microprocessor Hardware Revolution}

In the early 1970's in the United States, a number of manufacturers succeeded in placing an entire computer processing unit on a single electronic circuit chip, creating the microprocessor. By the 1980's, mass production techniques developed that brought the cost of microprocessors down to as low as a dollar apiece, while the power of microprocessors was increased to where they could outstrip the million dollar computers of early 1960's. The result, in the United States, will be seen in a revolution in industrial design, consumer products, and communications technology during the 1980's. In order not to lengthen the present 5 to 10 year gap between Soviet and American computer technology, the Soviet Union will have to follow the same path of microcomputer development. However, the microcomputer revolution will present a major challenge to Soviet economic law.

The most important use of microprocessors is as controllers for a wide variety of industrial and consumer goods, for instance computer terminals and washing machines. In addition they may be used as the basis of microcomputers with the power of large computers of the previous generation but at a fraction of the price. A glimpse of the problems the Soviet legal system will have to deal with in the future may be obtained by looking at the United States today. Nearly all consumer and industrial products (for instance automobiles, microwave ovens, water meters, machine tools -- the list is endless) are being redesigned to replace mechanical or electrical control systems with cheaper, reliable, and more "intelligent" microprocessors.
Half a million microcomputers have been sold for home, business, and scientific applications, and sales are continuing at several hundred thousand a year. If the Soviet Union stays five to seven years behind in microprocessors, as it is now, then the same microprocessor revolution should hit Soviet industry and consumer life by the mid-1980's. (Given the traditional patterns of the Soviet economy, one may assume the revolution will occur in the military sector first, the industrial sector second, and the consumer sector last.)

It appears that the success of decision in the late 60's to close the software gap by designing IBM compatible hardware and taking IBM software has led to the adoption of an analogous policy in the late 1970's with respect to microcomputer hardware and software. During the 1970's the Intel Corporation introduced the 8080 microprocessor, which contained the essential processing power of a computer on a single chip costing only a few dollars. Intel and private software houses in the United States created a huge library of software for this chip, including operating systems and also compilers for all the major computer languages that are used on large IBM (and large Unified Series) computers. In 1980 an American corporation obtained a made-in-USSR copy of the Intel 8080. Once the Soviet Union has the 8080 in mass production, it will have a huge library of software available at nominal foreign exchange cost, assuming it chooses to merely buy one copy of each software product and make its own copies. As in the case of the copying of the IBM hardware and software, there appears to be no mention in the Soviet press of any copying policy for microcomputers. Soviet legal scholars appear not yet even to have realized the revolutionary importance of microcomputer technology, let alone the legal implications of microcomputer hardware and software copying.
This revolution will have a number of important implications for Soviet law. In the economic planning area, it will place new demands upon the accuracy of planning and upon quality control. At present, when Soviet enterprises receive delivery of an industrial product with a missing component or when a small component breaks, the component is often hand repaired or a replacement is hand fabricated in the using enterprise's workshop. However it is impossible to make a microprocessor by hand and impossible to repair one. Thus if a million-ruble piece of equipment relies upon a microprocessor control system, the equipment must stand idle until the microprocessor is delivered. In the area of quality, microprocessors also differ from typical Soviet industrial components. For microprocessors there are only two basic quality grades: perfect and worthless. In 24 hours a microprocessor in a control system will execute some 10,000,000,000 instructions. A single error in execution of any one of them will render the control system worthless or even dangerous. While both the problems of delivery of complete equipment and of quality control have been given high priority by those responsible for the development of Soviet economic law in recent years, the microprocessor revolution will place these problems in a much more extreme form than was true with traditional equipment.

Industrial Property Law Implications of Hardware Copying

The copying of IBM and Intel hardware probably will give the CMEA countries few problems in terms of domestic and international industrial property law, because little if any of this hardware is covered by patents in those countries and because such copying is probably not a violation of the law of unfair competition. All the computer-producing countries in CMEA are members of the Paris Convention for the Protection of Industrial
They have two obligations under this convention of relevance to the copying of computers. The first is to give national treatment to foreigners as far as patent rights go, and the second is to give "effective protection against unfair competition."

It seems likely that few if any of the features of IBM computers or Intel microcomputers are protected by patents issued by the patent offices of the CMEA countries. Patents issued in other countries, for instance the United States, Germany, or Japan, could limit export possibilities for copied computer hardware, but such export possibilities are minimized by the five to ten product development in the United States and successful mass production of copies in CMEA countries. This lag makes CMEA computer products so obsolete that they could only be sold for scrap metal in competitive international markets.

Whether copying of unpatented products without any intention to pass the copies off as the originals or to deceive customers constitutes unfair competition is a question decided differently in different countries. Under United States law such copying is perfectly legal. Therefore, the United States is in no position to complain of violation of obligations under the Paris Convention if the CMEA countries also allow such copying. It also could be argued that where the United States product copied was banned for export, there could be no competition and thus no unfair competition in Eastern European markets. Given the high priority attached to hardware design copying in the national economic plans of the CMEA countries, it seems highly unlikely that a court of those countries would find such copying illegal.

3. Software

Software is generally classified as systems software and applications
software. Systems software performs the basic tasks of running a computer and also of translating instructions written by humans into a language understandable by machines. Applications software deals with specific problems, such as producing a payroll with proper tax deductions or managing a production line. The 1966 decree which created the structure of the Soviet computer industry provided that systems software was to be developed by the Ministry of the Radio Industry in coordination with the Academy of Sciences and higher educational institutions. The decree made no provision for the development of applications software. The lack of an adequate legal framework for the development and distribution of applications software remains one of the most serious obstacles to the widespread use of computer techniques in Soviet management today.

Systems software for the Unified Series was developed by directly copying IBM systems software and then adapting it to deal with special hardware features of Unified Series machines and other special requirements (such as translation of error messages from English into Russian). This adaptation proved to be a very complex task, but was accomplished successfully. Economic application software could not be borrowed, but had to be developed entirely, or almost entirely within the countries where it was to be used. The economic planning and financial accounting systems of the CEMA countries are not only so different from those of capitalist countries, but even so different among themselves, that none of the countries can really make very effective use of foreign applications software in economic planning, administration, and finance. Therefore, economic application software has had to be developed separately in each country. Scientific application software has been purchased in some cases and copied without payment in others.
Within a single country, to the extent that accounting and financial reporting systems are standardized, there is considerable possibility of the same applications software being used, perhaps with some customization, by a large number of different organizations. Major economies can be realized by creating such software only once and then distributing it on a wide scale rather than by having essentially identical software be developed at many separate locations. The Soviet Union has largely failed to achieve these economies, and much of the blame can be placed upon the inadequate planning, organizational, and legal structure of the Soviet software. It would appear that Poland and East Germany have been more successful at centralizing software production.19

Both computer software and economic data are forms of information. Their real value is in the usefulness of the information, not in the paper or computer tape where they are physically recorded. High costs are incurred in producing the first working copy of the program or the original economic data; further copies can be reproduced at very low cost. Economists have long recognized that there is a fundamental difference between information and physical goods. Karl Marx, for instance, pointed out: "The product of mental work, -- science -- is always placed far below its value, because the working time necessary for its reproduction in no way compares with the working time which was required to produce it originally. Thus, for instance, a schoolboy may learn the binomial theorem in an hour."20 As many economists have pointed out, this nature of information means that while the decision to produce information should be based upon a comparison of the costs of production and the value of the information to its prospective users, once the information has been produced, there is a strong argument that it should be made available at the cost of reproduction. For the past dozen years,
Soviet scholars have been engaged in a lively debate on whether or not this admittedly different economic nature of information justifies a different legal treatment of it. This debate has very important practical implications in determining the organizational structure and the pricing system for the computer software industry.

Further complications are created by the practical desire of administrators to have some quantitative measure of software production to use for planning and incentive purposes. Clearly pricing a program by the number of computer instructions it contains presents the same danger as valuing a poem by the number of verses it contains. Nevertheless, such a measure was adopted for administrative purposes in the Temporary Statute on the Procedure for Obtaining and Selling Program Packages for an Automated System of Management, approved by the Ministry of Instrument-Building and State Committee on Prices of the USSR in April 1974.

After a comprehensive survey of the varying views on the possibility of assigning value to information, Professor A.B. Vengerov concludes that "within definite limits information relations also may be subject to the methods of legal regulation characteristic for property relations." While it may have been more legal inertia than ideological considerations which have held Soviet lawmakers back, in fact the process of bringing software production into the mainstream of Soviet economic law is far from complete. Patents are not available for software and copyright protection is not used in practice. Only a small portion of software is sold for a price designed to recovering the cost of producing and maintaining it. In any event, the fact that their domestic software is often taken without paying puts the CMEA countries in a better position with respect to uncompensated taking of foreign software.
Since copying American software has formed the basis of the Soviet and East European advances in computers during the 1970's and will probably form the basis of Soviet microcomputer systems software in 1980's, some comments would seem to be in order on the legal implications of this copying. In order to copy the software, the Eastern European countries had to obtain samples to copy. In the case of some of the smaller IBM computers and of the microcomputers, samples were obtained perfectly legally by purchase of hardware and software directly from IBM or of used equipment in the open market. There is clear evidence also of use of "cloak and dagger" techniques to obtain IBM software that could not legally be exported to the Soviet Union under U.S. export controls. In such cases, the United States, and other cooperating countries, such as West Germany, were able to bring some legal sanctions against those involved in the illegal export, but there was no effective way under Soviet law or international agreements to secure return of the equipment. Microcomputer hardware and software is so compact that effective export control is impossible.

There are three legal theories which could be used by American software companies whose software is copied and distributed without authorization by organizations of CMEA countries. These are breach of contract, violation of trade secrets, and copyright violation. It may be unrealistic to expect courts in the CMEA countries to provide any remedies for software copying where the remedies would interfere with economic development projects of highest national priority; however in light of their treaty obligations the authorities in those countries would have to weigh the effect on their overall international trade posture of denying a remedy for actions clearly contrary to international business practice. In case of export of unauthorized
copies of software products to capitalist countries, on the other hand, the CMEA exporting organizations could be exposed to very effective litigation. (Of course, by the time a software product is copied and hardware to run it is brought into mass production, the hardware and software may well be obsolete and so unsaleable in the export market, however software may be copied much more rapidly than hardware.)

A breach of contract claim may occur if an East European organization has signed a software purchase contract limiting use of the software purchased to a single computer, but then makes copies for use on other computers. Some American companies are so sure that East European purchasers will engage in such copying that they will quote only prices for a nation-wide license to software packages, but considerable software is probably being purchased on a single-machine license basis. The appearance of such software on other unlicensed CMEA machines would be strong evidence of breach of contract.

Violation of trade secret rights is a second possible legal theory which could be used by foreign companies. By industrial espionage or bribing computer personnel, it is quite simple to obtain copies of many trade secret software packages. Most capitalist countries provide criminal and civil penalties for such practices. While Soviet generally provides for the absence of trade secrecy among Soviet enterprises, it does provide criminal sanctions for release of Soviet trade secrets to foreign corporations. Failure to provide a remedy to foreign companies whose trade secrets were stolen could cause considerable friction in international trade. In particular, failure to provide a remedy for theft of trade secrets would appear to be a violation of the obligation of the USSR and the other CMEA countries under Art. 10bis of the Paris Convention for the Protection of Industrial
Property. Any attempt to export stolen trade secrets software to capitalist countries could lead to severe legal sanctions, including, in the United States, at least, large punitive damages in favor of the trade secret owner.

The subject of the legal protection of computer software and hardware has been the subject of a certain amount of academic discussion and legislation in Eastern Europe. Most of the discussion has turned on patent protection, which is generally unavailable for software, and upon copyright protection, whose status is uncertain. In fact, given the planned nature of the economies involved, the issues of availability of patent and copyright protection are of limited practical importance. Much more important are whether or not organizations have been created to develop and sell software, and whether or not the purchase and sale of such software has been included in the system of planned contracts.

The patent and copyright situation is summarized in an article by Barbara Czachorska. Computer software is specifically denied patentability by law in Bulgaria, Poland, and the USSR. I.E. Mamiofa, a leading Soviet writer on patent law, has been presenting strong arguments in favor of patentability, but without success to date.

The copyright problems are complex. Copyright might be asserted by an American manufacturer both in computer programs and in manuals that explain how to use the computer and its programs. As was mentioned above, the copyrightability of computer programs is a highly debated subject in East European law. It is inconceivable that a court in any of the CMEA countries would bring the Unified Series of computers to a halt by finding that its system
Materials. The Statute and Instructions envisioned essentially a "public library" or "computer user group" type of operation. While this type of operation has benefits in the distribution of software, it is ill-equipped to provide the kind of quality control and continuing customer service that commercial software organizations provide in the United States, or even some East European countries such as Poland.

Until 1975, the Computer Center of the Academy of Sciences of the USSR was in charge of the coordination of the supplying of programs to the fund. In 1975, these functions were transferred to the All-Union Scientific Research Institute of Problems of Organizations of Management attached to the State Committee on Science and Technology. Published program materials are kept in the State Public Scientific and Technical Library, while unpublished materials are kept at the All-Union Scientific and Technical Information Center. Copies of programs are distributed on paper for a standard library copying charge of two kopecks per page. Presumably it is the responsibility of the recipient to convert the copy to machine readable form and make it work on the user's machine -- tasks which could be much better accomplished in a centralized manner. Similar procedures are used by branch organizations.

The present scheme of organization is severely criticised by I.V. Gus'kova, who argues for the reorganization of the Fund on an economic accountability basis. She argues that a legal basis for the conversion to economic accountability is provided by a 1971 decree of the Council of Ministers of the USSR. This decree provides for transfer of technical information between enterprises and organizations to be on the basis of contracts that provide for payment for the cost of transferring information and the cost of aiding users in applying the information. This decree however falls short of establishing
full economic accountability in several respects. First, it does not provide for pricing set to recover the cost of creating the technical information. Second, it does not allow resale of information, something which would be necessary if a fully commercial distribution scheme were set up.

Provision is made for payment of bonuses directly to those responsible for transferring and receiving the technical information, thus creating potentially important incentives at the individual level. A provision that information shall be transmitted only by the enterprise or organization which developed it, is only a partial step toward full commercial distribution of information. On the other hand, if there is to be commercial distribution, there must be some protection against "freeloading" by parties who somehow acquire the information and sell it without having to recover costs; on the other hand this provision prevents the creation of commercial intermediaries of the type which would be necessary if there were a full commercial distribution scheme.

According to Gus'kova, some regional organizations have already moved toward full economic accountability, apparently on the basis of local legislation. The most significant example is the Ukrainian Republic Fund of Algorithm and Programs attached to the Institute of Cybernetics of the Academy of Sciences of the Ukrainian Soviet Socialist Republic. Price lists have been established by the Academy of Sciences to allow for recovery of the costs of reviewing and approving material. Enterprises' supplying programs are not paid, but are put under administrative pressure to supply them. The further step of payment for programs is reported by Guskova to have been implemented in Moscow and Kalinin.

Contracts for developing an automated system of plan accounts are
governed by the Model Statute on the Procedure for Conclusion of Economic Contracts and Issuance of Intra-Ministry Orders for the Conduct of Scientific Research, Experimental-Construction and Technological Work, approved by the State Committee of the Council of Ministers of the USSR on Science & Technology August 5, 1959. Contracts are both unplanned and governed by coordinating plan of scientific research work.

Vengerov, in general terms, lists more progress toward economic accountability than would appear to be the case from Guskova's account.

The 1966 decree gave the Committee on Standards, Measures and Measuring Instruments was given the task for developing, together with the State Planning Commission of the USSR, the Central Statistical Administration of the USSR, and interested ministries and departments of standards for a unified system of classification and coding of technical and economic information, and technical standards for information transfer, input, and output. The Central Statistical Administration was given the task of guiding the development of a state network of computer centers for economic planning, the creation of a unified system of documentation suitable for computer processing, standardizing data collection and storage, planning the work of computer centers doing economic calculations regardless of their subordination. The Academy of Sciences, together with the State Planning Committee, the State Committee on Material and Technical Supply, and the Central Statistical administration was given the task of developing new planning methods using computers and modern mathematical techniques.

4. Information

Three areas of the law require consideration in connection with the expanded information-handling capabilities created by the development of computers and computer communications. The first is the legal structure
for information generated and transmitted in accordance with administrative orders. The second is the legal structure for information bought and sold as an economic product. The third is the structure for control of information flow to prevent the generation or distribution of information threatening the Soviet state.

Information production and transfer has fallen largely outside the system of economic accountability. Managerial information is rarely bought and sold in the Soviet Union; it is generally demanded by higher authorities from lower authorities, or gathered through informal channels. The result has been to create resistance by lower administrative levels to all demands for information. Generating information costs money, and the information may be used by the higher authorities to draw negative conclusions about lower authorities' work. The desire of higher authorities to have the information supplied in a form suitable for computer processing adds to the lower authorities' work without creating any obvious benefits for them.

In addition to the forced unpaid planned transfers of information, there is some beginning of paid information transfer. Some organizations are contracting to process data and provide the results for agreed fees. There is discussion in the literature of the possibility of paid access data banks. To the extent that information is transferred over public communications lines, payment is being made in accordance with communications ministry tariffs.

In order to keep up with the capitalist countries, the CMEA countries must expand its information gathering and handling capabilities many times. This expansion will bring with it serious problems in the control of information channels to ensure that no information is transmitted threatening
to the regime. It is no accident that the Solidarity Union in Poland placed
the demand for access to information media on a par with its demand for a
5-day workweek. Without access to information channels, there can be no
challenge to the power of the ruling parties in the CMEA countries. With
unrestricted access, the continued rule of those parties must remain in
doubt.

Toward Paperless Economic Management

Advanced industrial countries are moving toward paperless systems of
managing economic relations. In Western countries this transition has
been in two stages.

The first has involved a movement of accounting records from paper to
transportable machine readable media, such as computer tape. The second has
involved the permanent storage of large quantities of data directly in
various memory devices attached to computers, such as disk memories, with
access through remote terminals, or with computer-to-computer transfers
over communications lines or via communications satellites. The first
stage requires a massive legal effort in redrafting all the requirements
on the lawbooks for records and reports to be maintained on paper. It
also requires extreme care to ensure that the paperless records are as
permanent and as difficult to falsify or forge as the paper records they
replace.

The second stage requires major changes in communications law, as the
telecommunications system comes to take on the exchange of messages between
computers rather than between people as its primary function.

The USSR is well into the first stage, that of shifting from paper to
transportable machine readable media, but is barely starting to move into
the second stage, that of gathering and transfer of economic data by computer communications. 34

The Microprocessor and Computer Communications Revolutions and the Legal Regulation of Information Flow

A major challenge to the Soviet system of legal regulation of information flow will be presented by the probability that by 1990 there will be one million microcomputers and widespread computer to computer communications operating in the Soviet Union. This is the fact that with appropriate software, each microcomputer is potentially a printing press and a communications center. For most practical applications, such as payrolls or preparing reports, microcomputers must be equipped with printers. In order for data to be transferred to other computers, or for use as computer terminals, microcomputers must be equipped with telephone line adapters. The microcomputers with printers will literally present a million new problems for the agencies in the Soviet Union entrusted with the control of dissemination of information. Dissidents, by buying a few home computers, or by obtaining access to microcomputers at work, immediately will be able to create a national information network. Assume that in a number of major cities there are dissidents with microcomputers. The editor of a dissident publication could create a master copy on a magnetic cassette tape or a diskette (either of which could be erased immediately in case of impending search). Copies could then be transmitted to others either over telephone lines, or on cassettes or diskettes. Each recipient could continue the distribution using telephone, cassette, diskette, or printer.

The regulation of these activities raises a basic dilemma for the Soviet legal system. On the one hand they can be left unregulated, with a
wide variety of home computer devices being sold to the public, and computers at state enterprises being left with little supervision. Eventually this approach would result in placing a powerful information network in the hands of Soviet citizens. The capacity of this network to transmit information could exceed the capacity of the Soviet authorities to monitor what was being transmitted.

Another approach, paralleling that used with office copying machines, would be to allow ownership of microcomputers only by public agencies, and to adopt a system of strict control of all information reproduced or transmitted by them. This approach, though probably within the power of the legal system to enforce, would have serious negative results for the Soviet economy. Restricted access to computers in comparison to that available in capitalist countries would result in the Soviet Union remaining a nation of computer illiterates. Controls on information transmission would inevitably stifle the flow of information even in the state sector of the Soviet economy, with resulting negative effects on the rate of economic progress.

Conclusion

The Soviet domestic legal system has shown considerable adaptability in use of such institutions as freely negotiated contracts to develop a legal structure suitable for the computer industry. In its international legal relations, the CEMA countries have managed to "borrow" the major elements of hardware design and software for its computer systems without causing any serious repercussions on their legal arrangements for inter-national trade. Major legal reforms are still needed in the areas of quality control, service, and software production, to accord these intangibles
the same sort of emphasis placed by Soviet-type legal systems on the pro-
duction of tangible goods. In the area of regulation of information flow
the Soviet legal system is faced with the complex, but solvable problem
of how to organize managerial information flows to take advantage of the
explosion in information handling capabilities caused by the widespread
availability of computers and microcomputers, and with the equally com-
plex and probably unsolvable problem of how to secure the benefits of the
explosion in information transmission capabilities without losing political
control over the information transmitted.
ORGANIZATION OF CENTRALIZED SERVICE FOR COMPUTERS IN THE USSR
ACCORDING TO ILIN AND TOLSTOSHEEV

Council of Ministers of the USSR

Ministry of Instrument Manufacture, Means of Automation and Control Systems of the USSR

All-Union Combine for Centralized Systems Service

CENA

Intergovernmental Commission on the Use of Computing Technology of Socialized Countries

Council of Systems Service

Specialized Production Administrations

Regional Service Centers

Territorial Service Centers

ALGORITHM Research Production Administration

TABLE I
ORGANIZATION OF CENTRALIZED SERVICE FOR COMPUTERS IN THE USSR
ACCORDING TO KALIUZHNYI

Council of Ministers of the USSR

Ministry of Instrument Manufacture,
Means of Automation and Control Systems of the USSR

SOUIZSPETSAVTOMATIKA, All-Union State Production Administration for the Installation and Startup of Control Systems, Automatic Fire Safety Equipment, and Signals

Service Centers
Linin, Kiev
Kiev, Minsk
Kiev, Rostov-
Don, Sverdlovsk, Bogorod

Training
Centers
Kalinin
Kiev
Sverdlovsk

Factory for Special Equipment for Computer Centers

Production-Publication Combine for Distributing Programs on Machine-Readable Media and Documentation

Training Centers for Unified System Personnel

Research Centers
Dnepropetrovsk
Novosibirsk
Tashkent
Volgograd

Research Center for Improving Operating Systems and Creating Application Programs Library for the Unified System

Regional Centers for Unified System Service Baku, Donets, Erevan, Irkutsk, Kharkov, Kiev, Krasnodar, Kuibishev Leningrad, Lvov, Minsk, Moscow, Novosibirsk, Penza, Riga, Sverdlovsk, Tashkent, Vladivostok

TABLE II
* The author wishes to thank Professor F.J.M. Feldbrugge and the staff of the Documentation Office for East European Law of the University of Leiden for their hospitality during his research.


8. For comparison, the 1971 version may be found in Polozhenie o postavkah produktsii proizvodstvenno-tekhnicheskogo naznacheniia: Instruktsii o poriadke priemki po kolichestvu i po kachestvu Osobyı uslovii postavki produktsii (Moscow: Iuridicheskaia literatura, 1972), 153-159.


15. Convention Revising the Paris Convention of March 29, 1883; as revised, for the protection of industrial property. Stockholm, July 14, 1967; 21


17. Above note 5.


28. The following discussion is based upon I.V. Gus'kova, "Pravovoe polozhienie gosudarstvennogo fonda algoritmov i program — Problemy sovershenstvovaniia
sovetskogo zakonodatel' stva." Trudy VNIIZ, 6 (1976), 57-66.


30. Summarized in Fatkudinov, op. cit., p. 179.


33. Above, note 5.

The purpose of this paper is to examine two aspects of the development of nuclear power in the USSR and Eastern Europe: policy considerations that have accompanied the move into nuclear power generation, and the legal framework within which nuclear power activities are carried out. In the first part the following matters will be considered: energy problems that make the development of nuclear power desirable; the present and projected role of nuclear power in the USSR and Eastern Europe; and the general attitude toward the problem of nuclear safety. In part two an examination will be made of legal arrangements established in the countries concerned with regard to the creation and use of nuclear power. Such legal arrangements have both domestic and international components (including a variety of intra-COMECON legal instruments). Basic attention in this paper will be devoted to domestic law and those aspects of international law that bear strongly on domestic law (e.g., conventions on civil liability for nuclear damage). In a subsequent paper the author will examine the international aspects of the problem.

Part I. Some Aspects of the Development of Nuclear Power Policy

Introduction

Predictions of a coming downturn in Soviet oil production were made by several Western sources in the late 1970s. Information concerning 1980 economic results in the Soviet Union suggests that this development may now be underway. Although the problem may have more to do with technological and logistical matters than with a depletion of oil reserves, it is a problem nevertheless, which has a number of important implications for the
economy of the USSR and those of its East European allies.

The latter have long been heavily dependent on Soviet energy resources, and increases in oil prices to them by the Soviet Union (although not yet at the level of world prices) have caused considerable economic strain. The uncertainty concerning continued increases in oil supplies from the Soviet Union imperils the economic development of these countries, and several of them have sought other sources of petroleum supply (which must be paid for in hard currency). Gasoline prices in some of these countries have increased tremendously in recent years, and there have even been reports of some East European countries refusing to sell gasoline to motorists visiting from the other fraternal socialist countries. Rumania, the only oil producer of any consequence in East Europe, cannot even supply its own oil needs, and announced in 1979 that it was importing more oil than it produced.3

In the Soviet Union itself, significant problems and potential problems are also evident. The number of private cars has increased considerably in recent years, and with it the demand from motorists for gasoline. Price increases, though not at the level of those in East Europe, have been imposed. An apparently thriving illegal market in gasoline, through the so-called "second economy," is a routine part of the lives of many Soviet motorists. Although the Soviet Union must do its best to meet its oil supply obligations to its East European neighbors, the supply of petroleum products to the countries of the West and elsewhere has become an important source of hard currency, which Soviet leaders must be reluctant to reduce. And, of course, there are the ever-increasing energy needs of the domestic
economy (and by no means only the consumer sector) to be met. One of the long-term problems with Soviet energy supplies, as the Soviets themselves have often pointed out, is the relationship of the location of energy resources to their need: "Eighty percent of the electrical energy is used in the European part of our motherland, while eighty percent of all energy resources are found east of the Ural range, in regions of difficult accessibility and severe climatic conditions of Siberia."

All of these factors and others add up to what may reasonably be called an incipient energy crisis in the Soviet Union and Eastern Europe. If the manifestations of this crisis are not of great magnitude at present (scattered reports of fuel shortages, assurances by the authorities in the press that there will be enough fuel to get through the winter, etc.), they are unmistakable nevertheless and are remarkably similar in some respects to reports on like problems in some parts of the West. Also predictable have been the official responses to this energy crisis: a fuel conservation campaign that has very interesting legal as well as policy implications; increasing attention to more exotic forms of energy (e.g., wind, solar); and a new urgency for what had already been for some time a heavy commitment to nuclear energy.

The Role of Nuclear Power in the Soviet Union and Eastern Europe

An often-repeated Soviet claim is that the Soviet Union built the first nuclear power plant in the world (in Obninsk in 1954). This is disputed by some Western sources, who classify the Obninsk facility as a test reactor. In any case, however, the Soviet Union has led the communist world in nuclear power development and has, over the years, provided considerable technical assistance to its East European allies in atomic power generation. As a
result, it is fair to say that the Soviet Union clearly dominates the COMECON countries in this field, and provides virtually all initiatives in its joint development, whether in regard to technology, economic and policy considerations, or legal arrangements. On the basis of its giant "Atommasch" factory at Volgodonsk, the Soviet Union can be expected to continue to provide much of the hardware for nuclear power plants in the COMECON countries. Joint COMECON efforts seem to be leading to considerable division of labor in some areas of nuclear power activity—a significant amount of uranium for Soviet nuclear power generation, for instance, comes from Eastern Europe—but it is likely that the predominant position in joint nuclear activity will remain with the USSR.

