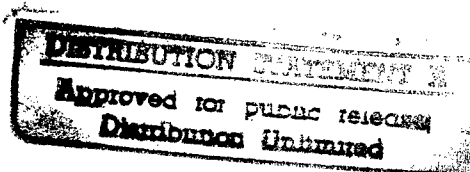


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# USSR Report

ECONOMIC AFFAIRS

EKO: ECONOMICS AND ORGANIZATION  
OF INDUSTRIAL PRODUCTION

No. 7, July 1984

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15 November 1984

## USSR REPORT ECONOMIC AFFAIRS

### EKO: ECONOMICS AND ORGANIZATION OF INDUSTRIAL PRODUCTION

No. 7, July 1984

Except where indicated otherwise in the table of contents, the following is a complete translation of the Russian-language monthly journal EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA published in Novosibirsk.

### CONTENTS

#### ON THE THEME OF THE DAY

Need for Economic Research to Meet Party Requirements Noted  
(Ye. I. Kapustin) (pp 3-19).....1

#### IMPROVING THE ECONOMIC MECHANISM

Role of Cost Accounting in Economy Discussed  
(G. Kh. Popov) (pp 20-36).....13

#### ATTENTION: EXPERIMENT!

Progress of Experiment in Expanding Economic Rights Reported  
(V. M. Vologzhin) (pp 37-50).....25

#### THE ENTERPRISE: EVERY DAY FULL OF PROBLEMS

Role Played by Product Quality Category  
(I. Ya. Shteynbok) (pp 51-60).....35

Importance of Observing Economic Laws Discussed  
(L. V. Nikitinskiy) (pp 61-78).....42

|                                                                                                  |     |
|--------------------------------------------------------------------------------------------------|-----|
| Methods of Raising Level of Planning Work<br>(Yu. A. Sklyarov) (pp 79-86).....                   | 54  |
| WE RAISE A PROBLEM                                                                               |     |
| Responses to Article on Feedback Presented (pp 87-105).....                                      | 60  |
| BRIEFLY ABOUT WHAT IS IMPORTANT                                                                  |     |
| Effectiveness of Foremen's Decision Making Studied<br>(A. A. Zimin) (pp 106-111).....            | 75  |
| Standardization Facilitates Repair of Household Appliances<br>(M. I. Poylin) (pp 111-113).....   | 80  |
| ECONOMICS OF SCIENTIFIC-TECHNICAL PROGRESS                                                       |     |
| Readers' Remarks on Inventions Summarized<br>(Yu. P. Vorónov) (pp 114-145).....                  | 83  |
| ON PROBLEMS OF ECONOMICS -- BY MEANS OF ART                                                      |     |
| Introduction to Following Articles on Management Personnel (p 146).....                          | 105 |
| Managerial Duties Described as Artistic<br>(P. N. Tiflov) (pp 147-149).....                      | 106 |
| Critics' Attitude Toward Play Characters Discussed<br>(V. N. Grigor'yev) (pp 149-151).....       | 109 |
| Role of Collective in Industrial Management Discussed<br>(A. P. Feokistov) (pp 151-154).....     | 112 |
| Importance of Moral Development in Management Work Stressed<br>(V. M. Nikonov) (pp 154-157)..... | 115 |
| Importance of Communication With Collective Emphasized<br>(V. V. Tseber) (pp 157-159).....       | 118 |
| Significance of Determining Responsibility Stressed<br>(V. K. Kwartovkin) (pp 159-161).....      | 120 |
| ECONOMICS OF DEVELOPED CAPITALIST COUNTRIES                                                      |     |
| Industrial Management in Japan Discussed (pp 162-163).....                                       | 123 |
| Japanese Use Various Forms, Methods of Management<br>(B. Z. Mil'ner) (pp 163-178).....           | 124 |

TEST YOURSELF!

Questions for Quiz on Scientific, Technical Progress (pp 179-180).....135

AMONG BOOKS

German Book on Scientific, Technical Progress Reviewed  
(S. V. Pirogov) (pp 181-185).....137

TEST YOURSELF!

Answers to Questions on Scientific, Technical Progress (p 186).....141

THE READER AND THE JOURNAL

EKO Readers Meet in Tashkent  
(V. I. Bronshteyn, N. P. Kovynev) (pp 187-188).....143

POST SCRIPTUM

Russian Folklore as Source of Management Principles  
(L. G. Mel'nik) (pp 189-190).....145

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## NEED FOR ECONOMIC RESEARCH TO MEET PARTY REQUIREMENTS NOTED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 3-19

[Article by Ye. I. Kapustin, corresponding member of the USSR Academy of Sciences, director of the Institute of Economics of the USSR Academy of Sciences (Moscow): "Economic Research on a Level with Party Requirements"]

[Text] It was emphasized at the 26th CPSU Congress and subsequent Plenums of the Central Committee that the force of party economic policy lies in its scientific substantiation and reliance on advanced, constantly developing Marxist-Leninist theory. "It is impossible to understand the economy at a qualitatively new level," said Comrade K. U. Chernenko at the extraordinary February (1984) Plenum of the CPSU Central Committee, "without creating the social and ideological prerequisites necessary for this. It is equally impossible to solve crucial problems in the development of a socialist consciousness without relying on the firm foundation of the economic and social policy."

The complication of the tasks facing us makes it necessary to reach a new, considerably higher ideological and theoretical level of social, and above all economic, sciences. This point was profoundly and comprehensively elaborated in the decree of the CPSU Central Committee, "On Increasing the Role of the Institute of Economics of the USSR Academy of Sciences in the Development of Key Problems of the Economic Theory of Developed Socialism." The CPSU Central Committee pointed out that the content and the quality of the results of the institute's scientific research activity do not yet meet the requirements set for economic science by the 26th CPSU Congress and subsequent plenums of the party Central Committee. The institute has not become the leading center for economic thought in the country, and it does not exert enough influence on the entire front of economic science and on management practice.

The CPSU Central Committee pointed out that the institute's scientific research is not profound enough and that the gap between it and practice has not yet been fully bridged. Seriously shortcomings were found in the style and methods of organization of scientific activity, in the work with personnel, in strengthening executive discipline and in evaluating the quality of the work of scientific workers.

When thinking about ways to implement successfully the decree of the CPSU Central Committee concerning our institute, we first of all formalized those key issues of economic theory of developed socialism which were mentioned in the decree of the CPSU Central Committee. Life brings them up persistently and they are of primary significance for the party's economic strategy. They are what determine the basic directions for scientific research and dictate a certain rearrangement of the structure of the scientific subdivisions.