The next communist country to join the nuclear power club was the GDR, which began operation of its first plant in 1966. It was followed by Czechoslovakia in 1972 and Bulgaria in 1974. As of 1979, an atomic power plant was being built in Hungary, while preliminary work for such facilities was taking place in Poland, Romania, and Cuba.

The generating capacity of these nuclear stations has grown slowly, reaching 9000 megawatts in 1976 (6000 of which were in plants in the USSR) and 12000 megawatts in 1978 (3,300 in the USSR). But the plans for nuclear power generation in all of these countries are extremely ambitious. They call for a high level of bilateral and multilateral cooperation, both within and outside of the framework of COMECON. By 1990, planned nuclear power construction in the six East European countries mentioned above plus Cuba is targeted at a total installed capacity of 37,000 megawatts (a tenfold increase from 1973). In the USSR, installed capacity was to reach about 18,500 megawatts by 1980 and 73,000 to 93,000 megawatts by 1990.
Obviously, some part of these ambitious plans grows out of the need to take up the slack for other energy sources, which are faltering. For instance, while other sources of energy are slated to grow by only 3.5 percent during 1981 in the USSR, hydroelectric and nuclear power are planned to increase by 12 percent.

Having cited these figures, it is necessary to add, however, that their achievement on schedule is by no means assured. Nuclear power construction has frequently fallen below plan targets in the past, in both East Europe and the Soviet Union. And in spite of the ambitious figures cited by the planners, other Soviet specialists indicate that a moderating tendency with regard to the increase in nuclear power is under way in the USSR. Thus, the claim that nuclear power will provide one-quarter of East European electricity by 1990 and over one-fifth of that of the Soviet Union may simply be unrealistic. To say that these countries may not reach plan targets is not to suggest, however, that their accomplishments are not impressive.

"Until 1972 there were only two major commercial atomic power complexes in the USSR . . . " By the early 1980s there were at least 15, a number of which had recently received increased capacity through newly-installed facilities. And, as mentioned, each of the USSR's six East European allies has installed commercial reactors or embarked on construction, and several of them have more than one complex in or near operation. Moreover, the USSR has mounted an ambitious fast breeder reactor program. The United States has deferred the introduction of the breeder reactor for commercial use. Only France, among other developed countries with nuclear power installations, has moved as ambitiously into breeder reactors.

Another important aspect of the Soviet-East European nuclear power program is the effort at transnational cooperation. This effort has
developed through several stages: the organization of the Joint Institute for Nuclear Research in Dubna in 1956; the creation of the Permanent Commission of COMECON on the Peaceful Uses of Atomic Energy in 1960; the promulgation of a series of agreements, which grew in large part out of the adoption of the Comprehensive Program for Socialist Economic Integration adopted at the 25th meeting of COMECON in 1971. These agreements envisage a variety of kinds of cooperation in the area of nuclear power, including considerable specialization by country on certain problems or on aspects of equipment production. The agreements bear a clear legal character and will be analyzed by the author in a subsequent paper.

General Attitudes Toward the Problem of Safety

The impression one gains from Soviet and East European sources is that concerns about nuclear safety do not loom as large there as they do in the West. There are no doubt a number of reasons for this. Anti-nuclear movements, so common in the West, have no counterpart in Eastern Europe. The only source of organized anti-nuclear sentiment appears to be the dissident communities in some of these countries. Moreover, press restrictions limit the extent to which safety concerns can openly be expressed. Given the degree of official governmental commitment to the development of nuclear power, there is a clear incentive to engender public complacency on the issue, and control of the press helps. Reports on nuclear incidents from these countries rarely rise above the level of unconfirmed rumor. And the courts, a widely-used avenue in the West for raising questions about nuclear safety, apparently offer no potential remedy in the Soviet Union or Eastern Europe.

This is not to suggest either that Soviet and East European specialists are
unaware of potential safety problems or that there are not some in their numbers who have expressed concern. Soviet and East European scientists maintain a wide variety of international contacts and participate regularly in meetings where safety problems are discussed. These matters are covered in specialist literature, and if the problems discussed are typically treated as if they are more characteristic of the West than of the COMECON countries, at least they are being discussed. Chief among the problems raised in recent years are the location of nuclear power stations and the difficulties associated with the disposal or reprocessing of spent fuel. And it is not true, as suggested by Robert Campbell, that the Soviet literature "does not even mention the danger of diversion or terrorism as a potential difficulty domestically."

Still, Soviet sources appear reluctant to share with the West whatever information on nuclear safety they may have generated, and there is a considerable amount of smugness in their assessments of their ability to overcome the safety problems that have concerned Western specialists. While the United States approach stresses the importance of backup systems, "fail-safe" arrangements in case of primary system malfunction, the Soviet philosophy places emphasis on excellence of design of primary systems and the strict observance of safety rules. The general Soviet view has been that containment structures (reinforced concrete domes built around reactors) are not necessary, that they have been built in the United States "to placate the people" because of "negative dramatization" by the American news media. The Soviet-built nuclear power station which began operation in Lovisa, Finland in 1979 had no containment structure. After its completion the Finns decided that one was needed and built it themselves.
The publically-expressed point of view of Soviet spokesmen toward the Three Mile Island incident in 1979 has been basically that "it can't happen here." This attitude is perhaps bested stated by Andronik Petros'ians, Chairman of the USSR State Committee for the Use of Atomic Energy, who asserted in response to a question about the Harrisburg accident: "If a similar defect had developed at a Soviet atomic power station, its protective system would have checked it in the initial stage."

And yet, since the Three Mile Island accident (although not necessarily because of it), a slight shift in Soviet attitudes may be detectable. One of the most widely-cited recent writings on nuclear safety was the article by Academian N. Dolezhal', a physicist, and Dr. Ju. Koriskin, an economist, which appeared in Kommunist, 1979, no. 14. The article is not an anti-nuclear statement. It emphasizes the "historical necessity and great potential of nuclear energy." But it takes a more balanced view of the problems involved than had theretofore generally been expressed in Soviet publications, and it elicited considerable comment, both within the USSR and in the West. Their view of the problems centers on three considerations: cost and other difficulties in the development of fast breeder reactors; the location of nuclear power plants; and the potential radiation from the transportation of spent fuel. Regarding the first point they state: "Initially it was expected that large capacity commercial atomic power stations with fast breeder reactors would be developed by the early 1980s. However, due to a variety of factors already discussed... it is now believed that they will appear at the end of the century. It follows that the effects of the reduced requirements in uranium when introducing such reactors in nuclear power generating systems will be achieved only in the next century." On the second matter, they point
out that most nuclear power plants are located in the European part of the USSR, the most densely populated part of the country. Which leads them to comment: "We believe that with society's demand for energy skyrocketing, the present method of siting nuclear power plants will soon exhaust the 'ecological capacity' of the region." The particular problems they envisage in this regard involve enormous water consumption, "inevitable heat discharges, alienation of the land, irrecoverable losses of water through evaporation, accumulation of waste and the negative effect of a number of additional measures for environmental protection on the cost of energy production."

Concerning the radiation danger from transporting spent fuel, Dollezhal' and Koriakin note that at the present level of power generation "the probability of accidents is negligible." But as generating facilities increase, "the quantities of spent fuel and the distances over which it will be carried will increase considerably. In this context it would be wrong to ignore this probability [of accident]. In the Soviet Union care for preservation of human health forms one of the cardinal social tasks. This means that the relative cost of insuring radiation safety will increase."

"What is the way out?" they ask. Since they believe that "it is impossible to build up the power supply basis for advanced socialist society without the development of nuclear power generating facilities," they consider it "more necessary than ever to search for new principles for the organization of nuclear power generating complexes." Essentially, they recommend that power plants should be located at greater distances from main population centers. These plants should become "large nuclear generating complexes," which would combine power generation, industries that use the power, facilities for secondary fuel treatment, including reprocessing and nuclear waste disposal, and also arrangements for "specialized internal transportation of nuclear materials."
Why the Dollezhal'–Koriakin article appeared when it did, in so prominent a publication as Kommunist, is a matter best left to Kremlinologists. It was not the first expression of concern about the problems of nuclear power. Indeed, Dollezhal' and Koriakin had written an article in July, 1976/which brought up the same problems, although in somewhat muted form. The same year Academician Petr Kapitsa had discussed nuclear hazards, although his statement was published in the low-circulation Vestnik Akademii Nauk SSSR.

As suggested, the Dollezhal'–Koriakin article was widely discussed and reprinted in the West. In the Soviet Union it appears to have generated considerable discussion as well. Most but not all of this discussion has been aimed at countering the concerns raised by the two authors. Vladimir Kirillin, Chairman of the State Committee on Science and Technology, took direct issue with the views of Dollezhal' and Koriakin at a news conference attended by Western reporters in November, 1979. He stressed that the dangers associated with nuclear power generation are minimal, given stringent design, construction, and operating procedures. Another press conference held by several important Soviet scientists late in 1979 was also obviously intended to refute the Dollezhal'–Koriakin argument. Among the statements made was the assertion by Academician M.A. Styrikovich that nuclear power stations "can be built close to large populated areas because they do not even represent a potential danger to the population." This view was echoed several months later by a Soviet spokesman at the Eleventh World Energy Conference in Munich, who stated that nuclear plants for municipal heating were safe enough to be located in the center of cities. During 1980, numerous other voices were added expressing this point of view.
While it may be that all of this effort is only directed at countering the Dollezhal'-Koriakin article, it is also possible that their viewpoint is shared by a wider segment of the scientific community than is apparent. Certainly one does not have to delve very far into the literature to find a number of more balanced assessments of the problems of nuclear power generation than the ones just cited. Koriakin, one of the authors of the Kommunist article, has chided A.M. Petros'iants, Chairman of the USSR State Committee for the Use of Atomic Energy and the author of a popular book on nuclear science and technology, for overemphasizing the positive aspects and underplaying the "shadowy aspects." Petros'iants, he says, "prefers either not to notice or to draw a veil over the serious and still unresolved problems." This appeared in the low-circulation journal Atomnaja Energiia, which often publishes unambiguous analyses of the potential difficulties which accompany the development of nuclear power.

This more cautious viewpoint among some Soviet scientists may well be having an impact on Soviet policy. Although the public Soviet stance has typically been to play down the importance of the Harrisburg accident, Governor Bruce Babbitt of Arizona reported in 1980 that he and other governors were told by the Deputy Minister of Power and Electrification: "The events of Harrisburg show that containment is needed to localize accidents. From now on, our reactors will be covered by containment structures." And the negative publicity connected with several nuclear incidents which occurred or were reported to have occurred in the USSR and Eastern Europe may have convinced the Soviets and their allies that a more cautious approach would be prudent.

The writings of Zhores Medvedev on the purported "nuclear disaster in the Urals" have received much publicity in the West. Though Soviet authorities vehemently deny that such an accident took place, Medvedev makes a quite
convincing case that some kind of major accident occurred near the Urals town of Kyshtym in 1957. And independent investigations by others in the West have come to similar conclusions. In August, 1980, over a strong Japanese protest, a Soviet tugboat towed a crippled Soviet nuclear submarine through Japanese territorial waters on the way to Vladivostok. A fire on the submarine had reportedly killed at least nine persons and injured others. And a month later, Czechoslovak officials announced belatedly that the country's first prototype atomic plant, located 40 miles from the Austrian border, had been closed permanently five years earlier because of defects. This announcement revived concern among Austrian officials (in 1978 Austria by referendum barred the use of nuclear power) about plans for further construction at the same location. This site, Jaslovske Bohunice in western Slovakia, already has one commercial reactor in operation. Czechoslovak dissidents have charged that there were two accidents at this plant, one involving loss of life and the other contaminating a river. This is denied by Czechoslovak officials, who assert that a defect damaged a reactor, but that there were no injuries, no dangerous radioactive leaks, and no violations of safety regulations. Regarding regulations, the Czechoslovaks assert that they have adopted the strict safety rules promulgated in the Soviet Union, which is apparently the standard practice among the USSR's COMECON allies. The content of some of these regulations will be examined in the next section.

Part II. The Legal Framework for the Development and Use of Nuclear Power

The Scope of Nuclear Law

The term "nuclear law" came into currency some fifteen years ago. In terms of national law, it covers generally the legal problems connected with
the nuclear fuel cycle, "the process by which nuclear fuel such as uranium is produced, used to generate electric power in nuclear reactors, and eventually disposed of." In a broader sense, however, the term has international as well as domestic law implications. This more comprehensive sense of the term has been discussed by W. Boulanger, a former official of the Legal Division of the International Atomic Energy Agency (IAEA). After defining nuclear law as "the law related to the peaceful uses of nuclear science and technology," he outlines its place in the realm of law at large:

It is, and has been right from its beginning, national law and international law.

It is national public law
as it regulates the organization of nuclear activities (Constitutional Law);

as it regulates the licensing and supervision of nuclear activities (Administrative Law);

as it provides for sanctions for offenses against nuclear regulations (Criminal Law);

as it regulates health and safety standards for radiological protection (Public Health Law, Administrative Law).

It is national private law
as it regulates liability for nuclear damage. . .

Nuclear law is international public law
as it creates international inter-governmental organizations, such as the International Atomic Energy Agency (IAEA), the European Nuclear Energy Agency (ENEA) of the Organization for Economic Co-operation and Development (OECD), or the European Atomic Energy Community (EURATOM),
and endows them with legislative power or authority to safeguard the peaceful uses of nuclear materials and installations.

It is international private law as it regulates civil liability for nuclear damage in various international conventions.

This outline provides a reasonable basis for examining the legal framework of nuclear power development in the USSR and its six European COMECON allies. In this paper, however, only the first five of Boulanger's points will be examined, the national public law and private law aspects of the problem.

The Organization of Nuclear Activities

From a variety of sources, it is possible to sketch the outlines of the typical state structure for handling problems of nuclear power in the USSR and East Europe. Only a sketch of the structure can be provided, however, because, to the author's knowledge, no detailed published description of these arrangements is available. There seems to be a fair amount of uniformity among the countries concerned. Typically, there is a state committee on atomic energy, which is charged with overall responsibility for coordinating the activities of organizations engaged in work with nuclear materials in the country. It is made up of various departments having responsibility for a number of technical activities. For example, the Czechoslovak Atomic Energy Commission has departments devoted to, among other matters, safety and safeguards, and the utilization of ionizing radiation. The state committee has overall responsibility for the development and use of nuclear power. The ministry of health in each of these countries is given a central role in health and hygiene matters connected with nuclear energy. As one source puts it in describing the functions of the Ministry of Health in Poland, it "is responsible
for the basic radiation protection laws and regulations, for sanitary control of people who are in contact with ionizing radiation, and also in a broader sense for radiation protection of the whole population.\textsuperscript{40} The ministries of health have departments or subdivisions with responsible roles in various aspects of radiation protection. The regional hygienists of the Czechoslovak Hygiene Services lay down conditions for the discharge of radioactive wastes into bodies of water, for instance. The State Sanitary Inspection of the USSR, within the Ministry of Health, is responsible for ensuring that radiation safety standards are followed. The Ministry's Chief Sanitary-Epidemiological Administration defines the size of the so-called sanitary protection zone and observational zone around every site where nuclear radiation is found.\textsuperscript{41}

While the ministry of health and the atomic energy committee are the main responsible organs in the area of nuclear power, several other state agencies play more limited roles. The ministries responsible for electric power generation (called the Ministry of Energy and Atomic Energy in Poland) are responsible for the actual operation of nuclear power plants. The ministries in charge of mining operations may have responsibility for uranium mining, where radiation safety practices must be observed. Research institutes, typically associated with each country's academy of sciences, carry out relevant research (and sometimes non-research) activities.\textsuperscript{42} Individual enterprises not connected with electrical generation, for example, in the area of nuclear medicine, perform more specific tasks.\textsuperscript{43} And the planning organs participate in decision-making on the planning of nuclear installations. Gosplan USSR has an Office of Energy and Atomic Machine Construction and a sub-office of Atomic Machine Construction, for instance. Finally, there is some evidence of inter-agency coordination through ad-hoc organizations. As
an example, the USSR's National Commission on Radiation Safety was said to have actually drawn up the rules on radiation safety adopted by the Ministry of Health.

Licensing

Licensing is a major aspect of nuclear law in the West. A number of kinds of activity may require licenses, including mining and milling of uranium, construction and operation of nuclear reactors, and spent fuel storage and reprocessing. The discussion here will involve construction and operation of reactors.

In the strict sense of the term, no attention seems to be devoted to licensing per se in the Soviet Union or its COMECON neighbors. In the West, the licensing process involves state permission granted to private parties to engage in some activity, and state supervision over the performance of that activity. In socialist East Europe, the activity in question is typically performed by state organizations (economic enterprises), and the perceived need for a formal licensing arrangement may therefore be largely lacking. Still, it is clear that arrangements akin to formal licensing procedures exist in the USSR and Eastern Europe. For instance, the activities of the Soviet Union's Higher Attestation Commission in certifying the granting of higher academic degrees amounts to a kind of licensing. And it appears that somewhat analogous functions are performed with regard to the introduction and operation of nuclear power plants.

According to an International Atomic Energy Agency study, the "five major stages of the licensing process" are "siting, construction, commissioning, operation, and decommissioning." Several different sets of USSR rules on these subjects appear to be relevant. The Sanitary Rules on Planning
Atomic Power Stations provide that the siting of nuclear power plants requires the approval of the organs of state sanitary supervision, and provides for locating such plants at specified minimum distances from certain types of population centers. Another relevant legal act is the General Regulations for Assuring the Safety of Nuclear Power Plants During Their Design, Construction and Operation. This has been referred to as "the principal normative document... for mutually coordinated implementation of engineering and legal measures to assure nuclear power plant safety at all stages of their creation and operation." It is said to require various kinds of checks and inspections, by a number of different state bodies, at the successive stages of operation of nuclear power plants. Finally, according to the Basic Sanitary Rules for Work With Radioactive Substances and Other Sources of Ionizing Radiation, before the beginning of operation of any facility which is a radiation source, a commission, "made up of representatives of the interested organization, the sanitary-epidemiological service, the technical inspection of the trade union, and the organs of internal affairs" must approve the facility.

This commission review appears to be the closest Soviet analogue to licensing schemes used in the West. It is doubtful, however, that this arrangement utilizes the formal procedures typical in the West in the licensing process, including participation by the public and by local authorities. Whether this means that the process in Eastern Europe and the USSR is less rigorous than in the West is difficult to say. It certainly appears to lack, however, the potential independent check that this aspect of the process in the West provides.
Decommissioning a nuclear plant, "the actions taken when a nuclear facility has ceased operations completely, that is without intent to restart," is considered the final stage in the licensing process. Although few nuclear power-producing countries have had much experience with decommissioning so far, a body of literature on the subject is growing in the West. Up to now, however, little attention seems to have been devoted to decommissioning in the USSR or among its COMECON neighbors.

Criminal Law Sanctions

The author has found no reference to criminal law sanctions for violation of nuclear regulations, either in the regulations themselves or in the doctrinal writings. It seems reasonable to assume, however, that the regular criminal law provisions for various illegal acts could be applied to such acts when committed in connection with the use of nuclear materials.

Health Regulations and Other Safety Standards

The situation with regard to actual legal documents governing nuclear power in the USSR and Eastern Europe is both complex and somewhat unclear. While East European sources often refer to legal rules operating in their countries, there are indications that these rules rely heavily for their content on the Soviet rules. Many of the Soviet rules, in turn, appear to be based fundamentally on International Atomic Energy Agency (IAEA) and other international standards, a point to which we will return below. And some of the newest rules adopted in Eastern Europe (e.g., rules on the safe transportation of nuclear materials) have so far been adopted strictly as COMECON rules rather than as legal instruments of individual countries. Having said this,
it should be added that the full picture of legal regulation of nuclear power is by no means completely clear to the author, even as regards the USSR alone. As already mentioned, no detailed description of the organizational arrangements concerning nuclear activities is available. To the author's knowledge, there is no published statute (polozhenie) on the State Committee for the Use of Atomic Energy. And while the Biulleten' Normativnykh Aktov Ministerstv i Vedonstv SSSR has recently published the texts of several regulations on energy, none of these has concerned nuclear energy. Discussions by Soviet sources of legal acts concerning nuclear energy frequently omit source references or references to specific articles in the legal acts in question, leading to the suspicion that such documents are "for internal use only." Those regulations that are published tend to be issued in very small numbers, and are quite difficult to obtain. The picture that emerges, then, is at best a partial one.

As far as the author can tell, only one part of Soviet nuclear law is on the statutory level, with all the rest being sub-statutory in nature. This is Article 28 of the Principles of Health Legislation of the USSR and the Union Republics of 1969. It reads: "The production, application, storage, transportation and burial of radioactive substances, sources of ionizing radiation, poisonous and virulent substances will be carried out under the supervision of the organs and institutions of sanitary-epidemiological service." This provision has served as the basis for a variety of regulations adopted by the Ministry of Health.

Basically, the rules adopted can be divided into four categories: general radiation safety standards, rules for planning atomic power plants, sanitary rules for working with radioactive substances, and rules for the transportation of radioactive materials. Regulations in one or another
of these categories go back to 1957, and have been replaced by newer documents several times. The Radiation Safety Standards (Normy Radiatsionnoi Bezopasnosti or NRB) are the most general. They provide for maximum levels of ionizing radiation for three categories of persons and for various parts of the body. The three categories of persons are persons working with radioactive substances, the general public as individuals, and the general population as a whole. As one Soviet source put it, the standards adopted in 1969 "were based on the recommendations of the International Commission on Radiation Protection."

The 1969 standards were replaced in 1976 by a new document, NRB-76.

The General Regulations for Assuring the Safety of Nuclear Power Plants During Their Design, Construction and Operation apparently replaced the Temporary Sanitary Rules for Designing Nuclear Power Plants. These regulations contain standards concerning location of power plants, water supply, soil types, ground water levels, and other considerations of this kind.

The Basic Sanitary Rules for Work with Radioactive Substances and Other Sources of Ionizing Radiation (OSP-72) were adopted in 1972 to replace earlier documents on the same subject promulgated in 1960 and 1957. These rules deal with the conditions of work with radioactive substances and contain detailed provisions applying to enterprises, laboratories, and other institutions where such work is carried out. They are designed to operate in conjunction with the more general Radiation Safety Standards. There is a hint in the literature of objections to the interpretation of certain provisions of OSP-72, perhaps because they seem to require higher safety standards than is considered practicable. In any case, it is reported that "with the expressed criticisms in mind, OSP-72 is . . . being rewritten."

The rules on transportation of radioactive substances have also gone through several revisions over the years. Presently in force are the Safety
Rules for Transportation of Radioactive Substances adopted in 1973 (PBTRB-73), which cover the kinds of radioactive substances that may be shipped, safety measures in case of accidents, and other relevant matters. These rules appear to rely heavily on IAEA recommendations.

The volume of transportation of radioactive substances in the USSR has grown considerably in recent years. Much of this may involve commerce between the USSR and its COMECON neighbors, since the USSR has agreed to have all spent fuel from nuclear activities returned to it. The PBTRB-73 rules were said to have been based in part on the recommendations of COMECON, and newer, international rules on transportation of nuclear materials have recently been adopted by COMECON itself.

The fact that the legal provisions on nuclear energy are scattered in several documents and are treated as semi-secret in nature is apparently coming to be considered something of a liability. Ioirysh, the leading jurist writing on nuclear law, advocates the issuance of "a collection of all the prevailing documents on radiation health legislation," adding that "the experience of the German Democratic Republic, the People's Republic of Bulgaria, and other countries confirms the desirability of issuing such a collection." He reports that a draft of a basic state standard (GOST), "Radiation Safety: General Requirements," has been completed.

Civil Liability for Nuclear Damage

Civil liability for nuclear damage has been the subject of much attention in the West. A great amount of writing has appeared, a number of Western countries have adopted special legislation on liability for nuclear accidents, and several international conventions dealing with the question have been promulgated. It is especially striking, therefore, that public attention to
the subject is virtually non-existent in the USSR and Eastern Europe. This contrast can be demonstrated in several ways.

Concern among West European nations about civil liability goes back to the 1950s. The first concrete action on the international plane was the promulgation in 1960 of the Paris Convention on Third Party Liability in the Field of Nuclear Energy, which was signed by 16 West European countries. This was followed in 1963 by a Convention adopted in Brussels (the Brussels Supplementary Convention) providing for the possibility of further compensation (in addition to that provided for in the Paris Convention) from public funds of the participating states. Both of these conventions (and additional protocols to each) were regional in nature. That is, although any state was entitled to accede to them, the conventions were the product of OECD sponsorship, and accessions to this point have been by Member States or Associated States of the OECD.

The IAEA sponsored a conference in Vienna in 1963 "for the purpose of establishing on a worldwide basis a system similar to that of the Paris Convention." Prior to the conference, an intergovernmental committee composed of member countries, including Czechoslovakia, Poland, and the USSR, met to consider the problem and prepare a draft. A final draft was done by a smaller drafting committee on which the USSR was represented. Among the 58 countries represented at the conference were Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Romania, the USSR (with separate representatives for the Ukraine and Byelorussia), and Yugoslavia. Yet of these countries only Yugoslavia signed the Convention on Civil Liability for Nuclear Damage.

The 1960 Paris Convention and the 1963 Brussels Supplementary Convention came into force in 1968 and 1974, respectively. They are binding on a number
of countries, including the United Kingdom and France. In addition, these countries and others, including the Federal Republic of Germany and the United States, have adopted domestic legislation on civil liability for nuclear damage. But neither the USSR nor any country in Eastern Europe except Yugoslavia has adopted such legislation.

It might be suggested that there is no need for such special legislation, that the regular tort law of these countries could serve as the legal basis for liability for nuclear damage. After all, all nuclear power installations in these countries are state-owned and operated and, therefore, ought to be subject to the rules of state tort liability. While this idea makes sense in the abstract, it seems hardly likely to be the case in fact. If the general rules on tort liability were applicable, it would seem that this ought to be mentioned somewhere, either in official legal materials or in doctrinal discussions emanating from these countries. As will be indicated below, nothing of the kind has been found by the author.

Given the great potential damage from nuclear accidents, the general response in the West has been to adopt special legal arrangements on liability for such damage. For instance, many acts provide that the traditional liability based on fault is replaced by some kind of strict liability. And typically a money limit is placed on liability for a single nuclear accident. Given the widespread use of these extraordinary provisions in the West (and in Yugoslavia—section 3 of its Act provides for liability "regardless of fault," and section 13 limits liability for each accident to 450,000,000 dinars), it would seem that the USSR and its COMECON neighbors would at least want to consider whether such arrangements would be appropriate for them. It is not as if Soviet and East European specialists are unaware of these provisions. As mentioned, representatives of these countries participated in IAEA sessions
that led to the Vienna Convention. In fact, the delegates from Czechoslovakia and the USSR proposed a liability limit of US $5 million, and the deletion of an article eliminating jurisdictional immunities in any action brought against a contracting state. And legal specialists from these countries have written knowledgeably about nuclear liability law in the West. Abram Isaakovich Ioirysh, the Soviet jurist who writes regularly on nuclear law topics, devotes 29 pages in a 1979 book on nuclear law to "Liability for Nuclear Accident." It is a learned and quite accurate analysis of how the matter is handled in a number of countries in the world, but not one word is devoted to the situation in the USSR or Eastern Europe. It is as if the subject of legal liability for nuclear accidents had been declared beyond the realm of discussion in these countries, and Ioirysh cannot even so much as point out the need for legislation in this area.

Conclusion

The situation just described is in many ways typical of the Soviet-East European approach to the peaceful uses of atomic energy. Perhaps because of the link between the military uses of nuclear energy and commercial atomic power, there is a carry-over of caution and semi-secrecy to the latter. Countless examples have come to the author's attention in the course of the research. Although there are numerous legal issues connected with the use of nuclear energy, which have been extensively and imaginatively examined by scholars in the West, it is fair to say that legal concerns are given virtually no expert attention in the Soviet Union and Eastern Europe. That is to say, the regulation of nuclear power in these countries is not so much lawless as it is lawyerless. Ioirysh is the only Soviet jurist to have done major work in this area. Among the East European countries, the only lawyer who seems to
have done sustained research on the subject is Vanda Lamm of the Institute of Legal and Administrative Sciences of the Hungarian Academy of Sciences. Her work is highly technical and non-ideological, and while it shows sound appreciation of the legal issues involved in regulating nuclear power, she directs her attention almost exclusively to the international law aspects of the subject. She is of the opinion that the development of a separate nuclear law is not justified.