It is important to emphasize that the program of research that ensues from the decree of the CPSU Central Committee concerning the Institute of Economics is directed not only toward the collective of the institute, but toward all of economic science. But in the present article we shall be discussing primarily our own institute and critically evaluating our own activity.

#### Key Areas for Research

The first key problem on which it will be necessary to work is investigation of the system of production relations of developed socialism and the relationships of economic laws that reflect these relations, and also ways of further improving production relations on the basis of the development of productive forces and in close connection with the social processes that are taking place in the society.

In this problem the primary position should be held by an in-depth analysis of socialist property in all the diversity of its manifestations and in connection with the process of further collectivization of socialist production and the development and strengthening of a unified national economic complex. One must say that we have not devoted enough attention to many important aspects of realizing the principle of socialist public property. It will be necessary to investigate, for example, the basic social form of its realization -- the participation of the workers in the management of public production.

The problem of socialist property also presupposes, of course, working out issues of the development and elevation of cooperative-kolkhoz property, and ways and methods of merging it with public property within the framework of the lowest phase of communism -- under socialism.

The study of problems of socialist property should be continued in an analysis of the new content of commodity and monetary relations. There are quite a few unsolved theoretical problems here. In addition to this, it is important to conduct research on social usefulness and methods of measuring it.

Relations in the processes of both production and distribution, exchange and consumption, that is, the entire system as a whole, should be the subject of comprehensive research. It seems to us that special attention should be given to distribution relations which exert a direct influence on the effectiveness of production and labor productivity and touch directly on the personal and collective interests of each member of society. Research on exchange relations is becoming more important, especially in connection with the expansion and strengthening of ties among the parts of the unified national

economic complex. There is a critical need for an analysis of the dynamics of production relations and their influence on the strengthening of the socialist way of life.

The main result of the aforementioned research should be a well-substantiated prediction of the development and improvement of the entire system of socialist production relations. This prediction will lie at the basis of the corresponding section of Comprehensive Program for NTP [Scientific and Technical Progress] for the long-range future and will become the scientific basis for solving the next group of economic problems -- improving the economic mechanism.

Another problem consists in the development of theoretical fundamentals for comprehensive improvement of control and planning in the national economy, that is, the economic mechanism understood broadly.

We are suggesting research and development of proposals for improving the organizational structures of management, providing for interconnected development of the branches and economic regions of the country, coordinating material-substantial and value proportions, strengthening cost accounting [khozraschet] relations, improving price setting and methods of evaluating economic activity, orienting the labor collectives toward final results, and so forth. All proposals for improving the economic mechanism should be comprehensive and systemic in nature, which, as a rule, was not sufficiently the case in previous work.

The Institute of Economics of the USSR Academy of Sciences will participate actively in the large-scale experiment which is being conducted in our country. Our collective has already become involved in conducting this experiment at enterprises of the Ministry of Heavy and Transport Machine Building. We should take the results of the experiment into account when developing the theoretical fundamentals of the Comprehensive Program for Further Improvement of the Economic Mechanism. As Comrade K. U. Chernenko emphasized, the task consists in making sure that we enter the next five-year plan with a well-arranged economic mechanism which takes full advantage of the possibilities and benefits of socialism.

One must say that the preparation of the theoretical fundamentals (concepts) of further improvement of the economic mechanism should entail solutions to principal issues which are frequently still debatable -- such, for example, as the fundamentals of price setting, the distribution and utilization of profit, methods of combining public, collective and individual interests, khozraschet and competition, and so forth.

Take, for example, price setting. The price, as we know, is the main form of manifestation of the law of value, including under socialism. Consequently, only with active utilization of the price in the management of economic processes can one speak of the effectiveness of commodity and monetary relations. But there is no complete unanimity among economists regarding the question of the reflection in the price of socially necessary expenditures per unit of useful effect, about the policy in the area of prices or about certain other issues.

The key problem is increasing the effectiveness of public production on the basis of its intensification. This requires that we conduct research on questions of determining the level, dynamics and ways of increasing the economic and socio-economic effectiveness in various phases of reproduction, various spheres of the national economy, and various horizons of management.

An understanding of the fundamental economic law as a criterion of socio-economic effectiveness and optimal proportions in public production requires the corresponding research, which, incidentally, has not been at the center of the attention of the institute's division of reproduction up to this point. We need a theoretical basis for the development of a system of indicators which directly reflect the realization of the basic economic law in public production.

Our research should provide better substantiated solutions to the problem of an optimal relation between consumption and accumulation, subdivisions I and II of public production, growth rates and the structure of the national economy, reserves and ways of achieving balance in the entire national economy, including income and consumption, protection of the environment, and so forth. Thus it will be necessary to develop a fundamental theory of the rates and proportions of socialist reproduction under the conditions of the intensive type.

The national economy is awaiting both fundamental research and recommendations of ways of efficiently utilizing of all kinds of resources, improving product quality and fighting against losses in the national economy. The problem of increasing the output-capital ratio has acquired special significance.

Generally speaking, we need theoretical research into the multifaceted problems of the intensive type of expanded socialist reproduction, further substantiation of its essence and criteria, and also the stages of transition to it. But there is not enough theoretical research here. As distinct from our past practice, economic science should provide fairly concrete proposals which can be introduced into the system of management of the national economy and produce a real effect.

In this connection, an important area is political and economic research into the qualitative changes in productive forces, the development of theoretical problems of the scientific and technical revolution and the combination of its achievements with the advantages of socialism. It is necessary to investigate ways of further improving the material and technical base of socialism, including the material and technical base of the nonindustrial sphere. The practical outcome of this work should be the preparation of concrete proposals for improving the structure and level of the material and technical base so that they can be utilized when developing five-year plans and plans for the longer-range future. Circumstances are forcing to investigate also the more concrete aspects of these problems, for example, the level and structure of machine building and several other leading branches of the national economy which determine scientific and technical progress. The concrete outcome of this research can and should also be the corresponding methods -- say, the methods for determining the effectiveness of new technical equipment, the effectiveness of environmental protection measures, and so forth.

Political economic research on the productive forces of the society, naturally, should include not only the material and technical base, but also the main productive force of the society. This too, in our opinion, can be a key area for the institute's research. It is the more necessary since, under the conditions of the scientific and technical revolution, there has been a sharp increase in the significance of the subjective factor in production. Understanding that even today labor productivity is the major and decisive condition for the victory of the new social system, we intend to devote special attention to the political economic approach to labor productivity and to increasing its growth rates. The need to investigate labor resources and labor productivity is determined also by the fact that the institute is in charge of preparing the section entitled "Labor" in the Comprehensive Program for Scientific and Technical Progress, and is also working on the Comprehensive Program for the Elimination of Manual Labor.