By default, then, if not by design, nuclear law receives scant professional attention in these countries. The specialists who participate in the development of rules having the force of law tend to be technical specialists, not legal specialists. Given the technical nature of the subject, this is no doubt justified to some extent. But this approach has not helped to bring the subject into the mainstream of legal regulation. Nor has it contributed to a point of view which is increasingly evident in the West, that nuclear power needs to be subjected to stricter legal control.

This situation could remain as it is into the indefinite future. But the author's inclination is to think that this will not be the case. Lawyers have been challenged to play their role in the scientific-technical revolution. Given the Soviet-East European commitment to the development of nuclear power, the potential problems and dangers connected with this development, and the fact that most nuclear power plant construction will be concentrated in the most populous parts of this region, the need for a greater emphasis on the legal aspects of this development seems inevitable.


3. See ibid.


is generated from nuclear power plants. That is expected to rise to 18 percent by 1985 on the basis of plants ordered during the 1970-1974 period. The New York Times, January 25, 1981, Section 4, p. 5.


13. Campbell, op. cit., pp. 140-141; for the location of many of these facilities see Atlas SSSR v Desiatoi Piatiletko (Moscow: GUGK, 1977), pp. 2-9.


22. See Radio Liberty, Current Abstracts and Annotations, no. 19, 1979, p. 18; "The USSR This Week," Radio Liberty Research, no. 333/80, September 15, 1980; Babbitt, op. cit. The Lovisa plant was closed in September, 1980, incidentally, because of welding faults discovered in its boilers.


24. Dollezhal' and Koriakin, op. cit. (see above, note 10).


33. Medvedev's major writing on the subject is Nuclear Disaster in the Urals, (New York: W.W. Norton, 1979). On the other studies, which are based on data from, among other sources, the CIA and a study by scientists at the Oak Ridge National Laboratory, see The New York Times, February 14, 1980, p. A8 and March 7, 1980, p. A26; also, see a book review by Frank L. Parker, Bulletin of the Atomic Scientists, 36, no. 4 (April, 1980): 49. A pointed rebuttal to such conclusions was written by a Soviet author in August, 1980. Quoting State Committee for the Use of Atomic Energy Chairman Petros'iants to the effect that "we have had no accidents which could make people concerned and prejudiced against atomic power," the author adds: "The Beloyarsk Atomic Power Station in the Urals can be cited as proof of this. Its water reservoir and neighboring forests have become a popular recreation spot for the population of the industrial city of Sverdlovsk." Starostin, op. cit., p. 3.


41. Sources for this paragraph: ibid., pp. 1-2; Pryde, op. cit., p. 167;
42. For example, as of 1969, the Institute of Nuclear Research at Swierk, Poland was responsible for a variety of radioactive waste treatment tasks, Waste Management Techniques (above, note 39), p. 31.
43. See the articles on nuclear medicine in Hungary and the GDR in Ek. Sotrud., (1979, no. 2): 100, and (1978, no. 2): 102, respectively.
44. See ibid., 1979, no. 6, p. 51.
45. Belitskii, Turkin and Koslov, op. cit., p. 175.
50. Osnovnye Sanitarnye Pravila Raboty s Radioaktivnymi Veshchestvami i Drugimi Istochnikami Ioniruimschikh Izluchenii (OSP-72), article 3-1 (Moscow: Atomizdat, 1973), p. 7. This commission appears to be the same as the "state acceptance commission" referred to by Ioirysh in "Pravovye Problemy," (above, note 49), p. 32.
51. On these aspects of the licensing procedure in the West, see Licensing Systems and Inspection (above, note 46).


53. The only reference to decommissioning found by the author, which involves only narrow technical aspects of decommissioning, is a report by three Czechoslovak specialists, Z. Dlouhý, J. Rázga and E. Hladký, "Establishment of Limits for the Release of Liquid Radioactive Wastes into the Environment Following Decommissioning of the Novovoronezh-type NPP," in ibid., p. 379.

54. Thus, for instance, the 1980 amendments to the USSR Supreme Soviet Presidium edict "On Increased Liability for Polluting the Sea with Substances Dangerous to Human Health or to Living Resources of the Sea" would presumably apply to dumping of radioactive materials. The amendments were adopted in connection with the USSR ratification of a Convention on preventing sea pollution by dumping wastes and other material. They provide for fines ranging up to 25,000 rubles and deprivation of freedom for up to five years. The text of the amendments may be found in Biuleten' Verkhovnogo Suda SSSR, (1980, no.4): 44-45. On this convention and the states which have ratified or acceded to it, see Nuclear Law Bulletin, no 26 (December, 1980): 40.


56. This is the case, for instance, with the General Regulations for Assuring the Safety of Nuclear Power Plants During Their Design, Construction and Operation," cited above. See text accompanying note 49. The source was an article by A. I. Ioirysh, which contains references to a number of pertinent
USSR regulations, but contains no source references to any of them.

57. Izvestiia, December 20, 1969, p. 3.


61. See above, note 50.


63. The source used by the author on these rules is E.S. Freiman, V.D. Shchupanovskii, and V.M. Kaloshin, Osnovy Bezopasnosti Perevozki Radioaktivnykh Veshchestv (Moscow: Atomizdat, 1977). Although this 215 page book is an extremely detailed analysis of the rules, there is no text of the latter included, nor do the authors make any reference to particular articles. They give no indication of what agency or agencies adopted the rules. The rules that they replaced, the "Rules of Transport of Radioactive Materials," no. 349-60 (FPRB-60), were adopted in 1960 by the Ministry of Health and the State Committee on the Use of Atomic Energy. The Freiman et al book is a technical manual intended for practical workers, and contains no reference to liability for violation of the rules. But the 1960 rules (FPRB-60) apparently contained provisions on liability for a variety of violations. See A.I. Ioirysh,
64. Freiman et al., op. cit., p. 4 reports a doubling of packages with radioactive nuclides shipped between 1968 and 1975, from 70,000 to over 137,000.
65. Ibid., p. 70.
67. These passages are based largely on the following sources: P. Reyners, "Third Party Liability Problems Connected with Nuclear Installations," Licensing and Regulatory Control of Nuclear Installations (Vienna: IAEA, 1975), p. 243; M. Lagorce, "The Brussels Supplementary Convention and Its Intergovernmental Security Funds," in Nuclear Law for a Developing World (above, note 36), p. 143. The Paris and Brussels Conventions came into force in 1968 and 1974, respectively. Not all signers of the conventions have ratified them. See Reyners, op. cit., pp. 251-252 for details. Two other international conventions that will not be discussed here are the Convention on the Liability of Operators of Nuclear Ships, adopted in Brussels in 1962, and the Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, adopted in Brussels in 1972. Although 38 states were represented by delegations at the conference which adopted the latter convention, Yugoslavia was the only East European country represented. For the texts of all of the documents mentioned in this note, see International Conventions on Civil Liability for Nuclear Damage (Legal Series No. 4, Revised 1976 edition) (Vienna: IAEA, 1976) (texts in English, French, Russian and Spanish).
68. Reyners, op. cit., p. 244.
69. The text of this convention may be found in International Conventions (above, note 67), p. 7. On the signatories of this convention, see Reyners, op. cit., p. 252. As of December, 1974, only nine countries had signed the
convention, and only four of these had ratified it. Since five ratifications are required, the Vienna Convention only entered into force in 1977. See Nuclear Law Bulletin, no.26 (December, 80): 36. The information in these passages on the drafting of the Vienna Convention is based on Civil Liability for Nuclear Damage (Legal Series No.2) (Vienna: IAEA, 1964). See especially pp. 39-40, 497 f., and 501. The Soviet representative on the drafting commission was the jurist S.N. Bratus'.


The Netherlands' "Nuclear Incidents (Third Party Liability) Act" of 1979 specifically incorporates the salient provisions on liability from the Paris and Brussels Conventions into the Act. See the text of the Act in Nuclear Law Bulletin, Supplement to No. 24 (December, 1979): esp. pp. 4 and 8. For the texts of civil liability legislation in other Western countries, see the Index to the Nuclear Law Bulletin for numbers 1-25 (1968-1980).


73. "The basic principle of nuclear law is the rule of absolute liability, also called 'strict liability'. . ." P. Strohl, "The Concept of Nuclear Third Party Liability and Its Implementation by Legislation in OECD Member Countries," in Experience and Trends in Nuclear Law (above, note 70), p.72. Strict liability is provided for in the Paris Convention (Articles 3 and 4) and in the Vienna Convention (Article II). See International Conventions (above,
On absolute liability under the West German act, see Boulanger (above, note 70), p. 86. See also the provisions on strict liability in the Swiss Act (sections 3 and 4) published in Nuclear Law Bulletin Supplement to No. 25 (June, 1980). And see the provisions on strict liability in the Price-Anderson Act of the United States, 42 U.S.C. 2210 (n). Such acts as these typically allow as defenses the showing that an accident was caused intentionally or with gross negligence on the part of the injured party. Some acts also exclude the liability of the operator if the accident was caused by an armed conflict, hostility, civil war, and other such circumstances.

An monetary limitations, the Paris Convention fixes a maximum ceiling of 15 million units of account (each unit being the gold equivalent of the U.S. dollar at the time the Convention was adopted) (see Reyners, op. cit., p. 245). The Federal Republic of Germany's law provides a limit of 500 million DM; Dutch law sets the maximum liability of the operator at 100 million guilders. The Price-Anderson Act limits liability in the United States to 560 million dollars.


75. Civil Liability for Nuclear Damage (above, note 69), pp. 41 and 55.

The latter article was deleted from the final version of the Convention and the liability amount was set at "not less than US $5 million for any one nuclear accident."

76. A. I. Ioirysh, Pravovye Problemy Mirnogo Ispol'zovania Atomnoi Energii (Moscow: Nauka, 1979), pp. 139-167.

77. Among the many sources that might be cited, see particularly Nuclear Inter Jura '77: Proceedings, papers of the International Nuclear Law Association (INLA) Congress held in Florence, Italy, 3-5 October, 1977. Some 25 papers presented at this congress covered a variety of aspects of nuclear law.
When defining what they call "the scientific-technical revolution," Soviet theorists cite associated achievements like automation, nuclear energy, new synthetic substances, space exploration, and the breaking of the genetic code. They credit the revolution with opening unprecedented possibilities for the remaking of nature and the creation of enormous material wealth. They fairly list the exhaustion of natural resources and environmental damage among the items on its debit side. While economic development is gradual before the scientific-technical revolution, the revolution radicalizes it. Human dwellings have polluted the waters, and smelters—the air, as long as they have been around. People have obstructed the free flow of rivers, decimated animal populations and even transformed regional climates by deforesting watersheds since times immemorial. But the scientific-technical revolution exacerbates the ongoing processes in at least two ways. First, the pace of development accelerates and the magnitude of interventions in nature expands so rapidly that their unforeseen impact is typically felt before any opportunity for either adaptation to or resigned acquiescence in the modified environment. The adverse consequences outrun people's present ability to identify and measure them and to create and seasonably introduce countermeasures. In a
sense, the quantity has turned into quality. Second, entirely new forms of intervention become possible and either are employed deliberately to transform the natural environment or appear as by-products of other practices. Reversal of river flows, weather modification and genetic engineering are examples of the former; release of nuclear radiation into the atmosphere, destruction of the ozone layer and land burial or ocean dumping of persistent hazardous wastes—of the latter. At the same time, the revolution also contributes something positive to the resistance against environmental damage. Science enhances people's ability to detect causalities; technology equips them with devices of control. Electronic data gathering, storage, retrieval and transmission, for example, not only aids and abets destruction but also doubles as a sentry in the service of the defenders of the environment. Technologies for the exploitation of solar and geothermal sources promise cleaner energy supplies.¹

The article has two parts to it. The first, outlines the Soviet textbook view of the scope and contents of Soviet environmental law.² It gives the censor-approved assessment of the state of the Soviet environment and of the system's capabilities to confront the admitted instances of environmental deterioration, with some critical commentary. It also indicates whether Soviet environmental law is explicitly confronting the problems associated with the scientific-technical revolution and, if so, to what extent and with what intensity. The second offers some illustrations of the unfinished environmental business, including the functioning of Soviet environmental law and institutions in practice. It relies mainly on sources other than the purportedly comprehensive textbooks.
A Soviet axiom holds that the Earth or nature is "life itself." It is the form in which matter exists and the source of survival and development of human society. The development of society under the conditions of scientific-technical progress has raised the "problem of Earth--man" to the level of a "super problem" of the contemporary world. Since scientific-technical progress not only ordains steadily rising consumption of the elements of nature but also emission of substances which disrupt the nature's complex structure and processes, the safeguarding of nature as the source of survival of the species requires considerable societal efforts.

That the Soviet state has always cared about nature is likewise deemed to be beyond dispute. Enactment of protective legislation is cited as a prime example of its care. Such legislation spans decades from Lenin's "shining example", to the first general statutes of the late 1950's and the 1960's, to the more numerous special-objective laws of the recent years. The exhortatory 1972 decree "On Measures For The Further Improvement of Nature Protection and the Rational Utilization of Natural Resources" refers, in passing, to the scientific-technical revolution and acknowledges that protection of nature is one of the main current tasks of the Soviet state in the course of realizing what is called "the program of building communism."

Some Soviet theorizers have busied themselves chasing after the true meaning of the nature-protection function of the socialist state. According to one view, the very essence of the socialist state objectively ensures that natural resources will be rationally managed
and utilized. Consequently, the nature-protection function comes into being as the socialist state itself appears. Others, by contrast, having first rechristened protection of nature (okhrana prirody) as environmental protection (okhrana okruzhaiushchey sredy), see it as a distinct state function.

It seems that different perceptions of interdependencies of man and nature underlie the old and the new labels. A conservationist or preservationist attitude led to the initial choice of the "protection of nature" label. Eventually it gave way to a different attitude. Protection of people from the influence of the natural environment they had farreachingly transformed came to take the place of protection of nature from people. This revised view implicitly holds that a natural environment, in its strict sense, has ceased to exist. "Natural environment" or just plain "environment" now denotes "the system of interrelated objects and phenomena of nature and of natural, artificial and semi-artificial ecosystems surrounding and interacting with people in its entirety, including man-made technical components." Under these conditions, the theorists go on, the function of the socialist state loses its preservationist thrust. Instead, it directs its energies toward the purposeful restructuring of the environment, preservation of the basic complexity of nature, and the rational utilization of natural resources. At the same time, the socialist state strives to avoid disruption of economic development so that the material and spiritual needs of the Soviet people be fully satisfied.

Soviet writers recognize that many natural resources are not renewable and that care in their exploitation can only postpone the date when they are finally gone. Yet they are notably reluctant to equate
the exhaustion of some of nature's constituent parts with the cessation of nature itself. As the shift in the labeling indicates, nature, they believe, continues to live on as a component of the "larger" environment, albeit in a modified state. And people are, supposedly, no worse off for that.

The confident tone notwithstanding, the theorizers seem to find the going a bit rough at this point. Apparently, they want to demonstrate that the socialist state can have it both ways; that it can disturb or even destroy parts of nature before the consequences of the changed relationships have reliably revealed themselves without, at the same time, impairing the life-giving and nurturing power of the Earth. Their technique is (as we saw earlier) to refuse to equate environmental protection with protection of nature while, at the same time, treating nature as a necessary component of the environment they are urging to protect. Kichatova writes:

But not every natural environment is good for man. Preservation of nature in the condition in which man found it, therefore, is not always the goal of nature protection. Population growth, industrial development and urbanization dictated by objective conditions demand transformation of the natural environment for the purpose of satisfying the various needs of the society to the maximum extent. In order to accomplish this, territories previously in a wilderness state may have to be appropriated for economic exploitation, patterns of the use of lands, forests and waters changed, and damaged features of nature either restored or regenerated. All these and other measures are being taken for the purpose of creating and preserving a natural environment favorable to the life of the people and to national economic development.9

Or, in other words, protection of nature does not mean passivity toward the natural environment. Quite the contrary. It is a purposeful activity aimed at remaking nature and rationally exploiting it in the
interests of society. Protection of nature for the sake of protection without regard to the interests of society is, indeed, unthinkable. The trick is to know when the "purposeful activity" hurts or kills and when it heals and nurtures. At least, the trick is to guard against phrase-mongering that can delude one into believing that he knows.

The efforts of the Soviet state in the area of environmental protection derive their basic form and legitimacy from several sources: party declarations, national economic plans, the Constitution, and a developing environmental consciousness.

Both Brezhnev and Kosygin paid obeisance to environmental protection at the 25th Party Congress. Their remarks have since been quoted and paraphrased in innumerable publications. The 26th Congress produced even fewer generalities and no specifics. Brezhnev's utterance regarding the "inevitable growth in spending for environmental protection" did not have an upbeat sound. The joint Decree of the Central Committee of the CPSU and the Council of Ministers of the USSR of December 29, 1972, and its follow-up are other mainstay references.

The language of the directives for the preparation of the five-year plans for the development of Soviet national economy generally mirrors the latest programmatic pronouncements of the Party. Yet even when the Party began to make noises about the need for environmental protection, neither the directives nor the published plans explicitly considered the consequences of interventions in the nature's processes or allocated resources that protective activities required. The Soviet Union was not alone in this delinquency. A Hungarian wrote in the early 1970's:
It should be mentioned, however, that the potential advantage of socialist planning can only be realized if we can fit into the planning system the relationship between man and nature. In order to find the correct solution we have to find the best use for the natural environment and to develop planning for the economical use of the existing environment. In my opinion, we have to introduce a new type of plan for the environmental use as an integral part of our entire economic planning system. This new type of planning would then serve as a guideline for the future technical intervention affecting our natural environment.  

The Decree of December 29, 1972, attempted to remedy the situation in the Soviet Union. It charged the Gosplan with the working out of methodological instructions and a list of indices and forms for the compilation of state plans for the efficient utilization of natural resources and nature protection. Commencing in 1974, these plans had to be "a constituent part of the long-term and annual plans for the development of the national economy." (Sec. 6) The Basic Directives for the Development of the USSR National Economy in 1976-1980 reinforced this position. Specifically, the Directives deemed it necessary, among other things, "to improve forecasting of the impact of production on the environment and to take its possible consequences into account in the preparation and adoption of design solutions", and "to develop specialized production facilities to turn out equipment, manufactured articles and materials necessary for the creation and operation of highly efficient waste-treatment installations at enterprises." 

Baibakov's report on the 10th Five-Year Plan, under the heading "Public Health Protection", noted that, "in all, about 11,000,000,000 rubles in state funds will be appropriated to implement the program for the conservation and the rational utilization of natural resources in 1976-1980." However, the published annual reports on plan fulfillment do not reveal what has been achieved in these areas.
Until recently, the legal basis of the Soviet Union's activities regarding nature protection was found in the constitutional provisions on state ownership of natural resources and national economic planning and management. The 1977 Constitution of the USSR expressly extends the federal jurisdiction to "the determination of the basic areas of scientific and technical progress and of general measures for the rational utilization and protection of natural resources." (Art. 73(5)) At the same time, the Constitution does not obligate the government to act in the exercise of its environmental jurisdiction. Instead, Article 18 purports to describe what already is: "In the interests of present and future generations, the necessary steps are being taken in the USSR to protect and make scientifically substantiated and rational use of the land and its mineral wealth, water resources and the plant and animal world, to preserve the purity of the air and water, to ensure the reproduction of natural resources, and to improve the human environment." By contrast, Article 67 imposes a clear duty on Soviet citizens "to protect nature and to safeguard its riches," suggesting that they are still out of line. But if one really wants to find out how well everybody is doing the job (E), he only needs to solve the equation worked out by Professor Petrov:

\[ E = \frac{NN_1 - (F^{1-6} \times P)}{F^6} \times 100\% \]

where \( N \) is the rule or norm of environmental protection, \( N_1 \) -- the rule of administrative or economic law particularizing the more general rule, \( F^{1-6} \) -- factors determining the effectiveness of application of the
rule, $P$ — the legal relationship arising out of the rule application, and $F^6$ — factors determining the effectiveness, lacking at the time of the rule application. As Professor Petrov illustratively solves his equations for us, we learn that, if only five out of the six factors are present, the result will be five-sixths effective; and, if half of them are operating, it'll be only half effective. He also introduces us to the novel idea that multiplying a set by zero does not yield a zero, an intriguing attempt to distinguish theory from practice.¹⁸

As to environmental consciousness, another axiomatic point is made. In a socialist society and state system the principal regulator of the economic and socio-political relations is "the subjective factor — the conscious, purposeful action under the leadership of the Communist Party"¹⁹ The Latvian writer Strautmanis translates this postulate into more specific terms in the context of environmental protection. He stresses the educational role of law but, simultaneously, makes it abundantly clear that he doesn't expect such teaching to produce satisfactory results quickly:

Public opinion is gradually moving in the direction of better appreciation of a clean and wholesome environment as an absolutely necessary condition of the normal existence and functioning of society.

However, this new appreciation of nature's wealth does not occur at once under the conditions of the scientific-technical revolution. It comes about comparatively slowly under the influence of economics, politics, culture, science, conditions of daily life, and upbringing. Law plays a big role in this process of psychological reassessment, because it expresses the official public opinion of the entire Soviet people and makes it binding on all citizens and officials. One may say, therefore, that legal protection of nature is to a considerable extent a psychological problem, and one of the most important problems of psychology of law at that.²⁰
Soviet commentators identify several methods used to make sure that
the environmental goals formulated and legitimized by party declara-
tions, plans, constitutional provisions, and environmental consciousness
are actually realized. The methods fall into two categories: extra-
legal and legal.

The principal extralegal methods are technical, biological,
sanitary-hygienic, and economic. The socialist state and society, we
are told, apply these methods directly to the natural environment. That
is, their application does not require the mediation of law. Some of
them, by virtue of their nature, Soviet commentators feel, cannot be
subjected to legal regulation at all. Others, though essentially
extralegal in content, nevertheless take on the form of law. That is the
case of the method of economic stimulation. This method differs from
other extralegal methods in that the state, in setting up a system of
incentives for the participants in the economic process, does not
prescribe the solution for every practical problem but merely allows
each participant to select the optimal variant from among several
alternative lines of action. The enabling laws and regulations invest
it with legal form. The fact that individual participants in the
economic process have interests which, to a certain degree, diverge from
the interests of the society as a whole, are localized, and, in some
instances, even contradict the latter makes manipulation of economic
incentives efficacious. At the same time, unfortunately, the method can
produce consequences harmful to the environment in practice. If
improperly implemented, the method may lead to minimal interest on the
part of workers' collectives or individual workers in environmental
protection. When the theorists finally get to the point, it boils down
to this: when attractive rewards are given for the destruction of the environment, it'll probably happen; when protective measures are adequately rewarded, they are more likely to be taken. Live and learn.

The distinction between extralegal and legal methods leads to the further insight that legal methods do not operate on the objects of nature, not on the environment itself, but rather on the social relations that arise and change as the state carries out its program of remaking nature. The state, by means of legal methods, seeks to influence the members of socialist society to guide their behavior in a desired direction. "The term 'legal protection of the natural environment,'" Osipov confidently writes, "means a state-established system of rules of human conduct vis à vis nature, the compliance with which does not infringe upon the ecological balance." The rules set limits on the liability of violators and, simultaneously, specify legal sanctions, if liability results. However, he ventures on, sanctions play only a secondary role; they are not decisive. The caution of Strautmanis seems to be alien to Osipov:

The members of socialist society are vitally interested in preserving the natural environment in a state that affords the optimal conditions for their lives and voluntarily abide by the established rules of conduct. Violations are but an annoying exception and do not add up to a mass phenomenon. Sanctions are imposed on a small number of people. Moreover, sanctions or the threat of sanctions are extraordinary measures to be resorted to in extraordinary cases.\textsuperscript{21}

Sanctions or no sanctions, the government still is the top dog in environmental protection in the USSR. Government departments and agencies are responsible for carrying out the principal environmental tasks of the state. Strictly speaking, governmental power is supposed to trickle downward from the Supreme Soviet of the USSR to the USSR
Council of Ministers and through the successive layers of the Soviet bureaucracy by reason of explicit (but more often implicit) delegation of rulemaking power. As the holder of the supreme state power, the Supreme Soviet can, naturally, enact all kinds of legislation on environmental matters of federal concern. So far, however, it has not been terribly active. Apart from the programmatic decree of September 20, 1972, its relevant output has consisted mainly of a series of fundamental principles of legislation of the USSR and the union republics setting the parameters for republic codes on the protection of individual resource categories: land, water, minerals, and forests. In addition, the USSR Supreme Soviet has adopted the principles of legislation on health care. Although the health care principles antedate the new Constitution, there is a view that they implement Article 42 which guarantees health care and protection to Soviet citizens. The principles outline a system of public health measures promising to secure the harmonious development of the physical and spiritual strength and health of, and to ensure long and active lives for, the Soviet people. In order to combat conditions and practices inimical to the attainment of these commendable objectives, the principles of legislation on health care call for official and private action to fight environmental pollution. The recently enacted USSR law on air quality and the draft law on wildlife may signal a shift toward more comprehensive environmental lawmaking by the Supreme Soviet.

The power of the USSR Supreme Soviet to ratify international conventions on environmental protection can also be considered part of its legislative function.
In addition, the USSR Supreme Soviet oversees compliance with the enacted laws.

However, neither the legislative nor the oversight function is, in any sense, performed by the body as a whole. In a plenary legislative session it's members applaud and vote in unison; its size makes it unwieldy for the exercise of the oversight function. Consequently, whatever the Supreme Soviet actually does in the area of environmental protection is through either its Presidium or the standing committees (or permanent commissions, as the Soviets call them) of its two chambers, especially commissions on nature protection, public health and social security, and agriculture. They participate in statutory drafting and make recommendations regarding the execution of laws, which the addressee agencies and organizations must take into account by reason of Article 125 of the USSR Constitution.

As the supreme executive-administrative organ of the Soviet Union, the USSR Council of Ministers exercises all federal powers in the area of environmental protection, insofar as the Supreme Soviet has not preempted them. In view of the Supreme Soviet's rather thin performance record, a good share of the operative federal environmental law has emanated from the Council. Its decrees deal with both the technical and organizational aspects and the legal methods of regulation. The Council also represents the interests of the USSR in international relations in matters of environmental protection. The Soviet Union has entered into several international agreements with the East European countries as well as with the United States, Great Britain, France, Belgium, Norway, Sweden, Italy, Canada, Japan, India, and others. The Council is also responsible for issuing appropriate decrees to implement
the assumed international obligations domestically. For example, the
signing of the conventions on migratory birds necessitated protection of
certain wetlands which serve as their habitat.30

No single federal cabinet or sub-cabinet agency is responsible for
environmental protection in the USSR. Many agencies are involved,
though environmental protection is, in virtually every case, only one of
their missions. Typically, the environmental protection mission
uneasily coexists with the resource exploitation mission within the same
organization.

Soviet writers have labored to further classify the agencies with
an environmental protection mission into "functional" and "branch"
agencies. The former include the USSR State Committee on Science and
Technology. The Committee contributes, among other things, to research
planning and scientific-technological forecasting. The Decree of
December 29, 1972, mandated the creation of an Interdepartmental
Scientific and Technical Council for Complex Problems in the Protection
of the Natural Environment and the Rational Utilization of Natural
Resources attached to the State Committee. The Interdepartmental
Council is supposed to include representatives of various government
agencies and to function mainly as "a generator of ideas and a
consultative organ but without authority to invest its recommendations
with the force of law. The more important questions may be put before
the governing board [of the Committee, however,] which has the authority
to render decisions binding on ministries and departments."31 If we put
aside questions of comparative effectiveness and disregard its adjunct
(and, in practice, probably limited) rulemaking power, the
Interdepartmental Council has certain functional similarities with the
Council on Environmental Quality in the United States. One of the functions of the USSR State Committee on Hydrometeorology and Control of the Natural Environment seems directly to relate to activities associated with the scientific-technical revolution — the development of methods for influencing the climatic, hydrological and weather processes. In addition, it performs the drabber tasks of monitoring the levels of soil, water and air pollution, collecting, storing and disseminating environmental data, and of preparing studies on environmental changes in the country. The Committee's regulatory powers are virtually plenary in the area of air quality, but it lacks comparable powers with respect to the related concerns. My third example, the USSR State Committee on Forestry is, of course, mainly a forestry agency. Yet it exercises a number of general environmental protection functions to warrant its inclusion among the "functional" agencies. It takes part in the drafting of statutes on nature preserves, national parks, wildlife refuges and, more importantly for our purposes, gives opinions on the sale of environmental poisons to collective and state farms and forestry and other enterprises. Lastly, the USSR Ministry of Agriculture partakes of both "functional" and "branch" agency characteristics. As an economic ministry in charge of agricultural production it belongs to the latter category. It is arguably "functional" because of the Chief Administration of Nature Protection, Nature Preserves and Forestry and Hunting within its organization. This glavk provides general guidance in environmental matters, exercises overall control over the compliance with nature protection laws, and represents the USSR in the international arena in matters relating to the environment. What seems to be particularly striking about the glavk
is that its jurisdiction is broader than that of the parent ministry. To give an example, its power to oversee compliance with the environmental laws extends to protective laws that do not concern agriculture. Moreover, its regulations on environmental protection are binding without a special approval by the Minister of Agriculture. In fact, Kichatova describes the glavk as the only federal agency in the USSR not involved in the exploitation of natural resources with powers necessary for the realization of the rational use of natural resources and nature protection. Thus, in some vague way, it resembles the Environmental Protection Agency in the United States.

One subcategory of the "branch" agencies includes agencies the protective responsibilities of which focus on a single resource but whose regulations are binding on all other branches, provided that the activities of those branches impinge upon the resource. The USSR Ministry of Melioration and Water Management serves to illustrate the point. It manages the country's water resources as well as land resources when they interface with water forming a "single complex resource" — an idea underlying the 1972 Coastal Zone Management Act in the United States. The USSR Ministry of Fisheries and the USSR Ministry of Geology are two other illustrations of the same. The other subcategory is comprised of agencies, particularly economic ministries, whose environmental protection concerns do not reach beyond the operations of their subordinate enterprises: e.g., the USSR Ministry of Gas Industry; the USSR Ministry of Coal Industry; the USSR Ministry of Pulp and Paper Industry; etc.

Osipov's book devotes a long chapter (authored by Bystrov) to the legal status of public organizations in the area of environmental
protection. The material which takes up nearly one-third of the entire treatise conveys the picture of massive popular interest and participation in environmental protection. Millions upon millions of members of various clubs, circles and societies bear the burdens of a vast environmental protection effort by listening to lectures, acting as auxiliary game wardens and societal inspectors, hunting, fishing, and raising their environmental consciousness in sundry other ways. A legal analysis of the charters of these organizations, unfortunately, would move us away from the pressing problems of the Soviet scientific-technical revolution — the paramount concern of this scientific investigation. In short, I refuse to take my eye off the ball, even if I have to imagine one.

In societies still at a lower stage of historical development, like those of Western Europe and North America, questions of legal liability might belong to the nitty gritty of the law of environmental protection. Not so in the Soviet Union where, according to Osipov, "violations are but an annoying exception" and "sanctions or the threat of sanctions are extraordinary measures to be resorted to in extraordinary cases." Nevertheless, Soviet theorists do not entirely leave liability out of their writings. What are then the vexing questions? Levchenko identifies at least two that seem to cut across the several types of liability. One arises under the statutes punishing persons who cut, destroy or damage trees in cities, settlements or along roadsides. The finer legal minds will, upon reflection, grasp that, depending on who owned the tree, what the actor's motives were, and on other concrete circumstances of the incident, the perpetrator could be charged with the destruction of or damage to socialist
property, hooliganism, or whatever. Cases involving damage done to plantings by trampling livestock and scratching chickens raise a comparably intriguing question of liability in the age of the scientific-technical revolution. One would ordinarily expect liability to fall on the owners of the wayward beasts. Not so! The Edict of the Presidium of the USSR Supreme Soviet of January 11, 1955, "On Liability for Damage to Kolkhoz and Sovkhoz Crops" explicitly provides that persons "in possession" may be held.

Soviet literature on environmental law discusses four types of liability: criminal, administrative, civil, and disciplinary.

Soviet law does not provide for criminal liability for infringements on the natural environment as such. Instead, it recognizes criminal liability for transgressions against individual resource categories: land, minerals, water, air, vegetation and wildlife, as well as objects of nature under special protective regimes. Criminal liability is not widely invoked and several Soviet commentators have spoken out against extending it. Sanctions are relatively mild. The ceilings on fines are particularly low, except in instances where foreign interests might be affected as under the USSR Edict of February 6, 1968, "On the Continental Shelf of the USSR." Administrative liability may be imposed for quasi criminal conduct. Since 1961, only private individuals and officials have been subject to administrative liability. Legal entities -- the generally massive corporate wrongdoers, have been exempted. The just-adopted Principles of Legislation of the USSR and the Union Republics on Administrative Law Violations leave this unchanged. (Art. 8) The top fine for officials heretofore was 100 rubles, for individual citizens --
10 rubles. Again, only foreigners were fair game. The new principles also leave this pretty much intact, except to increase the maximum fine for individuals to 50 rubles and to expressly authorize the soaking of foreigners (or foreign business):

In exceptional cases, in connection with the fulfillment of commitments stemming from the USSR's international treaties, and when there is a special need to increase administrative liability, fines in amounts larger than those stipulated in this article may be established by USSR legislative acts. (Art. 14)

This language may be read to assume the deterrent efficacy of the larger fines when imposed on foreign interests. According to Shemshuchenko, large fines on Soviet enterprises would not have that effect. It would be nothing but transfer of funds from one pocket of the Soviet state to another.

Persons who infringe upon the natural environment may be held civilly liable to others for the resultant harm to their interests. (I use the term "civil liability" broadly -- in the sense of "liability for damages" or "liability for harm done" [imushchestvennaia otvetstvennost'], without worrying whether it is grounded in civil law proper or in labor or collective-farm laws.) Ordinarily, this means that an enterprise in one sector of the socialist economy can be held liable for injury to interests in another sector, e.g., the toxic effluent from a chemical plant destroying the quality of water and aquatic life downstream of the plant. Enterprises engaged in fishing and municipalities relying on the river for water supply would have legitimate grounds for complaint. Apart from the issues of causal connection and the requisite fault, the issue of the correct measure of damages raises special difficulties. On
the one hand, Soviet economic theory proclaims natural resources to be free goods. On the other, several recent statutes provide for the recovery of restoration costs or set tariffs for some resources (like fish). Compensation for damages in these cases essentially amounts to payment for resources used up by the defendant enterprise. In a sense this, too, is nothing but transfer of state money from one pocket to another. Of course, the financial indicators of the enterprise's performance should reflect payments of civil damages. The larger the amounts of damages paid, the worse should the Soviet counterpart to the profit and loss statement look. Yet the wrongful infringements upon the environment for which compensation must be paid, may actually enable the enterprise to do well under other success indicators and, in the end, to reap rewards that reduce its environmental concerns to insignificance.

The topic of disciplinary liability presents few theoretical challenges. Disciplinary sanctions are imposed for violations of the discipline of work, service or position. Although not all laws or regulations on nature protection expressly provide for disciplinary liability, it may be taken to exist by implication. One of the fundamental duties of a Soviet citizen is to look after socialist property. If he violates nature protection laws, a disciplinary sanction may be imposed. But, in theory, the sanction is imposed for the nonperformance or the negligent performance of his duties as a worker rather than for the harm done to environment. How neat.

II

The reader of Soviet theoretical works who hopes to see the responses to the achievements associated with the scientific-technical
revolution woven into the fabric of environmental law is apt to be disappointed. As the first section of this article suggests, the theorizers cite the revolution merely to admonish their audience that things are really popping; that something capable of messing up the land of socialism has been set loose. Yet when they descend from the stratosphere of generalities to the level where concrete impacts on the environment dwell, they prefer to chat about thieves of ornamental trees, chickens in the neighbor's seedlings, and poachers of fish and wildlife. This creates the impression that concerns about matters like radiation from nuclear power plants and disposal of radioactive and other hazardous wastes are foreign to the Soviet experience.

Legal literature focusing on areas other than environmental protection occasionally speaks of nuclear dangers but invariably as something the Soviet Union can only deplore but not be the source of. It accuses capitalist nuclear weaponry of posing environmental hazards. It expresses dismay over the lack of safeguards against "the theft of various kinds of materials by groups of gangsters", in an obvious reference to countries other than the Soviet Union. It offers a survey of international organizations and conventions on nuclear safety, in general, and liability for nuclear accidents. Or, in speaking about nuclear development in the USSR, it asserts that, under the existing regulations and practices, there's no cause for alarm.

"Experience in the operation of atomic power plants in the USSR attests that, when the necessary regulations are observed," writes Ioirysh, "these plants are safe." What he does not say is whether they are observed in the Soviet Union. Instead, he offers the following:
Measures for rendering harmless the radioactive wastes resulting from the operation of atomic power plants are stipulated during the designing and construction of the plants.

In choosing a site for an atomic power plant, the following conditions are considered favorable: a) adequate distance of site from populated areas and other installations, enterprises and highways; b) favorable wind direction; c) availability of water; d) presence of holding basins for cooling water; e) geologically stable foundation; f) presence of impervious soil; g) proper ground water level; h) possibility of establishing a protective zone.

Control over the discharge of radioactive material into the atmosphere by atomic power plants is provided by applying appropriate technical measures and by choosing favorable sites for the plants. As a result of the adoption of the new Norms of Radiation Safety, conditions have been created for an upward revision of the maximum permissible discharges into the atmosphere from atomic power plants.

The Novo-Voronezh Atomic Power Plant, the largest in the U.S.S.R. is located in a densely populated area. Radiation levels at the plant and in the surrounding area are monitored and controlled constantly. A comparison of data on radiation measurements collected before the reactor was commissioned with data for 1965-1968 shows that the intensity of radioactive fallout has not increased.

The legal regulation of the effect of atomic energy on the environment has only just begun. But it can be said even now that the development of atomic energy and its substitution for energy generated by conventional fuels will promote a reduction in pollution of the environment.43

Some specifics about radiation hazards appear in the non-legal literature, including the popular press. Reports of non-Soviet study groups from time to time have gathered and interpreted such data.44

Once again, expressions of concern printed in the Soviet press are, as a rule, put to rest by soothing assurances of perfect safety. Pryde offers us this quote:

Atomic power plants do not pollute the air. The problem of rendering the radioactive waste harmless and burying it has been solved. The facilities devised for this purpose and well tested in practice exclude hazards completely. This is why we may expect atomic energy to be used soon not only to generate electricity but to supply hot water for cities and steam for industry. Atomic power plants will be followed by atomic heating plants.45
A paragraph from dissident Komarov's (pseud.) 1980 book stands in sharp contrast to the preceding:

Claims that the burial of radioactive wastes is a problem only for the West seem baseless. The USSR had the sad experience of an explosion of nuclear wastes in 1958 near Cheliabinsk, when all crops, all animals, and houses were destroyed, and the population was evacuated 200 and more kilometers from the point of the explosion. It was only chance that the radioactive cloud did not reach Sverdlovsk but passed over a comparatively sparsely populated region. The number of victims remains a secret to this day.  

A segment of a recent program of American investigative television journalism corroborated Komarov's report. It added that the accident wiped more than a dozen Soviet communities, almost literally, off the map. In contrast to area maps predating the accident, their post-accident versions did not indicate the existence of these communities.  

Undeterred, the Soviet Union has been moving ahead and "Soviet scientists calculate that by the end of the century, atomic and thermonuclear energy will account for about 60% of the electric power used in the world. This will sharply reduce environmental pollution." Hot water from the safe and clean atomic power and heating plants is soon to warm Soviet homes. And why not? "Some 20,000 amateur fishermen gather on weekends right next to the Beloyarskoye Atomic Power Station . . . . The atomic age has simply arrived earlier for them." By the way, the Beloyarskoye plant is said to contain the world's largest breeder reactor. The plant produces not only electricity but also plutonium. Notably, the Directives for the 10th Five-year Plan (1976-1980) do refer to fighting "the effects of electrical and magnetic fields and radiation."
The open press (whether law or non-law) that I consulted is not big on discussing the problems associated with the disposal of hazardous (other than nuclear) wastes or with the utilization in or the escape into the environment of man-made super toxic and often persistent substances like polychlorinated biphenyls (PCB's). The open press mainly deals with basics: "sulfate storms" in industrial wastelands, "nitric acid hovering in a poisonous trail", or unnamed reagents of a chromium compounds plant contaminating the aquifers over a vast area. Or, with the deliberate poisoning of the environment in the name of economic growth — the application of economic poisons:

When this man-made poisonous rain is poured on young growth of deciduous species, the result is as though the trees never existed. As for conifers, they seem to be better off for it. It's for their sake that the forests are "thinned." Tons of toxic chemicals dumped on a forest are considered the equivalent of weeding out stands of young trees. But who guarantees that only birches and aspens will suffer from this action? Berries, mushrooms and water are poisoned. To say nothing of the wild animals — they flee these areas. In the autumn, people are turned away by signs reading: "Contaminated. Mushroom and Berry Picking Prohibited!"

The situation is clearly abnormal. There has been talk about it for a long time. In Pudozh, delegates to a report-and-election conference of the district division of the All-Union Conservation Society noted that toxic chemicals are sometimes poured out in double-strength concentrations. Also, in the Krivtsy Forestry Section forests containing nothing but pines are sprayed with poison from the air (in order to fulfill the plan in terms of area). In the Pudozh Forestry Section, large tracts of mature birches were destroyed because of three sickly pine groves. . . .

. . . [I]t is necessary to cut back the area in which chemicals are used in forest management by two-thirds — i.e., it must be brought down to a scientifically substantiated level. It is also necessary that all recommendations for the use of chemicals in forest management be strictly enforced and that airplanes be replaced by helicopters, so that treatment can be more precisely targeted.
[Autonomous] Republic organizations have repeatedly made such proposals to the Russian Republic Ministry of Forestry. But ministry officials won't say either "yes" or "no." For four years now they have been giving evasive answers. They promise to think the matter over, weigh it, examine it.

Isn't it time to move from words to actions, to protect the forests from a protracted and copious cyclone of poison?56

Economic poisons are being used even more extensively in agriculture. "Around 1975-76, when special soil laboratories were set up, it was found that the country's fields and pasture lands were contaminated with 150 kinds of pesticides, poisonous chemicals, and trace elements."57 In fact, a recent item urges an end to the "total war on insects" and talks of insects being put on the endangered species list.58 The principal factor slowing down the rate of contamination appears to be the system's inability to meet the plan targets for the output of both chemicals and applicators.59 According to Komarov, PCB's, too, are plentiful in the Soviet environment, including Baikal, Ladoga, all the rivers and the Baltic Sea. Although Soviet environmental experts were genuinely convinced until recently that no PCB's were produced in the USSR, it turns out that PCB's have been involved in secret military production since the 1950's.60 But here a well Soviet troubles may be over. Without specifically referring to PCB's or like poisons, Sovetskaia Rossiiia recently reported that a solution to the problem of highly toxic wastes had been found at the Red Pine Forest Testing Ground near Kolpino, a suburb of Leningrad. "The news is full of alarming stories from various countries about large accumulations of industrial wastes that pose a serious danger to human life. What is being done to solve this problem?" Vot, this is what is being done in the Pine Forest: several techniques (including the burning of old tires) are integrated
into a single system. The wastes "can be completely detoxified." "Red Pine Forest is the first, and yet the only, experimental testing ground in the USSR for the centralized reception and detoxification of chemical wastes."

Detection and measurement of the presence of contaminants and of the changes in their concentration in any component of the natural environment (soil, water, air, animal and plant tissue) require advanced instrumentation. Here, as we noted before, the high technology of the scientific-technical revolution may have a benign effect on the environment. Not that it makes the environment any better. But its one hand can help undo some of the harm wreaked by the other. Some such equipment is in use and the installation of additional automated monitoring devices is proposed. But "[t]here continues to be a serious problem in organizing the development and production of instruments for measuring the discharge of harmful substances from stationary and mobile sources and of systems to monitor the operation of gas-scrubbing and dust-trapping devices."

The much-cited illustrations of massive disruptions of the natural balance in the USSR in the past were: the assault on the fragile ecology of Lake Baikal, pollution in the Black and Azov Seas, the falling level of the Caspian Sea, and the dust storms in the Virgin Lands territory. The list can be now supplemented with the ruination of the Kara Kum Desert, the drying up of the Aral Sea, the despoliation of Siberia, etc. The scientific-technical revolution has chiefly increased the rate of environmental destruction in each instance.

The Soviets are actively considering ways to undo some of this thoughtlessly and haphazardly inflicted damage by damaging what remains
of the ecological balance elsewhere, by deliberation and plan. All sorts of proposals for reversing river flows have been discussed for many years. Although the idea antedates the October revolution, the scientific-technical revolution seems to have dual relevance. First, it manifests itself in the rapidly accelerating exploitation of the arid and semi-arid areas of the south. Water shortage there is becoming critical. Second, it emboldens the technocrats to toy with stunning solutions to problems growing out of the ruinous situation. Presumably, computers now permit modeling and simulation on the basis of the available data, which was beyond the human capacity a few decades ago. However, the revolution does not guarantee that the data fed into the models will amount to a hill of tailings. In the face of the staggering uncertainties, Academician Nekrasov and USSR Academy of Sciences Corresponding Member Razin propose a committee:

The question of the possibility of withdrawing part of the flow of the Ob can be resolved only on the basis of authoritative scientific conceptions, corroborated by research, concerning its impact on the natural complex of Western Siberia, ice conditions in Ob Bay, the climatic characteristics of the North, and conditions relating to the further development of forestry, and fish industry and water transport in Western Siberia. This is especially true because a mighty all-Union national-economic complex is being built here. However, so far very little study has been given to problems of the ecological organization of this territory. The skimpy scientific data that we have now allow us to conclude that, inasmuch as only a small part of the Ob's flow is to be withdrawn, the unfavorable consequences will be relatively light. But his conclusion requires very careful testing.

From our standpoint, the scientific substantiation of such a highly important state decision as the territorial redistribution of the country's water resources calls for the organization of a highly authoritative scientific committee under the guidance of the USSR Academy of Sciences. It is necessary to enlist in its work many scientific organizations, on both the all-Union and republic levels. The committee's chief task should be a comprehensive examination
of the impact that the projected long-distance water
diversions will have on the environment. 69

Weather modification is regarded as another possible way to
alleviate local water shortages. For instance, the water area of the
picturesque Lake Sevan in the Armenian SSR has shrunk by more than 400
square kilometers. So, an experiment is reportedly underway to make
rain fall on the lake rather than on the May Day parade.

The experiment will take place in the mountains of Armenia,
near Lake Sevan. . . . Specially equipped aircraft will
criss-cross the sky above the water's surface, high-angle
guns that fire projectiles filled with silver iodide will
take aim at the clouds, and powerful aerosol generators will
go into operation. To the roar of jet engines, a jet of hot
air will rush out and shoot up vertically at tremendous speed
from an unusual installation, resembling a spaceship, which
is located 2,300 meters above sea level. 70

In view of the reporter's careful choice of the future tense, the only
jet of hot air may be that rushing out of the pages of Pravda, for all I
know. It seems to me that Komarov would be of the same mind:

. . . Among all the announced measures to protect the
environment, there is one area where these steps have a good
effect: it is propaganda, the showcase. The money invested
in pilot-demonstration enterprises, in blustery articles that
laud every such enterprise at each stage -- in planning, at
the start of construction, the end of building, opening and
so on -- yields greater gains than all other protective
measures. This money serves to placate society; it yields
advantage in the form of enraptured neophytes and proselytes
in Third World countries and in the West. 71

In any event, rain or no rain, Komarov has pretty much written off Lake
Sevan. "It is agricultural rather than industrial wastes which threaten
to contaminate the Armenian Lake Sevan, which will never recover from
the damage done by the hydroelectric plants at Sevan Falls." 72

The Nekrasov and Razin's reference to the need for "a comprehensive
examination of the impact . . . on the environment" is significant. It
highlights the absence of any procedure comparable to the EIS-process under the National Environmental Policy Act in the United States. Such procedure offers no panaceas, to be sure. It has costs of its own in terms of excessive bureaucratization and delay. When expedited, it tends to degenerate into pure formality. Moreover, the conclusions that it produces are no better than the data and the mental qualities thrown into the preparation process. Nonetheless, it is the best thing that anyone has yet figured out. Because of the substantive and procedural values that the EIS-process legitimizes, the probabilities of stumbling into projects of farreaching remaking of nature with irreversible serious consequences may be somewhat reduced. The U.S. Army Corps of Engineers will testify to that. But whatever success such a process can claim would seem to depend on the supportive presence of institutions guaranteeing access to all kinds of information and the freedom to discuss all issues. If, by contrast, the safety and cleanliness of nuclear power is axiomatic, if PCB's can flow into the country's waterways unmentioned and unmeasured for reasons of military secrecy, if "socialist" development does not, by definition, contradict ecological considerations, the introduction of environmental impact analyses may be so much waste of time.

All this seems to boil down to people's minds, to their consciousness. Yet, American commentators have, typically, taken a bow to the "advantages of the Soviet system" in matters environmental. Pryde writes: "The nature of the Soviet system is such that it can theoretically take constructive actions and adopt new policies more readily than can a society operating under a parliamentary system of checks and balances."73 Goldman puts it this way:
In the Soviet government's drive toward industrialization and economic growth all too often there has been no person or group around with any power to stand up for the protection of the environment. Until the point is reached when environmental disruption causes other state interests, especially manufacturing and agriculture, to lose as much as those in favor of greater exploitation of the environment stand to gain, environmental quality in the USSR is in a very fragile condition. Still, this argument can be turned around. For whatever reason, assume that the state suddenly decrees that all activity in a certain area must cease. With its enormous power, the Soviet state has the potential for being a most effective tool for conservationists.  

But, assume that, for whatever reason, the American state suddenly decrees the same thing. We have a state, don't we? And doesn't it also have enormous power? The trouble with both examples is that "the state" decrees nothing; human beings do. And when I am confronted with a posited leap of consciousness in one system, I do not feel shy about positing one in the other. Pryde, having made his statement about how things might be "theoretically," correctly observes that "what can be established by edict can be similarly abolished." Empirically speaking, wildflower fanciers do not rise to the top in the Soviet Union. Neither do those who reach the top speak forcefully and truthfully about environmental problems. The people at large are deprived of information about the true dimensions of the impending ecological peril. Komarov warns: 

If people don't perceive the dimensions of the real threat, they will not adopt the self-restraint needed for serious ecological action. And there can be but one outcome: after ecological disasters have hit, someone will have to do the restraining for them, by force, with all the ensuing consequences. 

Hence to create the illusion that existing economic and ideological means are sufficient to deal with the problems of ecological disaster, or that the current course of the economy can steer the country away from the reefs and shoals toward which other countries are drifting -- that is the gravest sin of Soviet propaganda. A sin unforgivable in its consciousness and premeditation.
It seems to me that, when environmental concerns are not openly and actively cultivated, the Soviet leaders' failure to take effective measures for environmental protection will not be perceived as a failure of leadership. Why blame anyone for not dealing with non-problems? Whatever legitimacy they enjoy will not diminish on this account. And I am not sure what other considerations, save near total catastrophe, would enhance their incentive to vigorously pursue environmentally sound policies. The only advantage of the Soviet system insofar as I can see, is that its less developed economy is spread over a territory immensely more spacious than the surface area occupied by any other "system." Plainly speaking, there's more to spoil. Siberia has been a "country in reserve," but its going fast. As usual, Komarov puts things in perspective: "If bourgeois Western Europe had treated its environment as we have, all the inhabitants of England, France, Italy, West Germany, Switzerland, and the Benelux countries would long ago found themselves in a sterile desert."79

With the reader's forbearance, I would like to end this article with a little story of how the scientific-technical revolution came to the Young Pioneers' camp.

... A colony of rooks had built nests in some old black poplars beside a Young Pioneer camp. They squawked from morning to late at night. Finally, the adults who headed the camp called in helicopters to destroy the nests. As the children looked on, the nests, with baby birds inside, were knocked down. The camp director claimed that the action was for the children's benefit, and no one I spoke to in the city department of public education or any of the pilots disagreed. It occurred to no one that irreparable harm had been done to the children's upbringing.

The moral of the age of the scientific-technical revolution is: don't squawk or they'll call in the helicopters.
NOTES


2. This part of the article draws heavily on what appears to be the most recent available systematic statement of the theory of Soviet environmental law, N.T. Osipov (ed.), Problemy pravovoi okhrany okruzhaishchei sredy v SSSR (Leningrad: Izd. Leningradskogo universiteta, 1979). To a lesser extent, it also draws on: O.S. Kolbasov, Ekologiia-Politika-Pravo (Moscow: Nauka, 1976); Iu. I. Tiutekin, Priroda, Obshchestvo, Zakon (Kishinev: Shtiintsa, 1976); R.K. Gusev & V.V. Petrov, Pravovaia okhrana prirody v SSSR (Moscow: Vysshaia shkola, 1979).

Eissenstat (ed.), Lenin and Leninism: State, Law, and Society


5. E.g., USSR Decree of October 13, 1975 "On Measures to Improve Protection of Soils from Wind and Water Erosion," SP SSSR 1975, no. 21, item 144; USSR Decree of February 14, 1974 "On Strengthening the Struggle with Marine Pollution with Substances Harmful to Human Health or to the Living Resources of the Sea," SP SSSR 1974, no. 6, item 26; USSR Decree of February 7, 1974 confirming "Statute on the State Control of the Functioning of Gas Scrubbers and Particle Precipitators," SP SSSR 1974, no. 6, item 24.


7. The term "environmental protection" appeared in Soviet legal sources and literature less than a decade ago. H.-J. Uibopuu, "Environmental


9. _Id._, p. 10.


23. Id., 1970, no. 50, item 566.

24. Id., 1975, no. 29, item 435.

25. Id., 1977, no. 7, item 123.

26. Id., 1969, no. 52, item 466.


29. Early and more recent examples of environmental decrees of the USSR Council of Ministers may be found in V.M. Blinov (ed.), *Sbornik normativnykh aktov po okhrane prirody* (Moscow: Iuridicheskaia literatura, 1978).

30. *SP SSSR* 1975, no. 8, item 44; *SP SSSR* 1976, no. 4, item 16.

31. Osipov, *op. cit.*, pp. 82-84.

32. Id., p. 93.
33. Supra note 21, with accompanying text.


36. Vedomosti Verkhovnogo Soveta SSSR 1968, no. 6, item 40.


38. USSR Edict of December 10, 1976, "On Temporary Measures for the Preservation of the Living Resources and the Regulation of Fisheries in the Offshore Waters of the USSR," art. 7, Vedomosti Verkhovnogo Soveta SSSR 1976, no. 50, item 728 (up to 100,000 rubles).


42. A. I. Ioirysh, Pravovye problemy mirnogo ispol'zovaniia atomnoi energii (Moscow: Nauka, 1979).


57. Komarov _op. cit._, p. 47.


60. Komarov, op. cit., p. 33.


68. Goldman, op. cit., pp. 239-270.


71. Komarov, op. cit., p. 136. See also supra note 61 and the accompanying text.

72. Komarov, op. cit., p. 35.


75. Pryde, *op. cit.*, supra note 73, p. 743.


78. *Id.*, pp. 112-128.

79. *Id.*, p. 131.

A notable accompaniment to the recent Polish events was the account circulated by the international news media to the effect that the Soviet government had promised the Polish regime "a large hard-currency loan ... intended to help Poland out of the economic problems" that were chiefly responsible for the current crisis. At first, no details were furnished concerning the offer, but the sum was believed to be about $100 million. Compared to Poland's overall debt of around $20 billion and its estimated payments of interest and principal of about $7.18 billion in 1980, the size of the Soviet aid package struck the experts as relatively unimpressive and designed primarily to "show the Poles that they had strong friends in the Soviet bloc who could help them" and to demonstrate to all onlookers that the Polish apparatus regarded the Soviet Union, rather than the west, "as its main pillar for economic recovery." Moreover, since Moscow had earlier given signs that it viewed Poland's massive debts to western banks as a phenomenon that could undermine the steadfastness of its allegiance to the Warsaw Pact and, generally, had on several occasions in the past denounced western economic assistance to Communist countries as interference in their internal affairs, the bid was clearly also aimed at neutralizing the perceived dangers of undue reliance on material aid from western quarters and strengthening the economic ties that bound Poland to the socialist fraternity.