Our theoretical research should embrace not only industry, but also all other branches of the national economy in their totality, combining the branch aspect with the regional one. This presupposes research on problems of further increasing the effectiveness of the agro-industrial complex and implementation of the tasks of the Food Program.

Finally, we are faced with the task of studying more deeply than before not only material production, but also the nonindustrial sphere, which is so necessary for further advancement of production and improvement of the well-being of the population. Political economic research on problems of development and improvement of the nonindustrial sphere can comprise an independent area of scientific research.

#### Economics is Inseparable from Ideology

Speaking at the July (1983) and the extraordinary February (1984) Plenums of the CPSU Central Committee, Comrade K. U. Chernenko emphasized the persistent need to improve not only economic, but also educational and ideological work. Under the conditions of the aggravation of the ideological struggle in the international arena, the ideological role of the Marxist-Leninist political economics of socialism increases especially. The disclosure from authentic scientific positions of the historical advantages that objectively inhere in the socialist system, the struggle and the unmasking of attempts on the part of bourgeois economists to distort real socialism, protection of the principle points of Marxist-Leninist theory from attempts on the part of revisionists of all stripes to distort them, a strict approach and increased demandingness with respect to our own scientific output -- all these are tasks not only of a special sector for criticism of bourgeois and revisionist theories, but of all scientific workers of the institute without exception. The collective of each division and sector should draw up a detailed program for itself and determine its position, role and means of participation in counter-propaganda.

Then too, of course, it is necessary to increase the demands placed on work of the sector for criticism, since our criticism of bourgeois and revisionist distortions of real socialism is not always argued well enough, is not always directed toward the most dangerous enemies, and it is frequently late in responding to the modern methods of the ideological struggle of our opponents.

## Experience in the Construction of Socialism -- Common Property

The decree of the CPSU Central Committee concerning increasing the role of the Institute of Economics requires us to "conduct research taking into account the experience in economic construction and the development of economic thought in socialist countries." It must be recognized that we have achieved very little in this area, since the absolute majority of our research is for the most part oriented exclusively toward the Soviet Union. But with all its decisive significance it is important to take into account also the experience of other socialist countries, which act like laboratories for improvement, for example, of the economic mechanism. Both the positive and the negative experience of the socialist countries should be fully taken into account.

It would also be incorrect to assign the task of studying and utilizing the experience in economic construction in other socialist countries to just one specialized subdivision of some kind. We have not reached a level of development of the world socialist system which does not allow the development of any proposals in the area of improvement of the management of the national economy which do not take into account the experience accumulated in other countries. Not a single developer can do without this knowledge any more.

In this connection, we should make it a rule when presenting any work in the area of political economics of socialism to sum up in it the experience of all socialist countries. Hence follows a requirement for every scientific worker: to delve deeply into those questions with which he is dealing, not only from the experience of the Soviet Union, but also from the experience of all countries of the socialist community. It is also necessary to single out those problems in the development of the economic mechanism of socialist countries which require not only that we utilize the existing information (obtained primarily from the Institute of Economics of the World Socialist System of the USSR Academy of Sciences), but also that we conduct our own research and provide for the travel of a group of scholars for an extended period so that they can study these problems in depth in the socialist countries and take full advantage of the experience of our friends both in theoretical research and for the preparation of the corresponding proposals for planning and directive agencies.

## Skillfully Combining Theory and Practice

The task of principal importance which faces every economist today consists of improving the quality of theoretical research and bringing the conclusions and suggestions that arise from it to the point of practical recommendations and proposals such, for example, as the development of a system of criteria and indicators for evaluating the effectiveness of production and proposals directed toward a radical increase in labor productivity, improvement of product quality, ensurance of prompt renewal of fixed production capital, efficient utilization of all kinds of resources and so forth. Every economist understands how difficult it is to develop radical methodological issues of the political economy of socialism while simultaneously strengthening the link between scientific research and practice. This issue has always been the most complicated and disputed one for us. What does it mean to combine theoretical

developments with practical suggestions, and how are we to understand this combination? We ourselves must delve deeply into this in order that all our scientific research work will meet the requirements of the time and so that we shall finally surmount the disparity that exists between research on deep processes and the categories of political economics that reflect them, on the one hand, and research on concrete directions for improving the economic mechanism, on the other.

The answer to the question does not lie on the surface. It causes debate in the Division of Economics of the Academy of Sciences, and the Gosplan, and in other departments which reproach the institute for the fact that our research is basically theoretical in nature and requires that we make suggestions concerning the most concrete applied problems. Although one must say that now certain members of the Division of Economics have changed their position and think that we must deal more with theory -- the deepest "political economic wound" in the economy.

It seems to us that the central tasks of the institute are political economic research on theoretical problems of developed socialism and the disclosure of patterns in its further improvement. With all the necessary abstractness of a number of these research projects, one must not confuse them with scholasticism, that is, fruitless disputes and discussions. Moreover, these theoretical research projects must have one practical conclusion or another. What does this consist of? First of all, apparently, this research should provide a theoretical substantiation for the solutions to crucial problems of economic practice. Thus, for example, it is necessary to develop theoretical fundamentals for determining the socio-economic effectiveness of public production as a whole and of such facets and aspects of it as the effectiveness of new technical equipment, the effectiveness of capital investments, the most important global proportions in development of the national economy, and so forth. Theoretical research is also necessary for solving narrower practical problems, for example, the substantiation of the possibility of reducing to a single indicator the fixed capital that has been applied and consumed. In the question of material and spiritual values that are distributed according to labor and through public consumption funds, it is important, for example, to develop theoretical foundations for determining the optimal combination of the two forms of distribution and so forth.

Two tasks follow from what has been said. First, still at the level of scientific research work, it is necessary to determine the final results of research more precisely and agree upon them with the client in order to avoid subsequent confusion and complaints. Second, it is necessary to coordinate the work of the head institute which is investigating the fundamental economic problems as well as with the branch and departmental institutes which are called upon to bring the results of theoretical research to the level of applied developments. Such coordination requires the development or refinement of the existing provisions concerning the rights and responsibilities of the head institute.

## The Path of Introduction

One of the most painful unsolved problems for scientific research institutes, especially academic ones which are working on fundamental problems, has always been the introduction of the results of this research into the practice of the national economy. Of course, to some degree one can consider particular ideas, conclusions and proposals that have been presented in printed works to be introduced. Sooner or later many of them are embodied in practice. Thus, for example, for many years in a row we expressed the idea that the process of further collectivization of socialist production would require more extensive utilization of collective forms of organization of labor and wages. Up until a certain period this idea was poorly realized in practice. But now it is becoming extremely widespread. Economic science, including our institute, has repeatedly expressed the idea of the country's agro-industrial complex [APK]. During a certain period this idea was received with hostility both in the Gosplan and in other departments. Now, as we know, nobody has any doubt about the need to single out and strengthen the APK. In our subsequent works, it is necessary to defend those theoretical positions of which we are confident and which should be realized in the practice of the national economy.

But, of course, one cannot think that this form is sufficient to justify not being concerned about the embodiment of the results of scientific research. We must go more persistently to planning and economic agencies with our concrete suggestions that follow from theoretical research. The need for this is also determined by the plan for scientific research work which is approved by the Presidium of the Academy of Sciences, the State Committee for Science and Technology and the USSR Gosplan.

It is appropriate to mention here that the responsibility should be mutual. For our institute sends tens if not hundreds of papers, reports and proposals to the Gosplan, the GKNT and other departments, but our proposals far from always find support and are introduced. We must say that in recent years we have been receiving considerably more responses to our suggestions from the USSR Gosplan than was previously the case. Now, for the majority of works that are presented, the institute receives responses if not from the management, then from the divisions of the Gosplan. Many of the responses not only contain an evaluation of the level of the research that has been conducted, but also raise the questions that have not been answered, explain the need for deeper development of one problem or another, additional analysis of certain aspects of the problem and so forth. This tendency is positive and, of course, it should be reinforced and further developed.

The problem is something different. The best responses to our work are far from demonstrating that it has been introduced into the practice of management of the national economy. The main thing, apparently, is that the client who suggests including a subject in the five-year or annual plan for scientific research work is responsible to nobody for the results of the introduction of the given research, and in a number of cases he ignores it completely without even sending a response to it.

Scientific research costs the state a good deal. And therefore increasing its effectiveness is an important task. It is better for the departments to order research projects from us not in terms of numbers, but in terms of the most important problems which are actually bothering them, and they should provide for strict receipt of this work, but the main thing is the realization of those proposals which they consider acceptable, and they should bear responsibility for this realization.

In order to increase the effectiveness of scientific research work, the decree of the CPSU Central Committee concerning increasing the role of the Institute of Economics suggests introducing orders from planning and economic agencies into the practice of planning and organizing research. The decisive works of the institute are to be performed on the basis of officially formulated orders from the ministries and departments. In connection with this, the Economics Division of the Academy of Sciences will have to develop the corresponding provisions. Obviously, they should provide a clear definition of the mutual responsibilities of the parties. On the part of the client -- a clear formulation of the goals, time periods and final results, and on the part of the institute -- a commitment to do the work within established time periods. The provisions must reflect the policy for receiving the results of the research and the forms of its realization. Moreover, it is necessary to stipulate certain responsibilities of the department, without which it will be difficult to fulfill the order. I have in mind the corresponding statistical materials, permission to conduct certain analyses at the corresponding enterprises or associations, conducting experiments, if necessary, and so on.

The agreement for creative cooperation can apparently serve as one of the forms of these orders. An example is the agreement we concluded with the republic Gosplan and the Academy of Sciences of Estonia for conducting an experiment which was directed toward combining the branch and territorial approaches to comprehensive management of the republic's economy.

#### Maintaining a Creative Atmosphere

It is extremely important to create in scientific subdivisions conditions which contribute to the formulation, creative consideration and resolution of problems that are raised by life. For ourselves we are coming to the conclusion that a more significant role should be played by the institute's scientific council and its sections which were formed for the basic problems of scientific research work. The institute's management intends to strengthen the composition of the section scientific councils by enlisting workers from planning and management agencies, and also inviting more of the scientific community to meetings of the councils, including scientists and managers who hold different scientific positions, and raising more debatable issues for discussion by the councils. It seems expedient, along with the annual and five-year plans for scientific research work, to adopt, on the basis of these plans, another plan for the consideration by scientific councils of the results of the most important research, which should increase the responsibility of the performers of the work.

It would be useful to raise regularly for discussion in the divisions and sectors those economic problems which lie in the mainstream of the given subdivision and are raised in the periodical press and in new books, and also critical reviews of printed works and dissertations in this area. A more demanding approach should be taken toward publications of the institute's workers. The only works that should be published are creative and original ones which provide for appreciable progress in resolving theoretical problems and practical national economic issues.

The decree concerning our institute correctly points out that there are not enough creative discussions in the institute and on the pages of the magazine VOPROSY EKONOMIKI, and their results far from always make a creative contribution to science and practice. We need to hold more scientific discussions and debates. In particular, in the near future we should discuss the principles which should lie at the basis of the drawing up of the Comprehensive Program for Further Improvement of the Economic Mechanism.

Before beginning any discussion it is necessary to have an idea of the possible scientific and practical value of its future recommendations. The institute should go to a scientific conference with a particular position which must be discussed with the scientific community and the practical workers in the national economy. And the recommendations of any conference should be brought up to the degree of specification which will make it possible to introduce them into the management of the national economy. We have been correctly criticized for the fact that in the recommendations of scientific conferences we do fairly well at formulating the orders for the development and introduction of various issues which should be resolved by other organizations, but we ourselves do not give enough concrete proposals.

The editorial board of the magazine VOPROSY EKONOMIKI should also develop a long-range program of discussions, and -- the main thing -- include on its pages only those articles which raise new issues which are vitally important to the economy and touch upon unsolved and largely debatable problems of the political economics of socialism. This is what will define the magazine's role in the eyes of economic scientists.

#### Things Will Not Start Without Organizational Efforts

The areas of restructuring can be defined correctly and well, but things will not necessarily start to change. Therefore it is especially important for successful implementation of the decree of the CPSU Central Committee concerning the Institute of Economics to improve all scientific and organizational work, to organize the fulfillment of the plan and control over it, and to provide for interaction among sectors and divisions and also with other institutes and organizations.

Regardless of how difficult it may be, the management of the institute must take a more principled or even uncompromising position with respect to minor subjects and assignments which do not correspond to the profile of the institute, which flow as from a horn of plenty to the institute from the USSR Gosplan, the Presidium of the USSR Academy of Sciences, the GKNT [State Committee on Science and Technology] and other departments. Still, many times

such assignments are included in spite of our protests in the five-year plans that are approved by the Academy of Sciences, the Gosplan and the GKNT.