As the situation in Poland worsened, the Soviet Union and its East European allies upped the ante in an effort to bail out the Polish leadership laboring under heavy economic pressure both at home and abroad. Outside observers then pointed out that the price of the political victories won by the Polish workers
from their Communist rulers might, ironically, be such that the long-term consequence of the costly settlement would mean "a further tightening of Poland's economic embrace with the Soviet Union." In private conversations, Soviet officials were reportedly saying that the Warsaw authorities would have to turn to the Russians for the economic and financial help they needed to pay their debts to the west and foot the bill for the wage increases and food, calculated at $3.3 billion, that were conceded to get the striking workers back to their jobs. To underscore that dependency, its own commitment to the concept of "socialist solidarity" and the importance that it attached to Poland's strategic position within the socialist community, the Kremlin affirmed its readiness to procure economic relief to its beleaguered partner on a scale more than matching western pledges of new aid. The value of promised Soviet assistance exceeded initial expectations with the disclosure that the Soviet Union had granted the equivalent of $1.3 billion in aid to extricate Poland from its economic difficulties, in the form of raw materials, fuel and credits in hard currency. No breakdown was provided, but the high figure was seen by western analysts as an indication that the USSR had publicly assumed a major stake in the business of stabilizing the Polish economy. The implications of this arrangement from the prospect of solidifying Poland's place in the socialist confederation are plain enough.

The Polish experience may have been particularly dramatic, but the practice of extending currency credits (loans) is not uncommon in the record of Soviet post-war dealings with its East European associates. Even if special political factors do not enter the picture, the regional dimensions of the scientific-technical revolution call for an accelerated pace of rapprochement between the members of the CMEA family and a crucial aspect of this agenda is the increased reliance on the sharing of national resources for the joint benefit of the entire
Transfer of financial assets is part of the process, for monetary infusions can lift a corporate partner over an occasional rough spot, let a party maintain its planned tempo of economic progress and enable the poorer recipients overcome the growth gap between themselves and the more advanced donors and catch up with the latter to establish a uniform level of affluence within the polymorphic constituency. Not surprisingly, the Comprehensive Program for the Further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration by the CMEA Member-Countries adopted in 1971 devoted considerable space (section 7) to prescribing measures for upgrading the currency-financial relations among the participating states, a blueprint that emphasized both greater use of multilateral devices and continued resort to the "currently applied principles and procedures for the granting of credits on the basis of intergovernmental agreements on economic cooperation and mutual assistance" (Art. 21).

Despite the undeniable importance of the institution of international credit in the repertory of the socialist Commonwealth (indeed, one Soviet author—a trifle hyperbolically perhaps—pronounces "agreements on the granting by the Soviet Union of credits and loans to the people's democratic countries ... one of the most important forms of implementation of economic cooperation of the USSR with these countries"), the literature on the subject is remarkably sparse. One reason for the drought is that information on Soviet activities in this domain falls into the category of items which require censorship clearance before they can be published: the rule refers to incoming as well as outgoing foreign credits, loans and gifts and obviously inhibits scholarly work on and even serious journalistic treatment of the topic. Another likely cause of neglect is that what empirical data are available on Soviet policies in this area are
so spotty and ambiguous that venturing hard conclusions on the matter tends to
be a very risky proposition. The uncertainty over the substantive composition
of the latest Soviet aid consignment to Poland is an excellent case in point.
In effect, no consensus has ever existed on the global value and exact contents
of the USSR's credit (loan) allocations to its East European friends, which
means that assessment of its performance here elicits a wide range of opinion
among the cognoscenti. For example, according to one western computation,
"through 1956 the credits extended to the area [Communist-ruled East Europe],
excluding Yugoslavia, and specifically mentioned by either Soviet or East Euro-
pean sources, have represented a total of not more than 850 million dollars."
On the other hand, in his speech before the 20th Party Congress in February 1956,
Khrushchev announced, inter alia, that Soviet industrial credits granted up to
that time to the European "people's democracies" amounted to 21 billion rubles,
or $5.240 billion at the official rate of exchange. The discrepancy between
the two sums is so big that the suggestion has been made that the higher total
could only be approximated by including in the calculations "military credits
as well as some special arrangement like the one concerning purchase by Hungary
and Romania of the Soviet share in the former joint companies."

To add to the confusion, a year later the deputy head of the Soviet Chief
Administration for Economic Relations, P.N. Nikitin, issued a report that by the
middle of 1957 all Soviet credits extended to all countries of the bloc (i.e.,
its European as well as its Asian component) exceeded 28 billion rubles, or $7
10 billion. (By one Soviet reckoning, repayment of circa 6 billion rubles of
that sum was subsequently waived.) Appropriate adjustment notwithstanding,
these figures do not fit those released earlier and even when scaled down to
16-18 billion rubles, or $4-4.5 billion, to cover the quota of the European
contingent alone, the claim sounds exaggerated, prompting a western expert on
Communist economic affairs to observe that "Soviet statements of the total amount
of real credit to the dependent countries must be regarded as vastly inflated."
His own reading of the evidence led him to the conclusion that "it would not be
unfair to assume that, in fact, such credits have reached at best one fourth of
the total claimed by Khrushchev." By 1970, official Soviet spokesmen were
indicating that the sum of just the long-term credit funds which the USSR had
put at the disposal of the other socialist countries in the post-war years had
now climbed to 13 billion new rubles (while the developing countries had received
over 5 billion new rubles' worth of long-term credits in the same period). How
much credibility attaches to this set of figures is again open to debate.

Despite the difficulties of documentation, an attempt to explore the terrain
should still be made. First, although in normal circumstances the bulk of credit
assistance within the socialist community consists of trade and industrial
investment credits (thus, by local count, between 1961 and 1975 the CMEA member
countries granted each other investment credits estimated at 7.5 billion new
rubles), cash credits (loans) are essentially designed to afford ad hoc relief
in emergency-type situations: their value rests not in the volume of aid supplied,
but in the special character and timing of the service provided. Because in the
main they enter the picture at critical junctures, these "rescue" operations
fulfill a more important function than the physical scope of the enterprise
would seem to warrant. Second, an increasing proportion of intramural trade
and investment crediting activity has lately been channeled through multilateral
institutions: the organization of the International Bank for Economic Coopera-
tion in 1963 enhanced the significance of the transferable ruble as a common unit
of commercial accounting and when the International Investment Bank was founded
in 1970, the transferable ruble also assumed the role of "collective currency" for intra-CMEA investment transactions. Furthermore, both Banks can grant hard currency credits and loans to their members for business matters falling within their respective jurisdiction. Nevertheless, general-purpose or "un-targeted" currency credits remain strictly an intergovernmental affair; the relationship therefore tends to reflect more directly the policy desiderata of the interested parties and allow greater opportunity for the donor to influence the behavior of the recipient to fit its own preferences.

Third, whereas every member country of CMEA has gradually become involved in extending trade and investment credits to the other partners (on a magnitude commensurate with its potential), the USSR stands virtually alone in possessing an inherent capacity to bankroll credits in gold and foreign currency and to stake its associates to such loans. Fourth, since the USSR is the prime architect of the CMEA complex and relies on it to promote its vision of the scientific-technical revolution on a regional scale, its quasi-monopoly of free currency resources gives it an extra edge in gaining peer acceptance for its particular conception of the route to the Communist future.

Major credit arrangements between the USSR and its East European allies have traditionally been negotiated at the governmental level. Inter-bank credits were used for current financing of balance of payments relating to commercial exchange: "this function was performed by technical credits in connection with clearing agreements mutually granted by the central banks of the socialist states until 1963 for conducting payments on clearing accounts." That task has since been assigned to the International Bank for Economic Cooperation, established in 1963, and the International Investment Bank, created in 1970, also engages in
crediting activity in its particular area of competence. Despite the recent diversification and gradual shift to multilateral procedures, bilateral credit operations between governments so far dominate the local scene and all the decisions concerning the movement of international credit are here concentrated in the hands of the socialist state which taps the national stock of monetary and commodity resources to lend a specified share to a fellow socialist country on conditions they jointly determine.

Most of these credits are dispensed by means of special credit agreements concluded in the name of the contracting states and such agreements are said to "represent one of the important legal forms of economic cooperation of the socialist countries." However, next to agreements whose sole purpose is to extend an international credit, the Soviet-East European experience likewise knows of many cases where the granting of a credit is not the main object of an agreement and features as a subsidiary item in a document primarily designed to regulate a whole array of questions of economic collaboration between the signatories,—for instance, agreements on economic and technical cooperation. Because states themselves enter into these credit transactions, some adjustments have been made in the applicable rules. For example, at the initial stage of consolidation of "socialist unity" in Eastern Europe under the sponsorship of the USSR, the parties still followed the common usage of requiring such forms of guarantee of payments and liquidation of the credit as ratification of the credit agreement and issuance by the borrowing government of special debentures. The USSR State Bank would then receive from the government of the corresponding socialist country individual promissory notes regarding repayment of indicated sums by certain deadlines, but this is no longer done. The present position is that, from the point of view of international law, the intergovernmental credit agreement per se constitutes a
commitment to extinguish the debt and, we are told, socialist states are congenitally incapable of deliberately defaulting on their obligations vis-à-vis one another. The possibility of this kind of lapse, it is claimed, is obviated by the very nature of the friendly relations between them. If, as a result of extraordinary circumstances, the debtor state cannot fulfill its treaty obligations without imposing excessive strain on its economic system, the creditor country, guided by the principles of socialist internationalism (and as much or even more so, one might add, by plain pragmatic considerations of the sort encountered in the non-socialist environment as well), is bound to heed the borrower's request for partial or complete remission of the debt, extension or postponement of payments, etc.

Soviet regional practice features 3 principal types of credit deals: 1) investment credits to pay for industrial equipment and technical aid; 2) commodity credits to pay for the purchase of industrial raw materials, foodstuffs and other goods; 3) currency credits (loans in gold and foreign currency). Technically speaking, the first and second categories both qualify as trade credits in that they are intended to service the delivery of assorted goods pursuant to special financing arrangements. The chief difference between them is the average duration: investment credits are apt to be medium-term (1 to 5 years) or long-term (over 5 years), whereas commodity credits are mostly short-term (up to 1 year). Currency credits are distinguished by the object of the operation—gold or freely convertible currency instead of goods; they tend to follow the medium- and long-term format. Interestingly enough, investment/commodity credits and currency credits are not treated in the same tone: the former enjoy a positive press and are said to play a beneficial role in promoting the economic growth of the individual members of the socialist community and the Commonwealth as a whole; the latter are usually made to sound like an ad hoc antidote to an untoward development, a cure for an occasional ill rather than a
desirable aspect of the local collective life-style.

Thus, many Soviet writers prefer to consider the recurrent resort to the expedient of currency credits in the USSR's relations with its East European satellites primarily as a phenomenon of the immediate post-war period. Such measures could then be alibied by reference to the urgent need to heal the massive wounds inflicted by the recent hostilities; i.e., monetary credits were extended to help surmount temporary cash difficulties connected with straightening out the balance of payments, to finance purchases of critical commodities on the capitalist market, and for other purposes. However, since the use of currency credits has not been limited to that early phase and marks the record of subsequent years as well, a more general explanation is now proposed for the persistence of this institution. The justifications offered range from the quite neutral observation that the recipient countries do not possess significant gold and currency reserves and these credits may prove indispensable to let them fulfill obligations concerning trade with capitalist countries to ideologically motivated charges that currency credits serve to resolve payment problems caused by the discriminatory policies enforced by the capitalist states against the socialist countries. Given this whole attitude, it is therefore not surprising to discover that Soviet authors go out of their way to point out that "in the world socialist system credits in gold or freely convertible currency do not have wide application" and leave the impression that the practice provides little more than band-aid relief from episodic irritations induced by business contacts with the west.

The complexion of the USSR's intramural credit repertory has, of course, changed noticeably over time. One can but agree with a Soviet expert on these matters that, "after the Second World War, the credit aid rendered by the USSR to foreign countries rose sharply, the growth being characterized not only by
the increase in the number of credits dispensed, but also by the diversity of forms of credit agreements, types of economic and technical assistance provided by the USSR pursuant to these credits, as well as the increase in the total sum of these credits. Nevertheless, even at the initial stage of East Europe's attraction into the Soviet orbit when reliance on currency credits was not uncommon, agreements on deliveries from the USSR on credit of industrial equipment and, more especially, agreements on short-term commodity credits still represented the most widespread specimen of credit agreement. Such shipments were currently portrayed as "important supplements to the goods they [the "people's democracies"] received from the USSR in accordance with the trade agreements." As the East European states proceeded in the fifties to launch their industrialization campaign, the focus swung to medium-term and long-term investment credits (running from 5 to 10 years).

To this day, the bulk of the international credits distributed within the socialist community consists of inter-state (bilateral) investment credits and commodity credits -- the former figuring at this point as the larger component. Except, their span has gradually been extended; both types of credits--but particularly investment credits--now fall mainly into the long-term bracket, which means that, depending on the assignment, their duration can stretch from 5-7 to 10-15 years and the latter model at present commands a majority in the lot. In fact, the entry of the International Investment Bank into the picture has reinforced the trend in the dual sense that inter-state credits feature all three varieties--short-term, medium-term, and long-term--whereas the IIB's inventory is limited to medium-term and long-term credits, and while inter-state credits have so far been earmarked for both production and non-production purposes, the IIB's credits are allocated only for production projects. To be
sure, the volume of inter-state investment credits as yet greatly surpasses that of the credits disbursed by the IIB, but the gap is slowly narrowing.

Whatever the technical distinctions between these different types of credit, all of them, we are told, follow the same set of norms, namely: "mutual respect for state sovereignty and independence of contracting parties, and repudiation by the creditor country of any interference in the internal affairs of the debtor country; complete equality and mutual advantage of the parties concluding credit agreements; exclusion in these agreements of terms entailing economic or political subordination of the debtor country to the creditor country; precise and punctual fulfilment of obligations by both parties entering into credit relations." Of course, these lofty pronouncements are then brought down to a more routine level and translated into a packet of practical propositions designed to demonstrate the superior virtues of the socialist system's credit activities.

Thus, the first claim made on behalf of these operations is that the Soviet Union's credits to its associates are not drawn from any "surplus of resources which it cannot use at home (that is something that will never happen in this country), but because the USSR, true to the Leninist principles of proletarian internationalism, regards it as its duty to render assistance to other socialist countries which are badly in need of resources to boost their economies." In other words, the pitch here is that since the USSR is not plagued by excess funds, it has no ulterior "business" motive for "exporting capital" to expand sales markets or earn interest (or, a fortiori, facilitate the dumping of old stock) and in offering credits is prompted solely by the desire to help its friends overcome temporary difficulties or simply maintain a forward momentum. That reputedly makes its conduct on these occasions doubly commendable as the fact that the USSR's generosity effectively works to deprive it of
access to funds already slated for internal consumption.

Next, an alleged advantage of Soviet-East European credit relations is that the relevant agreements contain no features violating the interests of the borrowing country and aimed at "enslaving" the latter, extracting revenue or obtaining political or economic concessions and privileges. Indeed, given the local practice of arranging for international credits by means of inter-state agreements, the medium itself is said to guarantee that the requirements of both sides will fully be taken into account since the negotiations are waged by sovereign entities assured of an equal input into the elaboration of the applicable clauses. Hence, policy, style and substance combined from the beginning to enable the "people's democracies" to lean on Soviet credits in their bid to accomplish the job of "accelerated industrialization and the building of socialism" on conditions that fortified their economic and political independence.

To believe the official script, the same pattern still holds and the institution of intra-socialist credit continues to contribute to the task of surmounting the disparities in the level of development of the individual member-countries inherited from the capitalist past, and promoting the division of labor among the partners on the basis of specialization and cooperation in production which "serves the interests of particular countries as well as the socialist system as a whole and, consequently, both the interests of the borrower-countries and the interests of creditor-countries." Even currency credits which are conceived as an emergency measure for handling problems encountered in trade with the capitalist competition enhance the process by allowing, for instance, the purchase of deficitary machinery and commodities abroad to improve the economic performance of the buyer-state that will, in turn, add to the well-being of its associates: the impact may in fact be almost imme-
diately if the borrower undertakes to repay the loan out of the current quota of goods produced with the newly acquired foreign equipment or technology.

Further, the point is constantly made that the loans and credits extended within the community are granted on preferential terms as far as schedules, interests and payment procedures are concerned. The low cost of region-wide credits is cited as conclusive proof of the absence of any "commercial" impulse behind the willingness to engage in such traffic: in the first post-war years intramural credits fetched 3% interest, which in 1948 was reduced to 2%. Since then, the fee levied on credits to fellow-socialist regimes has tallied 2%, 1.5% or even 1% and, as noted, at that price the earnings offer only partial compensation for the losses incurred by the creditor-country by virtue of the withdrawal for a protracted period of sizable material values from its turnover.

So, if the lender is prepared to sustain the inconvenience for the sake of buoying up a friend, the borrower can easily afford the expense,—in stark contrast, it is claimed, with the brand of usurious practices here fostered by western entrepreneurial circles.

Another important aspect of the Soviet-East European record in this area is the "planned character" of their mutual credit transactions, ostensibly determined by the very nature of the socialist economic infrastructure, that finds expression in the ability of "both the creditor-countries and the debtor-countries to provide in their national economic plans for means of dispensing and liquidating credits, which serves as a guarantee of their timely receipt and return."

In this setting, the credits are "closely hitched to the national economic plans of the creditor-country as well as the borrower-country." Now, inasmuch as resort to currency credits is, by definition, a random phenomenon occasioned by unexpected developments, the item certainly cannot be anticipated
and duly incorporated into a prospective agenda: hence, the concept of "planned organization" does not apply in this case, at least as regards the matter of initial allocation of a credit of this sort. However, it is true that, once a currency credit is obtained, the debtor-state is in a position to review its calendar for the corresponding period in a way to include the new commitments and ensure the smooth fulfillment of these extra obligations.

Soviet spokesmen and their East European colleagues are also fond of emphasizing that international socialist credits are designed along "strictly targeted" lines, i.e., the object of the credit or loan is in every instance plainly spelled out. This approach, according to them, suits the common stake of the lender and the borrower and rules out the possibility of issuing the credit on terms running counter to the national interests of either party. A high degree of specificity may be hard to achieve in connection with general-purpose currency credits, but if targeting credits is an established policy within the socialist fraternity, resort to open-ended credits would be a priori foreclosed. In short, a situation where the donor might simply transfer to the recipient a designated sum of money to be spent as the latter pleases in exchange for repayment at a fixed interest rate pursuant to an approved timetable would not be an acceptable modus operandi. The cash involved is not idle capital looking for an investment opportunity, but scarce assets over which the lender would wish to retain control at least to the extent of knowing the use to which they will be put in order not to sanction the waste of funds that can profit more domestically.

In any event, the premise of a strong sense of solidarity within the socialist community militates in favor of a decision which simply satisfies all participants instead of the kind of laissez-faire attitude which prevails else-
where to let each party seek benefits for itself without caring about the joint venture's "corporate merits." Meanwhile, the companion postulate of the socialist states' overriding concern for the proper management of their economic potential likewise leads to the presumption that, as paymaster, the USSR is logically entitled to exercise supervisory (or monitoring) powers over the ultimate disposition of the allotted credits and not just expected to mind the bookkeeping minutiae focused on identifying the current status of disbursements, repayments and financial charges. In a nutshell, given that the Soviet Union's reason for dispensing credits to its peers is, by its own admission, not to collect interest but to enhance each borrower's economic efficacy and thus raise the whole ensemble's index of productivity, a concerted effort to see to it that expensive currency credits are indeed applied in the prescribed manner to further the collective's ends inevitably will somehow figure in the game-plan.

Lastly, a pair of recurrent themes in the local literature on the subject refer to the precise time limitations imposed on intra-socialist credit operations (srochnost') and the compensation factor (platnost'). Regarding the former, the tendency is to underscore that, when concluding credit agreements, the contracting parties set deadlines for utilization of the credit, specify the conditions for its liquidation and the interest premium, normally fix the date on which payment initially falls due and the date by which repayment must be completed. The emphasis on the prompt return of the principal is probably meant to convey the following messages: first, that the socialist countries are not in the business of earning interest on their capital and prefer to regain use of the primary assets (or an appropriate substitute therefor) for home investment; second, that letting a credit run indefinitely so that the financial charges can continue to accumulate is never the rationale for extending credits
within the socialist community; and, third, that unless everybody adheres to a firm schedule, a "revising" account carries with it the high risk that the borrower will pile up bills that he cannot afford and, presumably, socialist regimes do not want to expose each other to such jeopardy as well as wish to avoid the bleak prospect of having to handle a possible default by a partner. The moral of the story is that, in their credit experience, the socialist states engage in a round of friendly services, duly reciprocated, and do not cast about for ways of enriching themselves at each other's expense.

The question of levying fees for providing credits in relations among the socialist countries is slightly more complex and appears to have caused a bit of doctrinal malaise in native circles concerning the ethical compatibility of that practice with socialist mores. It is apparently the persistence of inside objections to and criticism of existing procedures which has prompted Soviet and East European scribes to retort in public that "payment for socialist credit does not contravene the principles of socialist collaboration, but, quite the opposite, payment for credit is one of the important means of guaranteeing the mutual effectiveness of economic cooperation." According to this school of thought, the creditor-country, by diverting for a protracted period of time a quantum of its own resources from domestic economic turnover, is "shortchanged" with respect to a certain portion of its national product which must to some extent be indemnified through payment for credit. Even so, the low interest rates that have up till now marked intra-socialist credit activities may, in part, be intended to assuage the opposition's sentiments that a truly socialist environment has no room for the concept of deriving profits from lending money. Be that as it may, the institution is not likely to be abolished; in fact, as will be shown later, considerable sympathy has recently been voiced by a number
of Soviet and East European specialists for the notion of raising the cost of intramural credits in order to increase their efficiency as an instrument of regional economic regulation and express their real economic value.

* * *

Having explored the canonical picture, let us now look at the reported cases, reviewing in succession the record of each of the East European countries that has to date received currency credits (loans) from the USSR.

A. Bulgaria:

On August 23, 1946, the Bulgarian authorities approached the Soviet government with a request to help them float a loan in the amount of $500,000 which was needed for a down-payment to a Swedish ship-building company on three merchant vessels purchased in Sweden. Payment was due on August 25 and the Bulgarian regime had counted on financing the deal through the sale of tobacco and rose attar, but the price currently offered for the latter was too low and the Bulgarians were constrained to ask the Russians for the loan of $500,000 for six months. The Bulgarian government indicated readiness to guarantee the credit with gold deposited in the Bulgarian national bank and pay interest on the sum borrowed at the going rates charged by the USSR State bank. On August 30, 1946, a note from the USSR Ministry of Foreign Affairs to the Bulgarian Ambassador in Moscow conveyed the Soviet government's willingness to grant the credit in the amount of $500,000 for a 6-month period at 3% annual interest against gold deposited in the Bulgarian national bank in the name of the USSR state bank.

In the following year, the Bulgarians turned once again to their Soviet allies for financial assistance, applying for and getting a credit in freely convertible currency to make payments due to various capitalist countries on orders for equipment and ships. This credit, we are told, was granted by the
Soviet Union at a time when Bulgaria was experiencing serious currency difficulties and, "although it was procured in free currency, Bulgaria liquidated it by means of deliveries to the USSR of goods of its traditional export." According to the Bulgarian source:

No capitalist country ever extended such terms for repayment of credits. Capitalist countries would altogether not grant a credit in free currency for settlements by Bulgaria with other states, and would only go along with the grant of credits for the purchase of their own goods.

The only other occasion where Bulgaria received currency credits from the USSR appears to have been by virtue of the agreement of February 20, 1957, at which time the Soviet Union granted Bulgaria a loan in the sum of 45 million rubles, including 9 million in gold, "on exceptionally favorable terms" which called for repayment through annual deliveries of agricultural and industrial goods over a period of 10-15 years at 2% annual interest.

B. Czechoslovakia:

On December 14, 1943, the USSR and Czechoslovakia concluded an agreement concerning a grant to the government of Czechoslovakia of a loan in gold. Under its terms, the Soviet Union undertook to lend Czechoslovakia gold bars worth 132.5 million rubles or, at the rate of exchange set by the USSR State bank of 5 rubles 30 kopeks for $1, $25 million figured at $35 per ounce of pure gold. 50% of the loan was assigned in dollars. A 2 and 1/2 percent interest fee applied. The gold would be put at the disposal of the government of Czechoslovakia in the USSR State bank in Moscow or, on its instructions, at the disposal of third persons and organizations in the USSR or in other countries, provided that all expenses connected with the shipment of the bullion from the USSR (freight, insurance, etc.) to the country where the government of Czechoslovakia decided to use it and the risk of transportation were assumed by the Czechoslovak government.
The Czechoslovak government undertook to liquidate the loan and the interest on it by payment in gold or freely convertible foreign currency at its actual gold value on the date of payment in order that the sum paid in the respective currency match the quantity of gold dispensed pursuant to the present agreement. Repayment was to be effected over the course of ten years in equal annual installments slated for no later than December 1 of each year. The first regular payment was scheduled for December 1, 1954, and the last fell due on December 1, 1963. Together with the payment of the current installment on the principal, payment was also to be made on the interest for the entire sum of the debt computed to that date. Interest was calculated from the day the gold was put at the disposal of the Czechoslovak government. In case of repayment of the loan and interest in gold, the corresponding quantity of gold was to be deposited in the USSR State bank in Moscow or in another country specified by the USSR government. All expenses connected with the delivery of the gold to the place indicated by the USSR government and the risk involved in the delivery was assumed by the Czechoslovak government. The agreement entered into force on signature.

The stated reason for the transaction, one should add, was Czechoslovakia's alleged need to "overcome currency difficulties which it experienced as a result of the hostile policy toward it of the imperialist states" or, in somewhat more neutral tones, "Czechoslovakia's currency difficulties in relations with capitalist countries." The credit was used to "establish a gold reserve of the National bank of Czechoslovakia and settle international accounts with capitalist countries."

Then, in 1957, the USSR reportedly extended Czechoslovakia a loan of gold in the amount of 12 tons, valued at 12.15 million rubles, to be repaid over a
three year period starting in 1958 by deliveries of goods featured on a special list, comprising in the main items of traditional Czechoslovak export.

A noteworthy episode occurred in 1968, when a delegation of Czechoslovak leaders visited Moscow in search of economic aid, including a loan in gold. A hard-line version now claims that: "As regards the loan in gold, the Soviet comrades asked us to spell out the purposes for which it would be used. We could not give an answer. We were plainly told that until we would restore order the loan would not be forthcoming because they did not want to abet the activities of antischolarist and counterrevolutionary forces in the CSSR." Despite the rebuff, the Soviet side did consent in October 1969 to help the following year "with the purchase on foreign markets of certain goods of which there was currently a shortage in the CSSR." The arrangement may have required the USSR to dip into its gold or free currency reserves on behalf of Czechoslovakia and thus served as an indirect form of currency credit to the latter.

C. German Democratic Republic:

In August, 1953, the USSR staked East Germany to a "large" credit in the amount of 485 million rubles, 135 million rubles' worth of which was earmarked in free currency (30.4 million new rubles). The credit was granted at 2% annual interest, with repayment over a 2-year period starting in 1955. The low interest rate charged prompted the Prime-Minister of the GDR, O Grotewohl, to characterize it in public as no more than a "normal administrative tax" and to draw invidious contrasts on that basis between the conduct of a socialist state in matters of capital and the behavior of capitalist countries "which can only approach these questions from a speculative point of view." Next, in a statement signed on July 17, 1956, concerning the results of negotiations between government delegations of the USSR and the GDR, the parties disclosed that the
USSR had agreed to grant the GDR free currency for the purchase on the world market of certain goods that the latter required. The loan was part of a mixed credit package in rubles and hard currency estimated at $20 million, but what proportion of that total consisted of hard currency was not revealed.

Then, in a second joint declaration, signed on January 7, 1957, the participants let it be known that the USSR had consented to extend the GDR in 1957 a fresh credit in free currency in the sum of 340 million rubles (or $85 million) to buy goods abroad (mostly raw materials) needed for the national economy of the GDR. The money was scheduled to be repaid through deliveries of goods during 1961-1965. Finally, on September 27, 1957, the GDR received a further 300 million ruble (or $75 million) trade credit for 1958 in convertible foreign currency, again to finance the purchase of goods abroad, principally raw materials, which were in short supply at home.