It is necessary to take a comprehensive approach to solving the most important economic problems, with the participation of all or the majority of divisions and sectors. We have accumulated a certain amount of experience in this. Such a comprehensive approach was used when preparing the proposals that were sent to the USSR Gosplan and which envisioned improvement of the methods for developing five-year plans; such a comprehensive approach made it possible to prepare a report on questions of output-capital ratio and to prepare and submit for publication the three-volume theoretical work, "The Economic Structure of Socialism." Finally, it is being utilized in the development of the sections of the Comprehensive Program for Scientific and Technical Progress in the Long-Range Future which were entrusted to the Institute.

At the center of the institute's attention at the present time is work which requires especially clear-cut interaction among all divisions and sectors. I have in mind the participation in conducting a large-scale experiment for improving the economic mechanism. We have formed a large number of creative groups which have gone out to enterprises of the Ministry of Heavy and Transport Machine Building to render concrete assistance to enterprises in changing over to the new conditions and for analyzing the results of this changeover and preparing proposals which are to be used when drawing up the Comprehensive Program for Further Improvement of the Economic Mechanism Under the 12th Five-Year Plan. Representatives of the majority of divisions and sectors are included in these groups. And it must be said that even now, the workers who have been included in these groups have been extremely enriched with factual material from life, which is necessary for developing scientific concepts.

Apparently it is necessary to think about changing the approach to forming the annual and five-year plans for scientific research work. We must try to form such plans not on the basis of the subject matter of the divisions and sections, but on the basis of comprehensive subjects, in which all divisions and sectors will participate. If the plan for the institute's scientific research work includes a limited number of such comprehensive subjects, this will enable it to concentrate its main forces on them and provide for comprehensive development of them. The divisions and sectors can be left with only research subjects whose final results, and also the methods of development themselves, are not clear enough.

The institute's plans should be directed not toward intermediate, but toward final results, and they should be formulated in such a way that it is completely clear ahead of time what we can expect from this research and what new information it can contribute to economic theory and the practice of the national economy. General scientific trends in which research can be conducted for many years in a row must not be confused with specific subjects which are to be completed in strictly determined periods of time.

It seems to us that further increasing the responsibility of the workers for the performance of their scientific duty, strengthening business discipline and easing control will require that each member of the collective, beginning

with the junior scientific worker, have an individual work plan. It would be best at the end of each week, in thematic groups, sectors and divisions, to sum up the fulfillment of the plan by each worker during the past week. Thus four times a month each worker will have to compare the results of his work with the plan that has been established. It seems to us that this is the main method of strengthening labor discipline.

The problem of problems, which determines the scientific level and results of our research, is that of scientific personnel -- their qualifications and the prospects of increasing them, their production experience, their party spirit, their adherence to principles in solving scientific problems, their self-critical approach to the results of their work and their initiative. We shall have to solve a very difficult problem for essentially improving the institute's personnel structure, including with respect to the jobs of the senior and junior scientific workers, laboratory assistants and other service personnel.

An essential change in the structure of the institute, the elimination of subdivisions which are small in numbers and strength, which are not promising enough and which do not fall into the major areas of our scientific work, and the redistribution of jobs among them, as a rule, requires holding a competition for all jobs without exception. This is the only way in which it will be possible to rid ourselves of workers who are not creative or conscientious enough. The positions that are opened up should be filled with creative youth. I would like to emphasize that when we speak about firing workers who do not have initiative, we have in mind workers of all levels and all ages. Of course, this difficult and painful work requires strict observance of the law and a purely individual approach, and it presupposes the active participation of party organizations and all communists as well as a certain amount of assistance from higher organizations. As was pointed out in the decree devoted to the work of the Institute of Economics of the USSR Academy of Sciences, "Soviet economists are called upon to do everything possible to successfully reach the new goals that were set for economic science by the 26th Party Congress and subsequent plenums of the CPSU Central Committee and to make their contribution to solving the problems involved in perfecting developed socialism."

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## ROLE OF COST ACCOUNTING IN ECONOMY DISCUSSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 20-36

[Article by G. Kh. Popov, doctor of economic sciences, professor, head of department of organization and methods of management of public production of the economics faculty of the Moscow State University imeni M. V. Lomonosov (Moscow): "Full Cost Accounting (khozraschet) of the Main Unit of the Economy" -- a discussion]

[Text] At the December (1983) Plenum of the CPSU Central Committee they raised the task of developing a comprehensive program for improving the economic mechanism. One of its main areas was expansion of the economic independence of the lower production associations and enterprises -- the basic units of the economy.

The majority of scholars and practical workers agree in principle with the idea of expanding the independence of the basic unit (production association, enterprise) right up to the point of introducing complete cost accounting. The point about complete cost accounting was made even during the preparation for the economic reform of 1965. But up to this point there is no unanimous opinion of what is meant by this.

The cost accounting of the NEP [New Economic Policy, 1921-1936] period either envisioned the complete right of the cost accounting unit to determine the products list and production volumes and to establish the prices, or this right was limited by an order from the higher agency. But then the right to this order, in turn, was clearly connected to economic responsibilities for the higher level. Commercial accounting of the NEP period was organically included in the overall system of management.

Cost accounting of the 1930's was also a complete method, and it followed logically from the entire management mechanism of those years. It was based on the following idea: the enterprise performing the work receives from above all instructions about what to do and when, where to obtain the materials and where to send the products. Once the order comes down from above, it also guarantees the basic wages. The only right of the enterprise is the right to choose to produce more products or to produce them with less expense. There were small bonuses attached to these choices.

What caused us to look for a new system under modern conditions? It became more difficult with centralized management to provide for the proper rates of scientific and technical progress, fuller satisfaction of the corresponding demands, and efficient payment for labor on the basis of the principle "according to labor" (sometimes payment was made not for the results of labor as such, but for the fulfillment of assignments).

How did they plan in 1965 to overcome these shortcomings? Through the creation of a system in which part of the activity was determined by directives, and the cost accounting unit would fill the "vacuum" that was formed with its own activity. And this activity would somehow follow a pattern that was formed by the centralized assignments.

If they were distracted from particulars, both the 1965 reform and all subsequent adjustments to it were directed toward the creation of cost accounting in one variant or another, mainly based on the directive planned assignments and augmented with one mechanism or another for adjustment by the cost accounting unit, whose activity was materially stimulated.