D. Hungary:

The Soviet Union's first hard currency credit to Hungary dates to October 4, 1956, when the two countries concluded an agreement whereby the USSR undertook to provide economic assistance to Hungary. The deal called for a 100 million ruble credit in 1957, of which 40 million rubles' worth ($10 million) consisted of free currency. The credit was granted at a 2% per annum rate, and was slated to be extinguished through deliveries of Hungarian goods to the USSR during 1960-1965 in equal annual installments in accordance with the terms of the applicable Soviet-Hungarian trade agreement. Interest on the credit would run from the time the corresponding portion of the credit was drawn upon. Payment of the interest calculated for 1957-1959 fell due in the first quarter of 1960, for 1960-1964—in the first quarter of the year following the year for which it was computed, and for 1965—together with the last payment in liquida-
tion of the principal debt, and was likewise to be effected by deliveries to
the USSR of Hungarian goods in accordance with the terms of the applicable Soviet-
Hungarian trade agreement. The USSR State Bank and the Hungarian National Bank
would jointly determine the technical procedure for use and liquidation of the
credit and payment of the accrued interest.

An arrangement for new credits was mentioned in the declaration of the go-
85 vernments of the USSR and Hungary of March 28, 1957, which reported a Soviet
decision to make available to Hungary in 1957 a long-term credit in the amount
of 750 million rubles, including 200 million rubles' worth ($50 million) in
free currency. The announcement emphasized that the latest credit was granted
"on preferential terms of 2% with repayment over a 10-year period starting in
1961 by deliveries of goods customarily exported by Hungary," and confirmed
that the 40 million ruble credit in free currency featured in the October 1956
agreement would also be transferred to Hungary in the course of 1957.

Local sources generally explain the need for these credits (loans) by the
political upheaval in Hungary in 1956 and the ensuing heavy damage caused to
the country's economy by "the counterrevolutionary mutiny instigated by the
imperialist forces." The connection between these phenomena is obvious (as
is true, too, of the hard currency loan to the GDR in 1953 and the events in
Berlin) and Soviet financial aid to Hungary was clearly intended to ease the
political crisis by improving the economic situation which, inter alia, meant
letting the Hungarian regime shop abroad for scarce items. Apparently, Hungary's
ability to place its orders there hinged in part on the prior payment of a
number of outstanding bills so that, as noted by an outside analyst, the 1956-
1957 credit was in fact "supposed to be used for settling the debts contracted
88 with the West before the revolution" and thus ensure Hungary's continued oc-
cess to the capitalist markets.

Finally, on January 13, 1953, the USSR and Hungary signed a protocol providing for a Soviet credit to Hungary during 1958 in free currency in an amount equivalent to 40 million rubles for the purchase of copper, natural rubber, ball-bearings, rolled ferrous metals and other raw materials. The sum was to be transferred by the USSR State Bank to the account of the Hungarian National Bank during 1958 in accordance with a timetable set by the banks. The credit was granted at 2% annual rates, computed from the day of transfer of the currency by the USSR State Bank to the account of the National Bank. The debt was scheduled to be retired through free currency reimbursements over a 5-year span starting in 1962 in equal annual installments. Interest on the credit was to be paid in free currency in the first quarter of every year following the year during which it accrued, with the first payment falling due in the first quarter of 1959. To keep track of the spending and repayment of the credit as well as payment of the interest owed, the USSR State Bank and the Hungarian National Bank would open credit accounts in each other's name and jointly define the technical procedure for maintaining these accounts.

E. Romania:

As far as one can tell, Romania has received a single hard currency loan from the USSR—$6.75 million rubles' worth in free currency as part of a $45 million ruble credit granted in 1954, at a 2% per annum interest. Liquidation of the credit was to be effected in equal annual installments during a 3-year period starting January 1, 1956. In December, 1956, repayment of all Soviet credits extended in 1949-1956 was postponed for 4 years as regards that portion which was slated to fall due in 1957-1959.
F. Poland:

Poland's Communist regime obtained a currency credit from its Soviet partner very early in the game. Indeed, on December 22, 1944, the Soviet government lent the Polish Committee for National Liberation 10 million rubles and $500,000. A new agreement, signed on September 18, 1946, revised the terms of the original loan. Thus, the USSR consented to extend Poland a fresh loan in the amount of 15 million rubles at 2% annual interest. Repayment of the initial loan of 10 million rubles and $500,000 (duly transferred) was postponed and the entire sum of the debt (i.e., 25 million rubles and $500,000) was now scheduled to be retired at 2% annual interest under the terms of the current accord. The Polish government undertook to liquidate the loan and accrued interest either in US dollars or deliveries of goods, in which case the applicable conditions would be jointly fixed by the parties. Repayment of the loan was to be effected in equal installments during a 5-year period on a semi-annual basis: April 1 and October 1 of each year. The first due date fell on April 1, 1947, and the last—on October 1, 1951. Similarly, interest on the loan was to be computed and paid on a semi-annual basis on the aforementioned dates. If the Polish government elected to repay the principal sum of the loan and interest on it in part or in full through deliveries of goods, then no later than 2 months prior to the deadline for the next slated payment it was to inform the Soviet side of its decision in order to determine in good time the conditions for the delivery of the goods. Repayment of both the principal and interest would be made pursuant to a preferential exchange rate of the US$ established for diplomatic missions, namely, 12 rubles per dollar on a scale of 35 dollars for an ounce of gold, so that the total amount of the principal in the present consolidated loan added up to $2,583,333. The agreement entered into force on signature.
Meanwhile, the Soviet Union had staked Poland to at least two more loans. First, on April 9, 1945, the parties concluded an agreement concerning an interest-free loan whereby Poland received 50 million rubles and $6.5 million "to cover various state expenses." Repayment of the loan was to start 5 years after the end of the war by means of equal installments during the following 10 years. The amount stipulated was to be entered on a special account opened in the USSR State bank in Moscow in the name of the person authorized by the Provisional Polish government. The latter was given the choice of extinguishing the debt in American dollars or by deliveries of goods on terms to be separately arranged by the contracting sides. Repayment of the whole amount would be calculated on the basis of the US dollar pegged to 5 rubles 30 kopeks at the price of $35 per ounce of gold. The agreement went into force on signature and was not subject to ratification.

Second, the Soviet-Polish communique of May 27, 1945, reporting on the visit of a Polish government delegation to the USSR, noted that "in view of the shortage of necessary currency reserves, as well as the difficulties encountered by the Polish government in getting the Polish gold fund deposited in foreign banks before and during the war, the Soviet government expressed readiness to give Poland aid in the form of credit from its own gold stocks to deal with Poland's most pressing economic exigencies." The relevant operational details were not released.

A major event in the post-war history of Soviet Polish relations was the signing of a series of accords on March 5, 1947. Among them, two pertain to the topic of this study. Thus, the agreement on the settlement of mutual financial accounts reviewed the record of past transactions, chronicled the liquidation of assorted Polish debts in rubles and Krakow zlotys, but confirmed
that payments were still due on the portion of earlier credits (loans) incurred in US dollars, i.e., by virtue of the agreements of December 22, 1944/September 18, 1946, and April 9, 1945 (no mention was made of the May 27, 1946, agreement). The only addition here was to clarify that repayment of the $6.5 million that Poland had borrowed under the agreement of April 9, 1945, would be effected over a 10-year period starting June 1, 1950 (no exact date had been named in the original text). Then, the joint communique published to mark the occasion and summarize the results of the official talks disclosed that an agreement had also been reached on granting Poland a fresh loan in gold in the sum of $27,875,000. The authorities were apparently content with this bare statement, but secondary sources supply a few extra details.

From them we learn, for instance, that: the loan was interest-free and intended for "purchases abroad (chiefly from the United States) or machinery and foods"; its term was 10 years; although it was formally described as a loan in gold, in fact it consisted of gold and convertible currency; repayment was likewise envisaged in gold and/or convertible currency; repayment was slated to start in 1950. The reason often given for the loan was to help Poland surmount "currency difficulties which it experienced as a consequence of the hostile policy toward it of the imperialist states." Interestingly enough, a Polish author has since felt called upon to account for the size of the transaction. According to his explanation:

From the point of view of the current scale of the national economy, this is not very much, but in that period it was a rather considerable sum. For comparison, one may note that in 1947 the total export of Poland amounted to $245 million. What is important is not just the magnitude of the loan, but also the role it played in stabilizing the national economy and guaranteeing the capacity of our country to meet payments. At the same time, the state obtained currency reserves for necessary purchases in capitalist countries.
Poland must have obtained an additional loan in gold from the USSR in 1949, judging from the fact that in September 1936, the Soviet government reportedly accepted to let the "loans received by Poland in 1947 [i.e., March 5/6, 1947] and 1949 in gold be repaid in goods instead of gold or convertible currency." However, no further information on the case is available.

The September 1936 events are notable on two other counts as well. First, by virtue of the protocol of September 18, the Soviet Union extended Poland a credit in gold in the amount of 12.6 tons as part of a package to the total value of 100 million rubles ($25 million or 22.5 million new rubles) which included trade credits: the entire sum was to be repaid through deliveries of Polish goods in 1937-1960, at 2% annual interest. Second, payments in liquidation of earlier credits in the sum of 800 million zlotys that fell due in 1956-1960 were postponed until 1961-1965. Whether or not the decision affected the repayment schedule hitherto applicable to the hard currency portion of the April 9, 1945, loan and the timetable for the delivery of goods in restitution for the hard currency loan of March 5/6, 1947, is uncertain. Both of these were slated to run from 1950 to 1960 and, hence, their 1956-1960 segments in principle qualified for the moratorium. One Soviet source, though, refers to the delay only in connection with "credits received earlier in the form of deliveries of equipment for the construction of industrial enterprises" which, if correct, would exclude the hard currency loans from the deferred status.

Ultimately, the question turned out to be academic anyway, for on November 18, 1956, the parties took the drastic step of, among other things, cancelling all debts owed as of November 1, 1956, on credits previously received from the USSR that Poland had utilized. The waiver in all likelihood also wiped out
the balance still due on the April 1945 and March 1947 currency loans.

The practice of granting hard currency loans in Soviet-Polish relations did not end in 1937, of course, but data on what has occurred here since are distressingly scant. In 1971, for example, the USSR reportedly assigned Poland a credit in convertible currency destined mainly for the purchase of industrial goods abroad, which made it possible for the Polish regime to rescind the decision of December 13, 1970, to raise prices. In August, 1980, the Polish leadership was said to have extracted from its Russian counterpart a "Soviet hard-currency loan of $550 million to help cover interest payments on the Western debt."

And, as noted at the outset, the most recent Soviet promise of aid in the amount of $1.3 billion apparently envisions a mix of raw materials, fuel and again credits in hard currency, although in what proportion is not yet known.

The preceding body of evidence allows us now to attempt an assessment of the Soviet performance in this area on assorted technical points and policy issues.

1. The portfolio confirms Soviet and East European claims that the USSR's currency credits (loans) to its East European allies generally follow a long-term format. Adding the grace period before the first repayment falls due and the number of years over which repayment is then spread, we find that of the 13 transactions for which such details are available, 9 qualify as long-term (i.e., 5 to 15 years) and 4 as medium-term (i.e., 4-5 years). Only a few ad hoc operations related to special circumstances—for example, Bulgaria's post-war need to finance the purchase of ships abroad—come within the definition of short-term, i.e., with a duration of up to one year.

2. The repertory also shows that, indeed, the normal pattern since 1945 has been to charge a 2% annual interest on intramural currency credits, although the
same rate does occasionally occur earlier. Once in a while, Soviet currency credits (loans) to its East European friends have in fact been granted at no cost (some non-currency credits have fared similarly).

The business of charging an interest fee on credits (loans) among fellow socialists seems, as already mentioned, to have been resolved in favor of the doctrinal and logistical propriety of the practice. Still unsettled, however, is the question of what price these services ought to fetch within the community. Contrary to those of their colleagues who have championed the cause of interest-free loans, an increasing number of native experts have lately come around to the view that the present rates are too low and that raising them is "a natural phenomenon corresponding to the ever growing requirements for upgrading the economic effectiveness of socialist production as a whole and inter-state economic cooperation in particular." The critics explain the current minimal scale as begotten by historical conditions; namely, the fact that the procedure crystallized at a time when the majority of intra-socialist credits were perceived exclusively or essentially as a type of aid. While that policy was perhaps originally justified, the pitch today is that the situation which engendered this attitude is long past and that, with the entry of most of the member countries into the phase of expanded construction of socialism, a more valid and viable concept would be to treat the affair as "mutual cooperation and equivalent exchange of social and 'live' labor": looked at objectively, the newest tendency would therefore counsel a near shift toward relationships "calling for reciprocal indemnification of expenditures of socially necessary labor."

A second reason for advocating a switch to a higher interest rate is the recent experience of economic reform instituted in the majority of the participating countries which featured, inter alia, appreciable "enlargement of the
parameters of fluctuation and greater differentiation of the interest rates on
domestic credits (within the limits approximately of 3-4 to 8-10 percent per
annum)." The latter trend allegedly produced substantial improvement in
economic performance at home and, according to backers of the scheme, a suitable
adaptation of that strategem to the regional scene was bound to have a comparable
salutary effect there. The proponents of change further point out in this con-
nection that "the long-term financing of the International Investment Bank is
likewise influenced by the circumstance that the bilateral long-term credits
between states members of ChML by virtue of their content and technical imple-
mentation are simpler, and the interest rates lower (on the average 2% per annum)."
The observation applies equally to the administration of currency credits within
the association.

Given that conversion to the principle of multilateralism is a priority item
on the Commonwealth's announced list of desiderata, a norm that tends to inhibit
that process sounds prima facie at odds with the official scenario and, hence,
slated for an early demise. The fact that the routine has nevertheless endured
and continues to provide stiff competition to the collective mechanism appears,
in part at least, to reside in certain extra technical advantages that the bilat-
eral route reportedly offers: a) credits granted by both regional banks, includ-
ing hard currency credits, are primarily designed to finance projects in which
the entire constituency has a stake, whereas in the case of inter-state credits
the interests of the two parties or, in extremis, the recipient alone affect
the decision; b) in disbursing credits, again including hard currency credits,
the international banks are said to be guided solely by the economic merits of
the proposed transaction, whereas an individual state's willingness to extend
foreign loan may, and often does, depend on extraneous policy calculations;
and, c) member borrowing from the CMEA banks is subject to definite constraints in that, for instance, drawing rights are pegged to each partner’s respective share of capitalization, while no such restrictions apply in inter-state dealings and the ceiling is here dictated by another set of considerations. Even so, the bottomline answer may lie elsewhere: logistical issues aside, the real animus for preserving “private” channels in these affairs may well spring from the political sense that the potential lender may be in a position to exert a modicum of leverage vis-a-vis the prospective debtor or, conversely, that the latter may be able to finesse easier terms. Something as plain and crass as hunger for power and control or a gambling instinct (not to say a nose for larceny) might be a far better explanation of this behavior pattern than the elaborate technical alibis on which the local authorities prefer to rely to justify the phenomenon. Official rhetoric notwithstanding, the proclaimed commitment to multilateral ideas may then languish in the face of these tangible temptations.

Finally, note should be taken of a further advantage attributed to Soviet policy, to wit, that the only cost of these credits is the designated interest fee and, unlike the practice allegedly common in capitalist circles, no hidden surcharges are added as, for example, in the guise of sundry commissions, inflated prices, and so forth.

3. Formerly, Soviet credits to its associates were sometimes granted in their currency—Chinese yuans, Czechoslovak krones, German marks, Polish zlotys, Bulgarian levs, etc. Nowadays, the currency of these credits is normally the Soviet ruble in recognition of its status as the monetary unit of the country which accounts for the biggest single share of the turnover on the “world socialist market.” All of the Soviet Union’s credit transactions are in fact subject to the gold clause which, in order to protect the interests of
both sides to the credit agreement, refers to the currency in which is expressed
the sum of the credit given as well as the currency in which reimbursement is
projected—in the event the amount owed is to be repaid in cash rather than deli-
veries of goods. For instance, before the ruble went on the gold standard, some
of the "people's democracies" had received credits from the USSR in foreign
currency or gold. From March 1, 1950, Soviet credits to sister socialist states
began to be expressed in rubles and the credits allotted earlier were recomputed
in rubles at the rate of 4 rubles per $1. This rate of exchange lasted until
the end of 1950. From January 1, 1961, a new ruble rate vis-à-vis foreign cur-
cencies was established as a result of which $1 was pegged at 90 kopeks (or 1
ruble equaled $1.1). The increase in the gold content and exchange rate of
the ruble required an adjustment in the indebtedness of foreign states, inclu-
ding the socialist countries, to the Soviet Union through reduction of the
balance due by 77.5%.

Resort to the ruble as the official index for the Soviet foreign credit sys-
tem was said to be aimed at enhancing the stability of these arrangements (espe-
cially when contrasted with the risks associated with such operations in the ca-
pitalist environment) because of the ruble's unique quality as one of the most
solid currencies around. Yet, as the record indicates, revaluation of the ruble
has occurred and appropriate revisions have therefore had to be made in the terms
originally contracted. Interestingly enough, local commentators have felt called
upon to explain that the "change in the exchange value of the ruble entails no
losses either for the foreign state or the USSR" and that, "with the hike in the ex-
change value of the ruble in 1950 and 1961, the material content of the trade
and credit agreements concluded in rubles did not vary." Indeed, according
to them, adherence to "firm parities and currency exchange values ... insures the
preservation of equivalence in credit relations" and, "upon substantial changes in the exchange value and gold content of the ruble, the sums of the credits are recomputed so that no country would suffer a loss." However, the true picture may be quite different: the East European regimes have never aired any views that would contradict these claims, but, since the Sino-Soviet split, the Peking authorities have vigorously contested the Soviet version and openly cast doubt on how fairly these fiscal reforms have in fact served the interests of both the USSR and its partner instead of, as the Chinese insist, just profiting the USSR.

4. Another feature attesting, we are told, to the inherent superiority of Soviet credit practice over its capitalist competition is the sanctioned manner of repayment of the currency credits extended by the USSR to its socialist kin. Mind you, the general idea here seems to be that liquidation of credits granted in gold and/or free currency is to be effected in kind. Gradually, though, the focus has shifted in favor of emphasizing that in many instances the debtor was given the option of retiring the debt either through remittance of currency/gold or deliveries of export commodities or a suitable combination of both, or the method of repayment was later converted to deliveries of goods (as in Poland's case in 1955) or envisaged exclusively in those terms from the outset. On a doctrinal level, such a procedure sounds attractive because it tends to minimize reliance on cash in dealings between socialist parties which fits the Marxist canon and reduces the ruble to the role of a unit of conventional measurement used merely for registering material worth and not representing an independent source of value per se. Hence, it is not accidental that Soviet and East European spokesmen are apt to stress that the gold and hard currency received from the USSR via credits were employed as a means of international payment.
to cover imports of certain types of equipment and raw materials from the capital- 

calist countries when that import could not be financed through their own exports.

The implication, of course, is that the capitalist world puts a high premium on bullion and money, while in the socialist milieu their essential significance lies in servicing material production and exchange.

On a more prosaic note, the standard pitch is that repayment of credit through shipment of goods is easier for the debtor and economically more beneficial for both the debtor and the creditor by creating new production capacities, stimulating trade, promoting the "international division of labor" and fulfilling domestic industrial and consumer requirements. These considerations presumably do not enter into capitalist calculations for, by Soviet accounts, repayment in goods is "not characteristic of agreements on granting of loans by imperialist countries, which once again confirms the progressive nature of Soviet loans that figure as examples of friendly, selfless aid rendered by the Soviet Union to the countries of people's democracy." Looked at practically, though, Moscow may here simply be accommodating the inevitable with good grace: since its allies are short on hard cash (which is why they had to borrow from the USSR in the first place), demanding that they repay the loan in bullion or convertible currency would not make much sense. Furthermore, the USSR stands to suffer no hardship if the loan is repaid in desired capital goods, say, of a technical quality equivalent to what the Soviet Union might itself have been moved to purchase in the capitalist market for free currency: the East European states would in this case just act as proxy buyers. On the other hand, the arrangement does not work as well where under these terms the USSR is constrained to accept from its partners equipment and goods of a lower standard than what it might have shopped for on its own with the same funds.

Nor, local authors maintain, does reliance on trade deliveries in lieu of cash payments to extinguish an indebtedness stemming from a currency credit (loan) in any way affect the stability of the relationship. On the contrary, according to them, the price system within the socialist community is every bit as steady as the currency exchange scale and imports to the operation the same quality of constancy that it would enjoy if instituted on a monetary footing.

5. As previously mentioned, much is made in Soviet and East European writings on the subject of how the entire economic activity of these countries is based on the principle of planning and, it is claimed, derives from that fact a number of cardinal virtues that are denied to the free enterprise model, e.g., consistency, predictability, and so on. Official rhetoric notwithstanding,
the record demonstrates that the process often functions far less smoothly than its apologists would have us believe and that in the matter of organizing the timely repayment of credits (loans) received, things not infrequently go awry on the socialist scene, just as they manage to do in quarters where the philosophy of pragmatism sets the tone and does not pretend to be able to control the shape of the future. In short, the routine of the USSR's currency credits to its allies has on occasion also been disrupted by so-called force majeure experience. The postponement of repayment of Poland's debt to the Soviet Union in 1956, followed soon after by its outright cancellation, is a case in point, and the most recent debt moratorium is a further example of such "adjustment." Similarly, under the agreement of December 31, 1960, the Soviet Union acquiesced in deferring till 1966 payment in the sum of 160 million rubles on credits granted earlier to Bulgaria that fell due in 1961, including, one suspects, bills for the 1957 credit partly extended in gold which was scheduled for liquidation over the next 10-15 years. The net impression is that here, too, socialist impresarios propose, but reality disposes.

6. In closing, a few words should be said about the technical format of these operations. The primary difference between loans in gold and/or foreign currency and trade credits is the object of the transaction, namely, the fact that the creditor-country assumes, pursuant to the former, an obligation to let the borrower-country have a certain quantity of gold or designated sum of foreign currency. The borrower, in turn, undertakes to liquidate the loan actually used and pay an interest on that. Where loans in foreign currency are concerned, the amount of the loan is normally deposited on the account of the central bank of the borrower-country in the bank of a third country; loans in gold are, on the instructions of the borrower-state, put at its disposal or at the disposal of third persons or organizations and at a location likewise determined by the
Inasmuch as credits (loans) beget payment procedures, at the stage of utilization of the loans in gold or hard currency the banks authorized by the high contracting parties conclude corresponding legal arrangements on the instructions of the respective governments. In compliance with the provisions of the parent (inter-state) accords, the proper institutions (in the Soviet Union--the USSR State Bank or the USSR Foreign Trade Bank) sign inter-bank agreements. These documents define the mechanics of opening and maintaining credit accounts, performing payment operations referring to the use and liquidation of the credit, as well as the recording routine to keep track of use of the credit, liquidation of the principal debt and payment of accrued interest. As previously mentioned, credits (loans) between socialist states result from inter-state agreements which vest rights and duties in the parties under international law. Both sides assume specific commitments in such cases: the creditor's obligation (i.e., to open the credit) arises from the moment the pertinent agreement goes into force (on the principle that the agreement is valid from that point and not when the transfer of funds takes place), whereas the borrower's obligation dates from the moment of actual utilization of the credit. For accounting purposes, though, the date of the grant of the loan in gold is the day the gold is put in the possession of the borrowing government, and the date of the grant of the loan in foreign currency is the date of notification of the foreign bank holding the hard currency funds belonging to the USSR State Bank to carry out the latter's instructions for transferring the corresponding sum in this currency to the borrower's account. The modus operandi just described reportedly serves to create "real possibilities for settling accounts in the mutual interests" of the socialist partners, while "at the same time contributing to the further development
Soviet and East European analysts continue to treat currency credits (loans) as a phenomenon sui generis affording an ad hoc solution to an uncommon problem. This view already may not be credible and, if current trends persist, certainly will not be tenable much longer. The fact of the matter is that attitudes towards the whole question of credits have altered drastically within socialist (Soviet and East European) circles since the early post-war years. Remember that the Soviet Union itself and its European satellites started on the road to their brand of socialism in the conviction that the best way of achieving industrialization and modernization was by reliance on each nation's own potential. The concept of autarky dominated local economic thinking in the initial phase of their careers and even intra-socialist credits, while they were said to have been an important element, were nevertheless openly portrayed as playing a minor role in these countries' general process of capital formation. True, the impact of intramural credits did vary from state to state and their importance for smaller and more backward economic infrastructures, such as Bulgaria's, was considerably greater than in the case of the more developed and diversified national systems, as, for example, Poland's or Czechoslovakia's. Either way, however, the primary accent was on the mobilization of domestic production capacities in order to record material progress and accomplish the crucial breakthrough on the economic front marked by attaining the stage of self-sustained growth.

The picture changes dramatically in the sixties and the focus then shifts to the themes of regional rapprochement, organized pooling of resources, expanded cooperation and technical specialization, and the like. The motto of
working together now replaces the old slogan of each minding his own store. The
notion of sharing financial assets becomes respectable and the doctrinal and
psychological block against lending and borrowing money, goods and services with-
in the socialist community is swept away in the mounting enthusiasm for multi-
ilateral integration. The reforms have two paradoxical effect. First, closer
relations among the socialist brethren coincide with the expansion of economic
and commercial exchanges with the capitalist world in which the socialist coun-
tries still feature as the weaker trading partners. Second, having lost their
inhibitions against borrowing from socialist friends, these regimes today see
nothing wrong in also tapping the competition for credits and loans and, of
course, because of their generally inferior bargaining posture in the east-
west economic match, assorted difficulties have ensued. This condition is bound
to persist and, indeed, is apt to get worse. From the standpoint of the Soviet
Union, the prospects are a mixed blessing. On the one hand, the USSR will un-
doubtedly find itself compelled to come with increasing frequency to the aid of
its over-extended allies with substantial transfusions from its gold and hard
currency stocks, thereby putting a telling strain on its reserves. On the
other hand, as the sole member of the socialist collective equipped to act the
part of corporate treasurer, the USSR clearly gains from that position added
advantage in promoting its private views on the way the community's business
ought to be run, including its vision of mankind's destiny shaped by the forces
of the scientific-technical revolution and how the socialist contingent must
fare so it can best follow history's trajectory.
I would like to thank Professor Herbert S. Levine for this trenchant critique of the original draft of this paper at the February 1981 conference on "The Scientific-Technical Revolution and Soviet and East European Law," sponsored by the Rutgers University Law School (Camden), and Professor Dietrich A. Loeber for drawing my attention to important additional data on the subject. To the extent possible, I have incorporated the comments and the materials in the final version of the essay.

For the purposes of this study, the term "Eastern Europe" applies to Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania, but not Yugoslavia.

2. Ibid., September 14, 1980, pp. 1, 4.
4. Published in Pravda and Izvestiya, August 7, 1971. Also, Comprehensive Programme for the Further Extension and Improvement of Co-operation and the Development of Socialist Economic Integration by the CMEA Member-Countries (Moscow: Progress Publishers, 1971).


31. M.S. Lyubskii et al., op. cit., p. 84.
34. M.S. Lyubskii et al., op. cit., p. 82. Likewise, N.V. Tsarevski, op. cit., p. 31.


41. E.G. N. Tsarevski, "Valutno-finansovite otnosheniva v uslovivata na interesata" (Varna: "G. Bakalov," 1977), Chapter III.

42. L.I. Frei, op. cit., p. 223.

43. N.V. Tsarevski, op. cit. (note 16 above), pp. 23-29.

44. V.M. Shurshalov, ed., op. cit., p. 223.


47. N. Cheklin, A. Korolenko, op. cit., p. 20.


49. See, for instance, A. Korolenko, op. cit., p. 28.


52. For a harsh indictment of capitalist business mores in the international credit field, see the two studies by N.N. Lyubimov, Mezhdunarodni voskodarstvenni...


56. Ibid. See, too, H.S. Lyubskii et al., *op. cit.*, p. 81, and G. Mazanov, *op. cit.*, p. 64.


61. Ibid.

62. S. Dubkova, *Ekonomicheskoto sotrudnichestvo i finansovo-kreditnite otno-

63. Text in *Sovetsko-chekoslavatskie otnosheniya 1945-1960gg.*... dokumenty i materialy (Moscow: Politizdat, 1972), pp. 153-160. For references, see Izvestiia, December 15, 1948; *Vneshnye politika Sovetskogo Soyuzu, 1948 god, dokumenty i*
54. The conversion figures seem to vary. For instance, N. Sulber, op. cit., p. 434, Table 121, puts the amount of the credit at $23 million; S. D. Sergeev, op. cit., p. 181, cites the sum of around 30 million rubles, while V. P. Komissarov, A. N. Popov, op. cit., p. 441, Economicheskie nauki (note 25 above), p. 126, and M. S. Lyubskii et al., op. cit., p. 84, mention the number of 22.5 million rubles.