At that time the centralized planning assignments embraced all aspects of the activity of the enterprise (1930's), and the system of management was characterized by a certain wholeness. Since the time when they stopped giving centralized planning assignments for all indicators, that is, areas appeared for the manifestation of the activity of the basic unit, in our opinion, the system lost some of its wholeness.

Attempts to modernize the cost accounting of the 1930's led to a kind of hybrid in which administrative command from above was combined with the right to depart from it and with economic interest which was directed toward such a departure. In a number of cases this hybrid lost the force and integrity of the initial form which contained only assignments from above. It was like Fazil Iskander's "kozlotur." [expansion unknown]

The 1965 reform and all subsequent changes revolved precisely around the following task: how, while retaining the essence of the cost accounting of the 1930's (orientation toward efficient utilization of operational administrative directives), could it be augmented with certain elements which would orient the enterprises toward independent decisions?

What did this attempt produce? Since it was necessary to carry out administrative directives, even a small expansion of the independence turned out to be mainly an implement in the hands of those responsible for performing the work to reduce the planned assignments and to select the ones which opened up the least difficult path to the bonus. Of course if the central agencies had managed to determine in terms of all positions of the production plan the relative degree of their advantageousness to the society and to arrange the system of prices or the system of deductions into the material incentive fund accordingly, then the activity of the lower levels would have developed in the necessary direction. But it would be unrealistic to expect that, without dealing with a simple system of direct planning of everything and anything, it would be possible to deal with an immeasurably more complicated variant: to establish and change during operation the entire system of prices and stimuli.

We were faced with a kind of lesson in management systems. Initiative, acting as an additional factor, will help the basic system only when, in its nature, direction and stimuli, it corresponds to the basic system.

But it was not because it was a hybrid that cost accounting of the 1960's did not work properly. For the cost accounting of the 1930's also included both directive planning and independence of the enterprises. But in the 1930's there was a unified basis: directive planning and activity on the part of the unit responsible for carrying out the plans. In the modern system of cost accounting they tried to combine one type of management in the directive part of cost accounting and another in the independent part. The enterprises that were given the greatest independence now had to engage not simply in a search for ways of fulfilling directive assignments, but also in the determination of the assignments themselves.

The goals of the enterprises coincide with the interests of centralized planning only when the fulfillment of directives is advantageous to those who are fulfilling them. But directive planning was selected as a method of management because the system of management cannot ensure this advantage in all cases. Had this been the case, it would have been possible to use advantage alone as a method of influence.

The difficulties with today's cost accounting are not by chance. They organically ensue from its essence. Either it is an element in the system of operational administrative management, and then attempts to make the enterprise look for economically effective solutions sometimes create conflicts with the compulsory administrative directives (especially if the course toward independence becomes stronger), or else the directive part suppresses independence which is dangerous to it, and we end up in the same situation in which we began the development. Administrative functions cannot be transferred to the cost accounting unit, and expansion of its economic activity leads to a search for assignments which are advantageous to this unit, including those which run counter to planning assignments, and thus to disproportions.

In modern cost accounting the main thing (the directive part) conflicts to a certain degree with the supplemental part (independence). As a result, in a system which was previously burdened only by the danger of subjectivism when determining the assignments, there arises also the danger of subjectivization of the lower cost accounting unit. It can be no other way if, according to the first idea of cost accounting, the most effective is the assignment which is received from above and it is necessary to begin to carry it out immediately. Yet the second idea of this same cost accounting requires sitting down and calculating the advantage of each assignment. It does not make sense to suppose that this calculation will pertain only to the nonplanned items and will not touch upon the directive assignments. And as soon as it is discovered that there are both more advantageous and less advantageous ones among them, the consequences are obvious.

Expansion of independence leads to a situation in which it is better to have something that is expensive, but one's own than something inexpensive that comes from the outside, and it leads to a failure to produce items which are necessary to the economy but in many cases are disadvantageous (under the conditions of frozen prices) to the cost accounting unit. This also sometimes leads to shortages and overstocking and partial disproportions. This is why, in my opinion, suggestions that it is necessary to eliminate shortages and then the current cost accounting will "start to work" are wishful thinking. This cost accounting cannot eliminate the shortage, and a shortage that is eliminated by one particular measure will frequently reappear as soon as the influx of fresh blood from the outside is cut off.

In the works of the so-called "anti-marketeers" it is well demonstrated how modern cost accounting organically gives rise to economic difficulties. And herein lies the merit of the "anti-marketeers." But they too have fallen into a kind of economic romanticism, thinking that it is possible to return to the logical wholeness of the cost accounting of the 1930's: to embrace all economic life with conventionally monetary, but logically physical assignments from above.

All of the experience of the 20-year period since the 1965 economic reform shows how unrealistic is the idea of restoring the cost accounting of the 1930's, regardless of the new indicators with which we may equip it or how we bolster it. For its essence is to be an implement for basically an administrative system of management based on operational command from above all all parameters of the production of the basic unit of the economy, utilizing planning assignments and percentages of their fulfillment.

In my opinion, we need not more attempts at restoring the old, but a changeover to a new type of cost accounting -- to complete cost accounting, which corresponds to the current stage in the economy of developed socialism. We are speaking not about bringing the old up to standard, but about an essentially new cost accounting in which the main thing is for the cost accounting unit to account directly for consumer demand and stimulation of this unit depending on the degree of satisfaction of this demand. It is distinguished not by the fact that it has not centralized assignments, but by the new type of these assignments. In complete cost accounting, instead of compulsory operational administrative assignments, there are centrally set assignments which the cost accounting unit fulfills only because they are economically advantageous. In this connection it is important to realize the points contained in the decree of the CPSU Central Committee and the USSR Council of Ministers concerning expansion of the economic independence of production associations and enterprises (1983).

What, specifically, will complete cost accounting look like?

## The Main Features of Complete Cost Accounting

In our opinion, these are:

the right to select the order;

payment from the gross income;

a wage fund formed as a total result.

Let us discuss each of these basic elements in greater detail.

The right to select the order. In a system of complete cost accounting the order is the point of departure. The clients are equal partners in trade, other cost accounting associations, their own and "outside" branch and territorial agencies, and agencies for management of centralized national economic programs. The basic cost accounting unit has the right to conclude an agreement or reject a proposal. The main aspect of the order is the coordination of the type and volumes of products and the prices.

The overall unified methods for determining prices will still be approved centrally. But the price calculated according to them is only the initial base for determining the agreement price (and subsequently also for establishing the amount of the surplus income of a given association). The agreement price is the price determined by supply and demand.