57. Ibid.


71. Foreword to Otnosheniya SSR s GDР 1949-1955..., dokumenty i materialy (Moscow: Politizdat, 1974), p. IX.


76. J. Wszelaki, op. cit., p. 74, Table 16.

77. Ibid.

78. Ibid., p. 73.

79. Pravda, Izvestia, January 6, 1957; Deklaratsii (note 75 above), pp. 119-130; Dokumente (note 75 above), Vol. 5, pp. 661-675.


81. J. Wszelaki, op. cit., pp. 73, 74, Table 16.

82. See, Pravda, September 29, 1957; Dokumente (note 75 above), Vol. 5, p. 728.

83. An interesting earlier episode, which does not qualify as a currency loan stricto sensu, nevertheless is worth mentioning. On February 19, 1945, following an exchange of letters, the Soviet government gave Hungary a loan of 100 million pengo in Hungarian banknotes which the latter undertook to return in kind after the end of the war on terms left to be mutually agreed on by the parties. On
April 4, 1945, by a second exchange of communications a further loan of 250 million pengő was arranged on the same basis. Finally, on May 15, 1945, the Soviet government granted Hungary a third loan of 500 million pengő on identical conditions. Subsequently, the Soviet government acceded to a request by the Hungarian government and waived repayment of the entire 850 million pengő debt. Sovetsko-vengerskie otnosheniya 1945-1948, dokumenty i materialy (Moscow: Politizdat, 1969), pp. 61, 72-73.


In his statement to the press of April 3, 1957, the chairman of the Hungarian State Planning Commission, A. Kiss, asserted that "the trade and currency credit received from the Soviet Union, the cancellation of our indebtedness to the tune of 1 billion forint and the granting of economic and technical aid for the fulfillment of our long-term plans—all this represents for us an enormous asset." Népszabadság, 1957 április 3; Sovetsko-vengerskie otnosheniya 1948-1970, (note 84 above), pp. 123-124.


88. J. Welzalak, op. cit., p. 73.


90. Vneshnaya torgovlya SSSR s sotsialisticheskimi stranami (Moscow: Vnesh-
301


92. Pravda, Izvestia, December 4, 1956; Pod znacenem proletarskogo interna-
tsionalizma, sbornik materials (Moscow: Gospolitizdat, 1937), pp. 252-259. See,

93. Sovetskii Sovuz--Narodnaya Polsha 1944-1974, dokumenty i materialy (Mos-

94. Ibid., pp. 62-63; Stosunki polsko-radzieckie w latach 1917-1945. Dokumenty

95. Pravda, May 27, 1946; Sovetskii Sovuz--Narodnaya Polsha, pp. 133-134.

Note that the Manifesto issued at the first session of the Society of Polish-
Soviet Friendship in Warsaw on June 3, 1945, took the opportunity to cite as new
evidence of the friendly Soviet attitude toward Poland, inter alia, the grant of
the loan in gold and to picture the act as further proof of the USSR's "sincerity
and appreciation of our difficulties, especially when one considers the obstacles
with the return of Polish gold and deliveries of foodstuffs from other foreign
countries." Sovetskii Sovuz--Narodnaya Polsha, pp. 134-137.

96. Ibid., pp. 146-148.

97. Izvestia, March 6, 1947; Vneshnaya politika Sovetskogo Sovuza, 1947 rok,
dokumenty i materiały (Moscow: Gospolitizdat, 1952), Vol. 1, pp. 371-372; Clas Ludu,
6 marca 1947.

98. M. Dewar, Soviet Trade with Eastern Europe 1945-1949 (London: Royal Insti-
tute of International Affairs, 1951), p. 41.

from Polish (Moscow: "Progress," 1974), pp. 36, 42.

100. S.D. Sergeev, op. cit., p. 170.


103. Ibid., p. 42.


113. Ibid.

114. Ibid.


121. N.V. Tsarevski, op. cit., p. 50.


130. N.V. Tsarev-ski, op. cit., p. 50.


The difference between these two types of "adjustments" is, of course, very substan-tial.


133. A.B. Altshuler, op. cit. (note 19 above), pp. 111-112; D.M. Genkin, ed.
304


134. A.B. Altshuler, op. cit. (note 5 above), pp. 187-188.

135. See the analysis by the Polish economist, J. Paestka (Yu. Paestka), Opyt
intensifikatsii ekonomicheskogo razvitiya pri sotsializme (faktory i vzaimozavisim-

European Economies Post-Helsinki, A compendium of papers submitted to the Joint
Economic Committee Congress of the United States (Washington, D.C.: U.S. Govern-

137. My attention has been drawn to the fact that the foregoing picture of So-
viet policy on hard currency credits (loans) to its East European associates pre-
sents that practice in a singularly favorable light. Without apologies, let me
suggest a possible reason for the strange result: if there is any truth to the
view that the current Soviet leadership often acts in a way that recalls the "carrot-
and-stick" routine, I may have simply stumbled here on a slice of "carrot."
For more than a decade leading Soviet officials have contended that the internationalization of economic life has created an "objective" force which can and must strengthen East-West ties. Many Soviet policymakers and administrators have argued that the domestic development of the USSR is increasingly dependent upon contributing to and benefiting from the international division of labor. Hence, foreign economic relations are perceived to play a major role in meeting what Leonid Brezhnev has identified as the central challenge of the current epoch: "organically to combine the achievements of the scientific-technical revolution [STR] with the advantages of the socialist economic system, and to develop more broadly our own, inherently socialist, forms of combining science with production." ¹

Although Soviet analysts view the deepening involvement of the USSR in the global economy as a "progressive" manifestation of the intersection of the STR with the development of detente, a negative challenge is seen as well. Western nations—some more than others—remain serious military, economic, and ideological adversaries. Capitalist contributions to Soviet modernization must therefore be carefully selected and monitored.

Soviet spokesmen repeatedly stress that East-West economic relations should be "mutually beneficial" and based on "stable" and "long-term" ties. But greater Soviet participation in the international economy provides new opportunities for influencing Western domestic and foreign policies, socioeconomic developments,
and public opinion. Such advantages must be carefully weighed against any disadvantages that accrue from increased Western penetration of the polities, economies, and societies of the Soviet bloc. The leverage the West gains must be carefully balanced with counter-leverage. Hence, controlling or balancing dependencies becomes a major policy problem for both the industrialized socialist and pluralist states. This problem has been of special concern to the Soviet leaders in the 1970s and 1980s, because the worldwide STR has begun to expose the USSR and Eastern Europe to more and more international scientific, technological, and economic forces and trends. Indeed, conflicting assessments of the scope and significance of Western influence upon the USSR and Eastern Europe have become an important source of debate and competition among the Soviet bureaucratic elites. 2

To put these policies and administrative disputes in perspective, recall that influential Soviet analysts insist that the STR is generating strong pressure for greater East-West economic interdependence. But even the most ardent Soviet proponents of detente emphasize that there are important limits to East-West ties. Describing these constraints in general terms, I. Iokhin asserts: "The economic cooperation of socialist states with the West is a manifestation of the objective law of the internationalization of production which has emerged as a result of the STR, but [such] cooperation is by no means unlimited, for it is connected at the same time with such objective laws as the contradiction between the production relations of the two competing systems." 3
The tension between the internationalization of economic, technological, and scientific life under contemporary conditions, on the one hand, and the multifaceted competition among socialist and capitalist states, on the other, is a central challenge to Soviet economic policy. As Iu. Pekshev argues: "Defining the scale, the basic direction, and the structure and organizational forms of economic ties with states of different social systems is necessary for participation [in the international division of labor], and for the careful assessment of all aspects and possibilities of negative consequences from such ties."4

In spite of potential difficulties, many Soviet officials affirm that the domestic and international developments associated with the STR and with the changing preconditions of economic growth are making it necessary for the USSR to participate much more actively in the global economy. As the Soviet authors of a major study on foreign trade contend: "Foreign trade, which connects the Soviet national economy with the economies of foreign countries, contributes greatly toward the development of the Soviet economy. The expansion of foreign economic relations has become an integral part of our state's general economic policy. As the Soviet economy develops, our foreign trade, based on the principles of state monopoly, is becoming an increasingly powerful factor aiding in the successful resolution of economic and foreign economic problems facing our national economy."5 Thus, greater Soviet participation
in the world economy is thought to be a sine qua non for the development of Soviet society.

But what is a more fully "developed socialist society," and how can it be achieved? Should a primary concern of the Soviet leadership be the enhancement of economic interdependence with the advanced industrialized countries of the West, or should it be the consolidation of the state socialist camp and the drawing of the Third World into that camp? Are East-West relations in the 1980s to be conducted chiefly by means of the economic cooperation and competition associated with the worldwide STR, or by the maintenance of Soviet bloc unity in the context of the worsening "general crisis" of the capitalist West?

In posing and responding to such questions, Soviet "modernizers" advocate a strategy of development that emphasizes foreign trade with industrialized capitalist countries; Soviet "conservatives" stress tighter integration of the Comecon economies and more extensive trade with Third World nations; and a nostalgic neo-Stalinist minority still favors relatively autarkic patterns of development.

The present essay will focus on the organizational and legal expressions of the Soviet reformist and conservative perspectives on the STR and East-West economic ties in the 1970s and 1980s. Particular attention will be devoted to (1) Soviet organizational changes and the expansion of foreign economic relations; (2) Soviet legal responses to the problems of managing foreign trade; and (3) the limits of East-West cooperation.
A. Soviet Organizational Changes and the Expansion of Foreign Economic Relations

Since the early 1970s there has been a consensus in the Soviet leadership about the need to expand and diversify foreign economic ties. There has also been general agreement that some of the organizational structures and methods of the USSR's foreign trade system need to be modified. Most Party and state leaders would agree with the broad generalizations that the Soviet Union must use the achievements of the STR to improve the productivity or efficiency of the domestic economy; that greater economic interdependence with the world economy is an important stimulus in the transition from an "extensive" to "intensive" growth model; and that administrative adjustments are needed to take advantage of new economic opportunities and to forestall new difficulties. As V.N. Sushkov, Deputy Minister of Foreign Trade, states:

"Working together with our Soviet organizations to raise further the economic level of the USSR, Soviet foreign trade associations have elaborated new forms of economic ties, new forms of industrial cooperation, which will ensure maximum economic benefit for our country. They are uncovering additional prospects for combining the advantages of the socialist economic system with the steadily accelerating world scientific and technological revolution." 6

But what kinds of international economic activities should be pursued, how extensive should they be, which countries and foreign business organizations are the most desirable partners for the
USSR, and what changes are needed in the planning and management of Soviet foreign trade? On all of these issues there has been ongoing discussion and debate within and among the Soviet bureaucracies for more than a decade. It is the purpose of this section to examine the last of these issues, especially the intraelite dispute concerning the organizational changes needed to cope with the rapidly increasing volume of Soviet foreign economic relations.

When all is said and done, American observers seem to know very little about the bureaucratic competition within the USSR over the reorganization of the foreign trade system. But we do know that "conservative" and "modernizer" positions were publicly articulated, that the struggle between them was for high stakes, and that the conservatives prevailed by the late 1970s.

At the center of the conflict were two key Leninist principles—"the state monopoly of foreign trade" and "democratic centralism"—and their practical applications under contemporary conditions. Specifically, the relationships among at least nine sets of organizations were at issue: Gosplan, the Ministry of Foreign Trade (MFT), the State Committee for Science and Technology (SCST), foreign trade organizations (FTOs), branch ministries, production and industrial associations, large enterprises and firms, the Bank for Foreign Trade, and foreign banks and companies.

Examine closely the diagram and text in Table 1, which summarize the experience of the U.S. Department of Commerce regarding Soviet import procedures.
Table 1

<table>
<thead>
<tr>
<th>USSR Council of Ministers</th>
<th>Gosplan</th>
<th>State Committee for Sci./Tech.</th>
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<td>Ministry of Foreign Trade</td>
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<td>Vneshtorgbank:</td>
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</table>

American Companies

1. Soviet customers, industrial ministries and other organizations, request that Gosplan include in the annual plan an appropriation to make a specified purchase abroad. American firms may attempt to influence end-user requests by advertising their products and capabilities to FTOs, industrial ministries, institutes, etc. The U.S.S.R. State Committee for Science and Technology sometimes consults with Gosplan, industrial ministries, and foreign firms on proposed projects.

2. When the Council of Ministers approves the import plan and the plan for supply of imports to the domestic economy or approves a special request, Gosplan notifies the appropriate customer and the Ministry of Foreign Trade. One of the main import administrations of the Ministry of Foreign Trade then authorizes a foreign trade organization (FTO) to make the specified purchase.

3. The Soviet customer, in consultation with a subordinate end-user enterprise or association of enterprises, concludes an agreement with the appropriate FTO, commissioning the latter to make a foreign purchase. The FTO and the customer then consult on the technical requirements for the purchase.

4. The FTO solicits bids from foreign firms. Sometimes a Soviet customer and a U.S. firm engage in direct technical discussions.

5. U.S. firms submit proposals to the FTO.

6. In consultation with the customer, the FTO prepares a draft version of a contract. The customer then approves the contract terms.

7. The FTO and a U.S. firm conclude a contract. When the equipment is ready, the U.S. firm notifies the FTO. Sometimes Soviet personnel inspect equipment at the American plant before shipment.

8. If letter of credit is to be used, Vneshtorgbank (the Bank for Foreign Trade) opens one with a U.S. bank.

9. The goods are shipped to the U.S.S.R. end-user.

10. Documents are sent to Moscow directly or through U.S. bank.

11. The U.S. firm is paid, through letter of credit or cash against documents. The Soviet FTO then presents a bill to the Soviet customer. Very often U.S. company personnel participate in the installation of equipment at the Soviet
Soviet modernizers have sought to revise substantially the institutional relationships and procedures described in Table 1. In the early 1970s a handful of "radical" modernizers privately appealed for the de facto abolition of the monopolistic position of the MFT over the USSR's international economic activities. Favorably assessing recent developments in Eastern Europe (especially Hungary), Soviet proponents of far-reaching decentralization hoped to establish direct commercial relations between the Soviet branch ministries, associations, and firms, on the one hand, and foreign multinational and national corporations, on the other. The idea was to enhance the decisionmaking powers of the Soviet consumer and producer organizations by increasing their role in the planning and management of foreign trade.

For example, if the "middleman" FTOs were subordinated to the "end-user" branch ministries (rather than to the MFT), Soviet industrial agencies and enterprises would exercise much greater control over their own foreign economic activities. A similar result would be achieved if the zagranpostavki (the all-union associations that help certain branch ministries distribute Soviet equipment to foreign purchasers and to Soviet-assisted projects in other countries) were empowered to export and import goods without the approval of the MFT.

Such new arrangements would considerably alter the functions and personnel of the FTOs. At present most FTOs are subordinated to the MFT, and the MFT hires and fires responsible officials of
their FTOs. If, instead, most FTOs served specific industrial ministries, the current MFT-FTO relationship—and especially its incentive structure and recruitment patterns—would be substantially changed. For even if the FTOs continued merely to trade the goods and services produced and used by other Soviet organizations and their foreign partners, the choice and specifications of these goods and services and the negotiations to obtain them would be much more influenced by consumer and supplier preferences. Quite possibly there would also be more adjustments in the systems of production, management, and information into which imported equipment and techniques are absorbed.

Hence, organizational changes of the kind proposed by the radical Soviet modernizers would considerably enhance the powers of the branch ministries to plan and manage international economic activities. The MFT would lose influence vis-a-vis its superior (Gosplan), its subordinates (the FTOs), and its rival (the SCST). At a minimum, the MFT and its FTOs would be put under considerably greater pressure to be responsive to end-user needs, capabilities, and scarcities at home and abroad.

"Liberal" and "conservative" Soviet modernizers—a much larger and more influential grouping of Soviet bureaucrats and analysts—seek to reconceptualize, rather than reject, the state monopoly of foreign trade. They argue that the legitimation of one institution's domination over foreign trade activity must shift to the legitimation of planned and regularized state intervention
in the interaction between Soviet organizations and enterprises, on the one hand, and foreign governmental and private institutions, on the other. As N.P. Shmelev affirms: "The Leninist ideal concerning the state monopoly of foreign trade is not a monopoly of a given organization over all operative behavior: it is above all the right and responsibility of the central planning organs to define the policies and basic directions of foreign trade and thus to control its development."8

The chief factors shaping this Soviet reformist perspective are the greatly increased volume of East-West trade—actual and potential—and the perceived importance of East-West commercial relations to the growth and productivity of the Soviet economy under a modified but centralized system of planning and management. Iokhin, noting the expansion of the number of participants in the foreign trade process, observes: "The development of new directions of economic cooperation between socialist and capitalist states creates the necessity for improving the methods of regulating economic ties between the enterprises of cooperating states. In our time such regulation involves a broad circle of institutions and instruments, in order to manage cooperative ties on various levels (governmental, factory, sectoral and national economic), and in order to stimulate joint business undertakings with the aid of various measures (economic, juridical, organizational), etc...."9

Moreover, Soviet modernizers seek to develop closer ties between domestic production and global markets, and to orient the
work of the production and industrial associations toward the world economy. These international connections, it is argued, are critical if the USSR is to increase its industrial exports, as well as to make better use of advanced technological imports. M.M. Maksimova declares: "In the organization of external ties, the crucial task is to bring production and foreign trade activity closer together."

V.S. Evgeniev adds: "As regards the socialist countries, their industrial and foreign trade mechanisms must interact more closely. Further, they must give more attention to the external market's requirements relative to the quality of goods and to post-sale services, study the Western market more profoundly, and master marketing techniques."

In addition, liberal Soviet modernizers join their radical counterparts in stressing the importance of creating "direct" ties between Soviet industrial organizations and the world market, especially in scientific and technological spheres. L.A. Rodina summarizes this argument as follows:

The normalization of international relations and the deepening of the processes of integration in the world economy have created a qualitative improvement in the development of scientific-technological cooperation with advanced capitalist states, and make possible a transition to more progressive forms and methods of its realization, such as the establishment of joint research and development, cooperation in solving large
and complex scientific problems, patent and licensing exchanges to further production cooperation, the establishment of international institutions, etc. Ever greater significance is attached to direct ties between scientific research organizations, enterprises, and firms in the cooperating countries, and to the development of cooperative relations between them in order to solve pressing scientific and technological tasks.12

But modernizers of all kinds are quite concerned about the lack of cooperation and coordination among Soviet organizations, in particular the FTOs and the consumer and producer ministries and enterprises. Closer ties between Soviet importing and exporting institutions must accompany or precede closer ties between Soviet and foreign institutions. Feonova and her colleagues assert:

At the present time, a task of decisive significance is that of fundamentally improving the work involved in the importation of complete sets of equipment for enterprises and installations constructed on Soviet territory, the strengthening of control over the quality of imported equipment, and the expansion of direct ties between foreign trade associations and the construction sites for which this equipment is intended, so that problems connected with the start-up of the equipment can be solved more efficiently.13
Also, liberal modernizers place special emphasis on the role of the State Committee for Science and Technology. They maintain that the SCST must take a much more active part in fostering technological innovation within Soviet industry, and in promoting scientific-technological exchanges and trade with the West. Rodina states: "An increase in the effectiveness of the trade in licenses is linked with an increase in the responsibility of the ministries, associations, and enterprises to obtain foreign patents for inventions and licenses and to conclude contracts. The expansion of rights will create the basis for broader and deeper contacts with foreign firms and will enhance the coordinating role of the State Committee for Science and Technology and other higher leadership organs." 14

However, there seem to be notable differences among radical, liberal, and conservative modernizers regarding the appropriate functions of Gosplan. The radical modernizers are most interested in increasing the powers of the branch ministries to help plan foreign trade; the conservative modernizers least so. The radical modernizers are most concerned with providing financial incentives to Soviet ministries, associations, enterprises, and FTCs to produce for the world market and to integrate advanced Western technology into the Soviet economy; the conservative modernizers least so. And the radical modernizers are most eager to incorporate such incentives into a less centralized and more market-oriented system of planning and management, rather than to lobby for new types of
bonuses from Gosplan or "investment credits" from the SCST; the conservative modernizers least so.

A lucid discussion of interorganizational relationships and the centralization/decentralization issue is offered by V.P. Gruzinov, head of a team of Soviet researchers commissioned to conduct an internal evaluation of the MFT in the mid-1970s. Gruzinov, an archetypical liberal modernizer, judiciously but emphatically emphasizes the democratic side of the democratic centralism formula:

The point basically is to achieve a sound and efficient balance in the distribution of powers and responsibilities between the centralized leadership and units further down the organizational ladder, particularly between the central apparatus of the Ministry of Foreign Trade and the all-union associations, so that some initiative and independence can be preserved at the base....

In the present period, with the economic changes that have been instituted within the country (the transition to the new system of planning and economic incentives in practically all sectors of the economy) and the increasingly complicated internal relationships in the management of foreign trade, the second aspect of democratic centralism is being stressed, namely,
greater independence is being given to the all-union associations in their commercial and economic activities. 15

But Gruzinov forcefully argues that the delegation of authority does not constitute the devolution or dissipation of power. He contends that greater decentralization will increase the capabilities of the center to deal with important long- and short-range questions (e.g., system maintenance or adjustment functions), and thereby to improve the decisionmaking procedures, decisions, and decision outcomes of the system as a whole. 16

Gruzinov states: "It should be a hard and fast rule that decisions be made where (i.e., at the level on which) the most information exists about the given question, and where one may be assured that they will be implemented most competently." 17 In Gruzinov's view, such delegation of authority can enhance the "creative capacities" of both the top-level managers and their subordinates. 18

How can the benefits to be derived from organizational decentralization be achieved without abandoning the traditional state monopoly over foreign trade? Gruzinov's response fits squarely within the current innovative official Soviet approach to democratic centralism. 19 Specifically, he calls for "a clearer definition of the respective powers and responsibilities of the different levels of management in the Ministry of Foreign Trade system." 20 He adds: "The effectiveness of delegation of authority depends
on the ability of the manager to guide the activity of those under him in the direction needed, and this in turn requires a strict coordination of powers and duties. One cannot require responsibility from a subordinate if he has not been given the powers corresponding to it. Moreover, Gruzinov explicitly calls for the redefinition of the concept of "responsibility" to include work performed and initiatives not taken. This idea is a double-edged sword, because it gives lower-level organs more power to seize opportunities and top-level organs more power to upbraid their subordinates for "missed opportunities" (Gruzinov's term).

The conservative or traditional approach to the management of foreign trade is exemplified by the work and attitudes of the long-time head of the MFT, N.S. Patolichev, and this orientation is perhaps most clearly articulated in the writings of V.S. Pozdniakov, a senior law professor who currently chairs the legal committee of the US/USSR Trade and Economic Council. Pozdniakov, writing at the same time that Gruzinov and his associates were proposing a modest decentralization of the foreign trade system, likewise offered suggestions for improving the planning and administration of foreign economic relations. Pozdniakov's recommendations, however, were based on the presupposition that the key to organizational effectiveness is to strengthen "the unity and mutual coordination of all of the component parts of the system."

The call for "unity" is the hallmark of the conservative perspective on the management of foreign trade, as are the contentions
that "departmentalism" and "localism" will subvert the national interest and "very often" lead to the loss of state property. 24 As Pozdniakov asserts: "The close coordination of the foreign activities of all Soviet departments not only prevents possible collisions, but, it is especially important to emphasize, makes possible the resolution of every concrete issue in accordance with the interests of the state as a whole, not just those of a single department. Such coordination also enables various departments to assist one another effectively." 25

Succinctly put, Pozdniakov stresses the centralist aspects of democratic centralism. Unlike Gruzinov, Pozdniakov maintains that the delegation of decisionmaking responsibilities will result in the dissipation or misuse of power. Without strong national leadership, Soviet ministries and enterprises would pursue "their own personal interests" in foreign economic relations, and the state would be unable to correct many of the harmful effects of these insufficiently informed and parochial actions on other agencies and on the Soviet economy as a whole. Nor would the Party-government be able to plan effectively, or to maintain close political control over the choice and conduct of foreign economic relations. 26

Like Gruzinov, Pozdniakov calls for the clarification of the rights and responsibilities of the many Soviet institutions involved in the planning and administration of foreign economic ties. But Pozdniakov quickly links this appeal to an argument for
an even more centralized foreign trade system. Bemoaning "the absence of a unified specialized center for the management of foreign trade at the present time," Pozdniakov recommends that such an institution be created. 27

One of the chief purposes of this institution would be to "resolve differences that arise between the organs engaged in the management of foreign trade activities." A second primary function would be to assume some of the routine decisionmaking and administrative responsibilities that now "overburden" the Council of Ministers and Gosplan, thereby enabling these bodies to focus on fundamental and long-range issues. 28 Pozdniakov explains:

This [new] organ would have the following basic responsibilities: the verification of the fulfillment of decrees and instructions of the Council of Ministers on all questions concerning foreign economic relations, the preparation of recommendations for decisions to be made by the Council of Ministers, the direct operative regulation of all of the nations' foreign trade transactions, including the fulfillment of scientific and technical contract work to be exported and imported, coordination of foreign trade activities with Gosplan, transport ministries, the Ministry of Finance, the State Bank and other departments engaged in the management of foreign
economic activities, and also with the Ministry of Foreign Affairs."

In essence, this is a blueprint for a considerably strengthened MFT.

Briefly stated, a critical Soviet response to the challenges of the STR has been the broadening and deepening of East-West economic ties, which in turn have increased the number of Soviet organizations directly and indirectly involved in foreign economic activities and have prompted the debate about the possible organizational changes we have described. We shall now discuss the resolution of this debate and its legal manifestations.

B. Soviet Law and the Management of Foreign Trade

The expansion of the USSR's international economic ties was an important element of Brezhnev's "grand design" that was articulated at the 24th Party Congress in 1971 and reaffirmed at the 25th Party Congress in 1976. In the documents of these congresses one finds evidence of both the modernizer and conservative orientations to the planning and management of foreign trade. On the one hand, the 24th Congress resolved "To enhance the initiative and responsibility of ministries and enterprises in the development of foreign economic relations that are effective for the national economy." On the other hand, both Brezhnev and Kosygin stressed the need to eliminate "departmental" approaches to international economic activities by the planning agencies, FTOs, and ministries.
Similarly, the 25th Congress resolved "To enhance the role and responsibility of branch ministries and departments in developing foreign economic ties," but Brezhnev (not Kosygin) called for a "comprehensive" approach to international economic relations that would link in "a single center the efforts of all departments and our political and economic interests." 

Although a comparison of these 1971 and 1976 pronouncements suggests a tilt in favor of the conservative orientation, the Party leadership's decisions about the reorganization of the foreign trade system were still under consideration or were not yet ready for public dissemination (an unpublished Central Committee decree on foreign trade was approved in 1976).

The long-awaited 1977 Constitution did little to clarify matters. Comparing the 1936 and 1977 Constitutions, one finds that the pertinent provisions are quite similar. The former mandates "foreign trade on the basis of state monopoly" (Article 14h), and the latter "foreign trade and other forms of external economic activity on the basis of state monopoly" (Article 73/10, emphasis added). Notably, the additional clause was not included in the published draft version of the 1977 Constitution.

The somewhat broader new phraseology may help to legitimize readjustments in the structure, administration, and control of the Soviet state's "monopoly" over foreign economic activities under contemporary scientific-technical and socioeconomic conditions. M.M. Boguslavskii might be laying the groundwork for such
readjustments when he observes that "fundamental changes" in the USSR's foreign economic ties, such as the exchange of production and technical services and the sale of patents and licenses, find "juridical acknowledgement and support" (nashli zakonodatelnoe zakreplenie) in the new Constitution. 37 But even conservatives acknowledge that some organizational changes are needed to cope with the rapidly increasing volume and changing composition of Soviet foreign trade. Pozdniakov, for one, observes: "In contrast to 1936, when direct state management of our foreign trade was in fact fully concentrated in the hands of the Foreign Trade Ministry, at present many Soviet departments take part in the direct management of the country's foreign trade activity." 38

The centerpiece of the legislation that finally sanctioned administrative changes in the foreign trade system is a decree of the USSR Council of Ministers of May 31, 1978. 39 The purpose of this decree was to combine production and trade more efficiently and to encourage the development of foreign economic relations. According to P. Smirnov, the new resolution sought "to improve the effectiveness of the activities of [the FTOs] by strengthening their economic independence, broadening their self-supporting basis, and providing higher material incentives (depending on the final results achieved) for the collective as a whole and for each of its members." 40 D.A. Loeber, a Western scholar, succinctly states: "The objective of the reform is to increase the effectiveness of foreign trade by modernization and rationalization." 41
Key elements of the 1978 decree and related Soviet legislation have been ably described and analyzed elsewhere, and it serves no purpose to summarize these writings here. Instead, an attempt will be made to contribute to these discussions by assessing the response of the 1978 resolution to the larger issues that Gruzinov, Pozdniakov, A.I. Bel'chuk, and other Soviet officials and analysts have raised.