The prices and the volumes of the orders cannot, of course, be arbitrary. For then their movement could make the actual development deviate significantly from the centralized plan. On the other hand, they cannot but be the prices and volumes of supply and demand. We are faced with one of the real and not fabricated contradictions of the economics of socialism. Under the conditions of commodity and monetary relations the need is the demand. And the order is the mechanism for the influence of demand on production. There is no other way of forcing the producer to take into account the will of the consumer. Therefore the question of the order price is a key issue in complete cost accounting. But it is also an issue of the centralized plan. It is necessary to search for the resolution of this contradiction along the paths of analysis of where, how and how much the agreement prices and volumes will affect the basic proportions of the national economy, that is, what the centralized plan is to be concerned with.

From this standpoint one can single out agreements of type A. This is an agreement in which changes in the kind, grade, quality and quantity of an item affects not only the client and producer. The producer himself is capable, through his own efforts, of dealing with the client (for example, the request of the store). No limitations on the agreement are necessary for the price and volume. This case embraces the majority of problems of demand for consumer goods and foodstuffs, and also a number of variants of scientific and technical progress.

Another type of agreement (B) appears when the need to meet the client's order cannot be satisfied through the forces of the producer alone. He, in turn, must change his orders and enter into negotiations concerning this with his suppliers. Ties are changed not in two but in three units of the economy. For example, trade--sewing factory--dye producer. Here a certain amount of control from above is needed. For example, it is absolutely necessary to inform central agencies of changes in prices and volumes.

And, finally, the third variant of the relationship to agreement prices arises when not three, but four or more units of the national economy are involved (type C). In this case direct agreements have a stronger influence on the branch structure and the basic long-term proportions of the economy. Here one needs developed forms of central control. This relationship toward agreements of type C will be of one kind during the first years after the adoption of the long-term plan and of another kind when the time for the development of another plan draws near. The length of time during which the agreements themselves are in effect will also be significant. Short-term agreements -- even if there are large deviations in the prices and quantities -- are less important to the central agencies than long-term ones are, especially those that encompass the entire planning period. The following policy is possible: if a change in the price in an agreement of type C amounts to no more than 50 percent of its initial level, the price is the result of the agreement of the contracting agents. If the prices change by more than 50 percent, it is necessary to have the agreement of the central agencies. Many complications arise in agreements of the latter type. In particular, how does one reveal the causal chain if the agreements are concluded not immediately, but gradually, over a period of several years?

But in any case one must recall that direct ties and agreement prices do more than impede centralized establishment of basic proportions. At the same time they are a means of achieving proportionality. They are instruments for eliminating the main enemies of proportionality -- shortages and overstocking. Practice convinces us that it is impossible to establish proportionality in an economy of developed socialism through central forces alone and that it is necessary to rely on the system of direct ties among associations and enterprises. Therefore, regardless of how difficult it may be to combine centralized planning with direct ties, there is no other way of achieving real proportionality which provides for satisfaction of demand.

The decree of the CPSU Central Committee and the USSR Council of Ministers of 12 July 1979, "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Improving the Quality of Work," earmarked expansion of direct ties. In order to realize this important point, it would be expedient, as was stated above, to begin to utilize agreement prices.

Payment from the gross income. If direct ties and the order make up the first constituent part of complete cost accounting, the second part is the system of payments from the gross income of the cost accounting unit. The cost accounting unit uses income received in the form of revenues from a client to pay for expenditures on raw materials, processed materials, and wear and tear of equipment, and what is left over comprises the newly created net output.

On the basis of price setting methods, one calculates the normal and surplus income in the net output. The surplus income is distributed in a special way, and the normal income is distributed as follows. The cost accounting unit must use it to settle with the state budget first of all. Two different functions of the economic center -- providing funds for cost accounting units and managing the economy as a whole -- determine two different forms of payment to the center. The first is payment for funds and the second is centralized deposits into the budget.

First about payment for funds. By its nature it is associated not with the results of the management of the given unit, but to the realization of the right to property. This is what the cost accounting unit must give the society under any circumstances.

The amount of the payment for funds depends on the amount of that part of the public property which was placed at the disposal of the cost accounting unit. The more it has taken, the more it has to pay. But this still does not answer the main question: how does one determine the level of payment per 1 ruble of funds?

This is an interesting theoretical question. Why does the society need guaranteed incomes? In order that, in turn, it can guarantee a minimum payment to each member of the socialist society, and also pay for pensions and sick leave, cover expenditures on education, and so forth. Generally speaking, the payment for funds is closely related to two fundamentals of socialism: guaranteed wages (because of the guarantee of the right to work) and public consumption funds. It is necessary to provide for both of these items of expenditures of the society at any level of management, and the best form for providing them is deductions from the enterprises in percentages of their production capital. Based on the amount of the fund for guaranteed payments and the public consumption funds, one can calculate the necessary level of payment for each ruble's worth of capital.

It is sometimes suggested that the payment for funds be differentiated, depending on their composition and the shortage of them. Such a differentiation is apparently possible, but basically the payment for funds is determined precisely by those to items of the society's expenditures which were discussed above.

Since the income of the cost accounting unit depends, in the final analysis, on the overall level of management of the economy, the contributions which are to compensate for the expenditures made by central planning agencies must be related to the results of management. And this can be done most simply in the form of paying the center in percentages of the normal income of the management unit. The greater the income of the cost accounting unit, the more the center receives. And the level of the percentage of payment into the budget will depend on the volume of work performed by the center, the number of programs it has organized, and the part of capital investments and expenditures for scientific and technical progress that is required for centralized utilization.

Analogous to the payments into the state budget, the cost accounting unit should contribute money to the branch and territorial economic management agencies -- so that both will have funds and, consequently, a base from which they can apply economic methods of management. Here too the percentage of payment from the normal income of the cost accounting unit binds the interests of the branch and territorial agencies to the effectiveness of the cost accounting unit.

The next items of payment from the normal income of the association are the contributions to the funds for the development of the association and socio-cultural expenditures. They too are established centrally in percentages of the income. What is left over after all these payments comprises the basic wage fund.

The surplus income is divided into two parts: the progressively increasing tax that goes to the center and the residual surplus income that goes into the wage fund.

The tax to the center is necessary in order to give the center additional resources for accelerated centralized intervention along the line of capital investments so as to eliminate disproportions that have arisen because of surplus income. The tax should be progressive so that the disproportions and the surplus affect the amounts of additional funds concentrated in the hands of the central agencies. Moreover, the progressive tax rate "removes" from the cost accounting unit functions which were never in keeping with its capabilities. At the same time one cannot take away all of the surplus, since then the cost accounting unit would have no incentive to acquire it. The distribution of surplus income is an economic mechanism with which the planning center can fight against shortages and disproportions.