The most notable provisions in the 1978 decree are attempts to coordinate the work of the MFT, the FTOs, the branch ministries and departments, the industrial and production associations, and the major enterprises. The FTOs are to be headed by newly-formed "boards" that are to play an important role in the planning and management of export and import activities. "For the purpose of more extensively involving the branch ministries and departments, and also the large industrial enterprises and associations, in foreign trade activity," representatives of the MFT and other agencies are to participate actively on the new boards (Articles 2, 3, 19).

For the first time, the chief decisions of the FTO and its component "firms" will be made by a directorate that is "mainly composed of persons who do not work in these organizations but to a large extent represent the state agency under whose jurisdiction these organizations function." Smirnov asserts:

This does not imply dual subordination. It means that the USSR Ministry of Foreign Trade is obliged to involve
on a broader scale sectoral ministries and departments in managing the activities of foreign trade associations, and specifically, to map out joint measures to ensure that the Soviet side fulfills its export commitments as regards goods and services for specializing and concentrating export production and the delivery of respective goods, for curtailing the import of goods that can be produced domestically, and for importing goods that are of a higher quality and technical level. 45

A comparison of Articles 44 and 52 of the 1978 decree is useful. The former reiterates the traditional obligation of the MFT to "guide" the FTOs and to issue "instructions" to the FTOs regarding their drafts of five-year and annual plans. The latter article stipulates that an FTO must develop "with the participation of respective branch ministries and departments" specific proposals regarding new products for export. In the section on imports, however, no obligation is placed upon the FTOs to consult with the branch ministries and departments. Hence, a chief aim of the new legislation is to coordinate better the efforts of the FTOs and the industrial agencies in the planning and production of Soviet exports. And another purpose of the legislation might be to prod the ministries, branch departments, and larger enterprises to make greater use of scientific and technical advances from abroad. In any case, the assessments of FTO boards regarding "technological
progress," "demand," and "efficiency" have become salient factors in decisionmaking.

The diverse composition of the new boards of the FTOs, and the fact that these associations both export and import goods, services, and information, may improve interorganizational decisionmaking and administration within the USSR and between Soviet and foreign organizations. To say that relations are complex among the myriad subdivisions of Gosplan, the MFT, the SCST, the State Committee for Foreign Economic Relations, the 70 or more foreign trade associations, and the domestic industrial and agricultural associations and production enterprises is an understatement. For example, the legislative acts empowering Soviet agencies to engage in foreign economic activities were adopted at different times and for different purposes in a wide variety of substantive fields. Because some of these acts were imprecise or inconsistent with one another, because some major disparities developed between the powers and duties of particular agencies or departments, and because the fragmentation of rights and responsibilities produced tremendous problems of coordination and control, national Party leaders eventually approved the uniform provisions contained in the 1978 decree and in the model charters for all FTOs.

Yet improved organizational integration and communication, even when grounded on carefully drawn laws, do not necessarily reduce bureaucratic conflict or improve administrative performance. In
fact, efforts to increase intra- and interorganizational cooperation may well heighten conflict and impede performance, in the short or long run. The 1978 decree does not try to resolve the tension between centralizing and decentralizing forces and between national, middle-level, and local institutions. Instead, the recent legislation tries to regularize the competition between centripetal and centrifugal pressures by clarifying the powers and duties of the many agencies that are or should be involved in foreign economic planning, the furthering of scientific and technical progress, and other fields.

The new Soviet statutes concerning foreign trade clearly reflect the contemporary official emphasis upon enhancing both democracy and centralism in the management of the economy. Soviet analysts talk of expanding the rights and economic independence of the FTOs, in order to strengthen the state's monopoly over foreign trade, and thereby to increase both the efficiency and the flexibility of decisionmaking at various stages and levels. This is not just doubletalk. Enhancing the powers of the FTOs vis-a-vis the MFT is a modest form of decentralization. But, given the growing number of agencies, departments, and production units that are participating—or could participate—directly or indirectly in foreign economic activities, the strengthening of the middle-level FTOs constitutes a form of centralization. That is, the capacity of the top Party bodies to plan effectively and to direct the sprawling ministerial bureaucracy may well be increased by augmenting slightly the
authority of the FTOs and their specialized firms, while at the same time making the FTOs more responsive and responsible to producer and consumer organizations in the USSR and abroad.

If, like the Brezhnev "collective leadership," one conceptualizes the centralization/decentralization issue as a nonzero-sum game, and if one recognizes that "foreign" and "domestic" policies must be closely integrated in industrialized states, recent Soviet organizational and legal changes in the field of foreign economic relations become much more understandable. After all, the chief purpose of these organizational and legal adjustments is to enhance the effectiveness of Soviet foreign economic activities generally and of the FTOs in particular. "Effectiveness" and "efficiency" can mean different things to different officials at different times, so the criteria and standards for evaluating the performance of FTOs will always be more or less in dispute. But the recent Soviet institutional and juridical changes are clearly designed to improve cooperative problem-solving between the MFT and FTOs, on the one hand, and the end-user and producer ministries, on the other. Hence, the new measures may be viewed as a cautious effort to encourage innovative, differentiated, and comprehensive approaches to the increasingly serious problems of sustaining economic growth productivity in the USSR.

The 1978 decree, however, is just as important for the organizational and legal changes it did not implement as for those it did. For one thing, the MFT retains considerable control over
the foreign economic activities of even the largest domestic
production and industrial associations and enterprises. For another
thing, the ministries and departments still do not play a significant
role in the planning of their own imports and exports. Hence, the
present administrative and incentive structures—and their legal
manifestations—still discourage the vast majority of the USSR's
combines and factories from engaging in international commercial
activities.

By comparison with their East European counterparts, Soviet
FTOs are still closely tied to the MFT. As a result, Soviet domestic
associations and enterprises participate in relatively few cooperative
undertakings with Western corporations (e.g., [1] cooperation by
sharing or coordination of tasks between the partners, and [2]
cooperation through joint use or operation of equipment or fixed
installations in research and development, communication of scientific
and technical data and transfer of property rights in these data,
industrial construction and works, manufacture, and marketing).\(^\text{49}\)

In a word, the USSR's industrial ministries and SCST still lack the
powers vis-a-vis Gosplan, the MFT, the FTOs, and the Bank for
Foreign Trade that the Soviet modernizers had hoped could be achieved.

There is little question that the Soviet conservatives bested
the modernizers in the struggle over the reorganization of the
foreign trade system. Patolichev remains head of the MFT and a
member of the Central Committee, Dzhermen Gvishiani remains deputy
head of an SCST whose influence appears to be declining (not head
of the MFT, as some modernizers had hoped), Pozdniakov continues to be an authoritative spokesman on the legal aspects of foreign trade, and Gruzinov has been demoted to a relatively minor position.

Whether the conservative victory will be long-lasting will depend on many factors, especially the effectiveness of the recent organizational and legal changes. To date, there are numerous unanswered questions about the nature and extent of the implementation of the 1978 decree. According to P. Smirnov, the reorganization of the FTOs was completed in the middle of 1979, and 288 specialized firms were created to replace the existing "offices" within the 45 FTOs of the MFT. The new firms export and import identical or related products, whereas the former offices usually exported or imported products. The FTOs, but not its firms, are "legal persons." Although the basic obligation of the firm is to carry out the plans the FTO assigns to it, the firm has the right to help design specific projects and to sign contracts in the name of the FTO. In a word, "the firms will have more independent power than the offices did."

Likewise, the powers of the zagranpostavki of the industrial ministries also seem to have been increased as a result of the 1978 legislation. Zagranpostavki "are not empowered to conduct import-export operations, being mainly engaged in helping to organize supplies for the export of machinery and equipment, including equipment and materials for the projects built abroad with the technical assistance of the USSR." Nonetheless, the zagranpostavki are legal persons that may "sign contracts concerning specialization
and cooperation of production of particular kinds of goods," although "such contracts do not create obligations to supply specialized goods."54

The new boards of the FTOs are the most important administrative innovation in the 1978 decree. If the modernizers had any influence on this decree, or if the decree in any way constitutes a compromise between modernizer and conservative viewpoints, the results are reflected in the unambiguous call for the creation of these horizontal coordinating bodies.

But how many of these boards have been formed? What is their composition? How active are they? Do they merely legitimize informal relationships already well established? The most that can be said is that the new boards consist of roughly equal numbers of officials from the MFT, FTO, and industrial ministries, or as much as 50% representation from the domestic industrial and production organizations.55 Some of the new boards are dominated by the general director of the FTO, others are not. Some of the boards are quite active, others are not. Some have considerably raised the managerial and marketing efficiency and the technical expertise of FTO personnel, others have not. Some are forming new decision-making and administrative relationships, others are not.

From what little we know about the boards, zagranpostavki, and firms of the FTOs, it seems that the 1978 legislation is functioning more as "a disseminator of leading experience" than as an enforcer of specific administrative practices or legal obligations. Uniform
structural and operational changes have been recommended to spur foreign trade and production officials to formulate more feasible plans and to carry them out more effectively and efficiently. But flexibility and differentiation, together with better intra- and interorganizational coordination and more precisely stipulated rights and responsibilities, seem to be the hallmarks of the recent modifications in the Soviet foreign trade system.

In short, the conservative 1978 legislation fits in well with three important characteristics of the present-day Soviet approach to economic growth and productivity in general, and to foreign economic relations in particular. First, as Scott Bozek succinctly argues, "Soviet planners seem to have chosen two interrelated strategies for intensifying the development of foreign trade:"

Further expanding ties to world markets through such measures as compensation agreements, joint-stock companies in the West, special export industries, and increased numbers and activities of Soviet organizations in foreign trade; and

More closely linking and better compensating Soviet organizations—especially FTOs and industrial enterprises—that have responsibilities for producing and marketing Soviet exports and purchasing and absorbing foreign imports.56

Second, the strengthening of the FTOs was in keeping with the trend throughout the Soviet bloc to increase the powers of
intermediate-level organizations and to solidify branch monopolization. Production and industrial associations were formed in the USSR in the early 1970s. New and existing FTOs were given greater and more clearly defined powers in the late 1970s. And, perhaps most significant, Soviet leaders—conservatives and modernizers—have recognized the importance of integrating the work of the domestic and foreign trade associations. A primary purpose of the 1978 legislation was to coordinate better the planning and management of the USSR's industrial production and foreign economic activities, thereby trying to improve the quality of the former by increasing the quantity of the latter.

Third, the reorganization of the FTOs was an excellent example of the Brezhnev administration's penchant for incremental administrative changes, rather than dramatic systemic reforms. Institutional adjustments were legitimized without altering the essentials of the planning, pricing, and incentive structures. The spirit and substance of the contemporary Soviet approach to foreign economic relations are encapsulated in the directives for the 11th Five-Year Plan (1981-1985):

To improve direct ties among branch ministries, production associations, enterprises, and organizations of the USSR and of CMEA member-countries participating in cooperation. To enhance the responsibility of ministries, production associations, enterprises, and organizations for the fulfillment of commitments in
the field of foreign economic relations. To introduce uniform standards and norms more widely. 58

Not surprisingly, the goals and organizational forms of Soviet foreign economic relations are evolving. The Brezhnev administration is seeking to rationalize a sphere of activity that it perceives to be increasingly important to the shift from "extensive" to "intensive" patterns of development. Most Soviet modernizers would agree with the Western analyst who concluded:

the Soviet foreign trade monopoly, though providing the Soviet economy with many advantages [e.g., in the planning, bargaining, protection, and control areas], reveals a number of disadvantages [e.g., excessive centralization with resulting bureaucratic problems, and harmful separation of the foreign trade function from the production function] that could be eliminated without loss of the monopoly's advantages. Most important, greater reliance should be placed on the individual Soviet enterprise, and on contractual relationships rather than administrative or "command" relationships. 59

Significantly, even Soviet conservatives are moving toward this conclusion, with emphasis (as we have seen) on production associations rather than enterprises, on improved coordination of domestic and international economic activities, and on
clarification of organizational roles and relationships and legal responsibilities.

Whether the organizational and legal measures we have examined in this section—and particularly the three characteristics of the present-day foreign trade system we have just discussed—will help to resolve the mounting economic problems of the USSR is difficult to tell. For the performance of the Soviet economy and the effectiveness of East-West economic relations depend on numerous larger questions that we shall address in the following section.

C. The Limits of East-West Cooperation

Precisely because the broadening of ties between the Eastern and Western economies increases the number of Soviet organizations in direct or indirect contact with the West, CPSU leaders feel confronted with the problems of controlling this interaction and minimizing "negative" foreign influences. It is to the question of regulating the expanded interdependence between the Soviet and Western economies, in the context of economic detente, to which we now turn.

On the one hand, Soviet analysts maintain that cooperation with the West is "objectively" required by the international forces of science, technology, and production. As Iu. Shiriaev states: "The development of contemporary productive forces, which are ultimately global forces, the varying availability of natural resources, and the broad
opportunities for exchanging the latest machinery and technology constitute the objective premises for an extension of mutually advantageous economic ties between countries belonging to the two social systems." 60

On the other hand, the historical confrontation with the West continues. D. Tomashevskii declares: "There can be a question, not of an end to the historic confrontation between socialism and capitalism, but only of its new forms, of a shift in emphasis in the class struggle on the international scene from military-political confrontation between states [with different] social systems, to competition in solving the problems of economic and social development." 61 Hence, East-West industrial cooperation is legitimized by economic detente, but this "relaxation of tensions" does not mean the reduction of, let alone the end to, political and economic competition. Instead, changes are taking place in the nature of the competition and in the ways it is conducted. "The growing importance of the economic, scientific, and technical aspects of the competition between the two systems is a formidable and long-term problem," Tomashevskii concludes. 62

As is well known, Soviet analysts affirm that peaceful coexistence in general, and economic detente in particular, contain elements of both competition and cooperation. These conflicting components are thought to influence one another reciprocally in an ever-changing process. Iu. Molchanov argues that "peaceful coexistence is a form of relations between states with differing social systems, in which
class confrontation and varied and mutually advantageous cooperation exist dialectically and are intertwined. From this viewpoint, peaceful coexistence is a dialectical unity of opposites.⁶³ Managing these competing tendencies and fulfilling these systemic needs are thus critical policy problems for the Soviet leadership.

Leading Party officials perceive limits to cooperation between the USSR and the West, and these parameters channel and curtail Soviet interest in East-West rapprochement.

First, the divergent forms of property ownership limit the scope of cooperation. I. Saviolova has asserted that "radical differences in the partners' forms of ownership draw specific social and economic bounds that vary according to the inherent trade exchange relations."⁶⁴ The divergent forms of property ownership impact directly upon the extent of production cooperation that Soviet analysts perceive to be legitimate. Saviolova identifies three basic types of industrial cooperation. Vertical cooperation involves exchanges of technology between separate organizations. Horizontal cooperation involves mutually beneficial participation in a production process, such as the generation of new capacities. Complex cooperation involves joint ownership and more or less equal responsibility for the quality of a production process and its output. "In their industrial cooperation with Western companies, socialist organizations strive for vertical or horizontal forms of cooperation with their partners. This kind of cooperation is promising because, while involving partners with the
most varied economic potentialities and interests, it does not distort their independent functioning within their own economic systems. Only in 1978 did a Soviet writer first present an ideological justification for joint ventures between the USSR and Western nations.

Westerners contend that the most formidable impediment to close economic cooperation with the USSR is the latter's insistence on the inalienability or indivisibility of the ownership rights of socialist property. Soviet spokesmen respond that Western, and especially American, resistance to these principles undermines the opportunities for other (i.e., less extensive) forms of cooperation. The Soviet goal is to broaden production cooperation with the West without jeopardizing the property rights of the socialist state—that is, without impeding the capacity of the socialist management organs to direct the Soviet economy. However, decisionmaking power, ownership, and performance are closely linked. Hence, Brezhnev argued at the 25th CPSU Congress that there is a need to promote "new forms of foreign economic ties that go beyond the framework of conventional trade, greatly enlarge our possibilities, and, as a rule, yield the best results. I have in mind, among other things, compensation agreements under which new enterprises, belonging entirely to our state, are built in cooperation with foreign firms."

Second, a major limit on the scope of cooperation is the Soviet leaders' perceived need to enhance the USSR's military potential, a process
highly correlated with maintaining the isolation of the USSR's scientific and technological community, and with concentrating human and material resources on military projects. This is a contentious issue among Soviet officials. On the one hand, conservative proponents of a strong national defense capability minimize the benefits of economic detente, stressing instead the USSR's growing dependence on foreign suppliers in the civilian sectors. In response, Soviet modernizers agree that military needs can be fulfilled without foreign economic ties, but they argue that such ties strengthen the overall political-economic power of the Soviet system. Maksimova asserts: "The Soviet Union's defensive capacity and military potential are not dependent in any direct way on its foreign economic ties. Whatever the level of these ties—low, as before, or fairly high, as today—the Soviet Union has always met all the requirements of its armed forces in defense facilities, including armaments, on the basis of its own large industrial and scientific potentials that serve to maintain the country's defensive capability at an adequate modern level." Maksimova goes on to affirm that participation in the international division of labor is a prudent strategy, especially because of the USSR's military strength, and because increased foreign economic relations produce important advantages for the USSR.

Third, a limit on cooperation is imposed by the Soviet desire to ensure that the increasing sensitivity of the Soviet economy to global economic forces does not turn into vulnerability.
Vulnerabilities enable foreigners to manipulate dependencies in Soviet industry and agriculture for their own purposes. Nonetheless, Soviet modernizers minimize the risks of participating in the world economy, for "one should always bear in mind that this is a two-way street." Maksimova continues: "The Soviet Union's foreign partners are equally dependent on the deliveries of the appropriate products from the Soviet Union (say, on the deliveries of gas and oil in exchange for pipes, or of electric power in exchange for atomic reactors). Consequently, there is not a question of the Soviet Union's unilateral dependence on any other country; the partners here have mutual interests."  

Fourth, a limit on East-West economic ties is the increasing Soviet exposure to the instability of the world economy. The USSR was hurt by the recession in the mid-1970s. Soviet leaders and analysts became much more cognizant of the advantages of insulating the USSR's economy from oil embargoes and other disturbances on international markets. To be sure, the USSR benefitted considerably from the inflated prices of oil and gold in the late 1970s. But the disadvantages of fluctuating world prices and markets, to say nothing of the political vagaries of East-West trade, are increasingly on the minds of the Brezhnev administration. In a word, the optimism of Soviet modernizers in the early 1970s has been tempered by a more conservative assessment of the costs and benefits of extensive participation in an unstable global economy.
Fifth, a limit on East-West cooperation is the perception of Soviet conservatives that some "circles" in the West seek to use detente to their strategic advantage and must be curbed. L. Vidiasova articulates this concern as follows: "Some Western politicians would like to see in detente a sanction to interfere in the domestic affairs of socialist countries, and use the establishment and development of cultural ties as a channel for the spread of bourgeois ideology and the bourgeois way of life in the socialist world." 73

Sixth, a limit on East-West ties is imposed by the growing scope and significance of the ideological struggle in the context of the internationalization of economic life. Soviet analysts maintain that the USSR's greater involvement in the world economy, coupled with the USSR's increased capacity to deter military aggression by the West, signal that ideological competition is heightening. Iu. Zakharov observes: "As contacts intensify, cooperation expands and becomes more diverse, and this gives rise to new points of contact and, consequently, to clashes of views.... As a result, the ideological struggle spreads to new spheres of activity, processes, and phenomena." 73 Iu. Davydov, in a major study of the relationship between detente and ideology, underscores the growing significance of political competition in the context of detente. "The less imperialism in its struggle with socialism can count on military force [and economic and political pressure as well], the more significant becomes the
logic of social development [as a competitive factor].... The more relationships with socialist states become normalized, the more dependent [the imperialists] become upon using ideological methods of influence [within socialist states]. And this objectively leads to the magnified role and significance of ideological struggle in the international arena." Furthermore, in an innovative analysis of international relations, D.V. Ermolenko notes the growing importance of ideological subversion as a "global danger" emerging from the worldwide process of the STR.

In short, although the internationalization of economic life and the STR induce cooperation, Soviet officials perceive definite limits to East-West political and economic ties. As Zakharov declares: "The fact that socialism and capitalism are entirely different unquestionably places a boundary on the volume and mainly on the depth of the mutual political, economic, scientific, technical, and cultural relations between socialist and capitalist states. Even given the most favorable conditions these relations cannot pass the limit beyond which they begin to exercise a direct influence on the character of the social system in the cooperating states. This is an objective limitation."  

D. Conclusion

The foregoing constraints on East-West cooperation notwithstanding, leading Soviet officials and international affairs specialists affirm that the USSR can deepen economic ties with the
industrialized capitalist states without fear of excessive interference in socialist development—that is, without making the USSR unduly vulnerable to harmful political, economic, or social influences. The conservative and especially the reformist reasoning in support of this conclusion goes well beyond the mutual dependencies argument of Maksimova discussed above.

First, and most important, Soviet analysts maintain that the USSR has developed an industrial base strong enough to provide for both its basic needs and its military interests. Tomashevskii declares: "The Soviet Union's powerful economic, scientific, and technological potentials [and] the successes of other socialist countries...make it possible for them to cooperate with the capitalist countries on an equal footing and successfully withstand any hostile moves." 77

Second, the Soviet leadership can allegedly manage the problem of controlling excessive vulnerabilities through planned intervention in its own economy and those of other Soviet bloc nations. Maksimova contends: "The development of the Soviet Union's external economies, the formation of their volume, structure, forms, and methods is not a spontaneous, arbitrary process, but a regulated and carefully balanced process, because it has gone forward in a socialist economy with a state monopoly of foreign trade." 78

Third, the existence of serious "interimperialist contradictions" is thought to provide the USSR with a margin of protection against direct or coordinated Western exploitation of sensitivities and vulnerabilities in the Soviet economy. Despite a common class
interest, Western Europe and the United States have developed different orientations toward detente. As Davydov observed shortly before the Soviet occupation of Afghanistan, "the ruling circles in Western Europe understand the Soviet approach to detente much better than those in the United States." A key difference in this "understanding" concerns the nature and functions of East-West economic relations. Davydov concludes: "While the United States wishes to use its economic relationship with socialist states for the purpose of exercising influence on the political situation, Western Europe wishes to use the political relationship with socialist states to strengthen trade and economic relationships between East and West in order to deepen the detente relationship."

In summary, the Brezhnev administration's efforts to "combine" the STR with the advantages of Soviet-type economies is primarily a strategy that seeks to stimulate increased scientific, technological, and production initiatives at home through greater involvement in the global economy. Although Soviet analysts routinely assert that the USSR can provide for its basic needs, they argue just as often, as has A. Karenin, that "in conditions of the ongoing STR, the CPSU and the Soviet state are orienting our economy to take the fullest advantage of the opportunities to participate in the international division of labor." The modest scope of the Soviet Union's institutional and juridical responses to the STR to date may be a consequence of the ongoing conflict between conservative and reformist approaches to
modernization. More likely, the incremental decisions reached and the statutes promulgated in the late 1970s constituted a conservative victory that will endure to the end of the Brezhnev administration at the very least. The carefully conceived organizational and legal changes we have examined in this chapter are a reflection of the CPSU leaders' confidence in the basic traditional elements of the Soviet polity and economy, and of their desire to adapt these elements more effectively to new and rapidly changing domestic and international political, economic, and scientific-technical conditions. The recent administrative and juridical adjustments in the Soviet foreign trade system may also be a manifestation of the increasing seriousness of the economic problems confronting the USSR; the eagerness of the aging Soviet leaders to mobilize technical and managerial elites to help cope with these problems; the desire of the leadership to encourage diverse international economic activities that are subject to central control; or simply the understandable inclination to postpone hard choices.
FOOTNOTES

1. From Brezhnev's address to the 24th Party Congress in 1971, in Materialy XXIV s'ezda KPSS (Moscow: Politizdat, 1971), p. 51 (emphasis in original).


10. M.M. Maksimova, SSSR i mezhdunarodnoe ekonomicheskoe sotrudnichestvo (Moscow: Mysl', 1977), p. 188.


13. Feonova et al., op. cit., p. 43 (emphasis added).


16. Ibid., especially pp. 56-64.

17. Ibid., p. 58.
18. Ibid., p. 60.


22. Ibid., p. 63.

23. V.S. Pozdniakov, Sovetskoe gosudarstvo i vneshniaia torgovlia (pravovye voprosy) (Moscow: Mezhdunarodnye otnoshenia, 1976), pp. 61-62.


25. Ibid., p. 63.

26. Ibid., pp. 63 ff.

27. Ibid., pp. 68-69.


29. Ibid., p. 69.

30. Friedrich Levcik and Jan Stankovsky, two Western writers, succinctly observe: "The strict separation between the domestic economy and foreign operations has been modified over time in a number of ways, with considerable differences from country to country [in the Soviet bloc]. The former defensive and protective function they exercised within a predominantly autarkic growth model has been transformed into an offensive function, and the most important task of the foreign trade.
monopoly has become the expansion of exports to make possible
the import of capital goods, technology, and licenses....

This changed function of foreign trade necessitated
corresponding changes in the organizational forms and the
legal and economic institutions of the state foreign trade
monopoly. Under certain circumstances, and after obtaining
the required permission, production enterprises in some
Eastern countries may now also participate in foreign trade.
Producer associations, such as the associations of state-owned
enterprises in the GDR, or industrial concerns in Romania, or
important enterprises and combines, are also authorized, along
with the existing foreign trade enterprises, to export their
products themselves. In other cases producers can select
their own foreign trade organization, which then engages in
foreign trade transactions on commission and on behalf and on
the account of the producer. Sometimes competition between
foreign trade organizations may arise. In some cases producers
are able to join to form their own foreign trade companies
(joint stock or limited). In all cases the state, as
representative of the foreign trade monopoly, reserves the
right to grant permission for these ventures....

In contrast to most of the other Eastern countries, the
USSR has retained the original system of foreign trade monopoly
with exclusive specialized foreign trade organizations and a
strict separation between domestic and foreign prices. Even


32. Brezhnev's and Kosygin's reports to the 24th CPSU Congress, in ibid., pp. 25, 134.


34. Brezhnev's report to the 25th CPSU Congress, in ibid., p. 25 (emphasis added).


36. The draft and final versions of the Constitution are juxtaposed

37. M.M. Boguslavskii (ed.), Pravovye formy nauchno-tekhnicheskogo i promyshlenno-ekonomicheskogo sotrudnichestva SSSR s kapitalisticheskimi stranami (Moscow: Nauka, 1980), pp. 4-5. See also Podznakov's writings cited above.


43. E.g., A.I. Bel'chuk (ed.), *Novyi etap ekonomicheskogo sotrudnichestva SSSR s razvitymi kapitalisticheskimi stranami* (Moscow: Nauka, 1978).

44. Smirnov, *op. cit.*, p. 41.

45. *Loc. cit.*


48. These charters all follow essentially the same format and have been published in the journal *Foreign Trade* since 1978.


51. Ibid., 49.

52. Shillinglaw and Stein, op. cit., 4.


54. Ibid., 14.

55. Shillinglaw and Stein, op. cit., 5.


62. Ibid.
65. Ibid., p. 23.
66. Bel'chuk in Bel'chuk (ed.), op. cit. This development was brought to our attention by the careful analysis in Loeber, "Foreign Participation in Soviet Enterprises?" op. cit.
68. Maksimova, op. cit., p. 61.
69. On the importance of distinguishing between sensitivity and vulnerability in conceptualizing interdependence, see Robert Keohane and Joseph Nye, Power and Interdependence: World Politics in Transition (Boston: Little, Brown, 1977), especially part one.


77. Tomashevskii, op. cit., p. 42.

78. Maksimova, op. cit., p. 61.


80. Ibid., p. 27.


*Acknowledgement: The authors wish to thank several members of the U.S. Department of Commerce and the participants and discussants in the second conference of "Soviet and East European Law and Problems of the Scientific and Technical Revolution" for helpful comments and information on many of the issues raised in this chapter.*