Indeed, why does surplus income appear at a given plant? One of the reasons is that it has been able to force the consumer to pay a high price for its products. But why did the consumer do that? In the first place, because there are not enough of the given kind of products and the supplier's position includes elements of a monopoly. But the excessive price is a kind of a signal and, by giving the state additional income, it enables the state to intervene actively (for example, to construct new plants) and eliminate the disproportion which provides a monopoly for the supplier and the excessive price. The greater the disproportion, the higher the price and the deductions that are sent to the state, and the greater the economic possibilities of fighting against the shortage.

But if the client is prepared to pay the excessive price not because the supplier has a monopoly, but because of his own high incomes, then this is an ordinary redistribution of incomes from the output of a new product throughout the entire chain of suppliers. Having produced a new product, the enterprise receives excess income and "agitates" all of its suppliers with high prices. Here the excessive price accelerates scientific and technical progress and fuller satisfaction of the demand of the population.

Fluctuations in prices, of course, retard the reaction to disproportions. But the agreement price will always reveal a disproportion, it will reveal it promptly, and, the main thing, it will give the central agencies economic levers for a real fight against disproportions through redistribution of resources. The agreement price is the antithesis only to operational planning and administrative management. And real planning of the basic proportions and the real struggle against violations of proportionality become more real and more complete with the agreement price.

The payment fund, which is formed as the residual of basic income and the residual of surplus income, is divided among the labor collectives of the enterprise and the workers within the collectives according to the type of the brigade contract.

This policy for forming the payment fund makes it possible to arrange it on the basis of the principle "according to labor" since this fund is determined only by the results of the labor.

The "residual" principle for forming the payment fund makes it possible to overcome the normative programmed nature of expenditures and to realize in fact the principle of payment for labor.

If the payment fund is high, the collective can deposit money from it into the fund for development (for example, for strengthening technical safety measures) or into the fund for social and cultural measures -- in excess of their minimums. This is also the collective's business.

Such in general outlines are the three units of complete cost accounting: orders, payments and income, and the wage fund.

The proposed conception of complete cost accounting does not include profit as an initial category. Nor is there any base for production cost as an initial category for management. The essence of profit is the result of the comparison of the production cost with the price. But production cost is based on the idea of some fixed payment for labor. Here profit is the source of additions to wages, deductions into funds, and so forth.

In the system of complete autonomous financing there arise relations in which the payment fund is formed as a total. Profit and production cost can be calculated as total indicators. This change in the role of the two latter categories is a typical phenomenon. It is the production cost and profit that were the foundation of the commercial accounting and retained the leading positions in cost accounting in the stage of construction of socialism. Now, in our opinion, cost accounting can be brought closer to to the social nature of our system and take on concern for the incomes of the workers and the payments to the society. And this can be done without the intermediate category of profit. Production cost and profit become accounting categories (for internal accounts of profitability, effectiveness and so forth) within the framework of the given organization.

The issue of the responsibility of the cost accounting unit is one of the important problems of complete cost accounting. Having greater rights, it must also bear more responsibility. The main ones of these are economic sanctions.

The question of the source and the maximum amount of these sanctions is important. The cost accounting unit must satisfy the client's complaints through two channels: it must make up for material losses from its own production funds, and losses of wages -- from its own wage fund. Thus the reimbursement for losses can absorb only part of the wage fund -- that part which is in excess of the guaranteed minimum payment. This policy might not compensate fully for the losses of the consumer, but it severely punishes all workers of the given enterprise. This is the severity which is needed. The stimuli associated with potential income are augmented by potential sanctions.

#### The Mechanism of Direct Management

If we were to speak only about the currently existing cost accounting of the basic unit, this is not complete cost accounting and we would not reveal the entire picture of the management of the basic unit of the economy. It is not simply that the currently existing cost accounting is not complete, but that this does not exhaust the system of management of the basic cost accounting unit. There are a number of non-cost-accounting levers for influencing cost accounting organizations.

Through various means dozens of levels are always guiding independent cost accounting organizations. These include the Gosstandart and people's control agencies, local agencies of authority and administration, the fire safety station, the sanitary and epidemiological station, the state technical supervision agency and so forth. The cost accounting unit is also influenced by higher agencies of economic management: banking, financial, labor, supply and so forth, which loose a flow of instructions, norms, prescriptions and orders.

The ministries, while taking advantage of the system of cost accounting management, at the same time continue to manage the enterprises and associations through direct administrative methods. So in reality even in the ministries themselves we find two approaches: through the management mechanism and bypassing it.

Thus there are two mechanisms for influencing the cost accounting unit of the economy. One is reinforced in the provisions for the system of planning and economic incentives and can be called the mechanism of economic management, and the other operates along with the former and can be called the mechanism of direct management.

In the mechanism of economic management certain rights are earmarked and granted to the cost accounting unit. But it has entirely different rights in the system of direct management. Thus as a result of expansion of the rights the general director of an association actually has at his disposal hundreds of thousands of rubles when determining the variants of technical renovation and capital repair. He can invest large resources in the work for designing a

new item. But at the same time he cannot solve the problem of paying several hundreds of rubles to two or three consultants who have been brought in for the creation of this item. As a result, instead of finding several hundreds of rubles, it is easier for him to "scare up" a wage fund amounting to tens of thousands of rubles, to create "his own" laboratory, and not until several years later can he achieve that which two or three workers from another organization could have done in their spare time over a period of a couple of months.

So it turns out that the basic decision concerning the right to spend a million rubles has been made, the main restriction has been removed, but there remain a mass of trivia which are added to this main restriction as well as partial restrictions. In the past, when the enterprise did not have the right to determine its own expenditures on scientific and technical progress, it was natural to have control over all particular aspects. Now the main principle of economic management has changed. But in direct management many particular limitations remain unchanged. As a result, the right which has been granted for efficient expenditure can actually lead (and has led repeatedly) to decisions concerning expenditures that are far from efficient.

Here we see a typical case. If in one sphere the right has been granted to spend thousands, but in another sphere no right has been granted to spend even hundreds, by way of "compensation" for the impossibility of spending a hundred in the second sphere the manager will spend thousands in the first sphere. We are faced with one of those "holes" which are so numerous in hybrid cost accounting and through which resources "leak out" legally.

In the mechanism for economic management the role of each lever is known beforehand: both bonuses and sanctions. In the system of direct management frequently the relative roles of the levers are not sufficiently defined. The specific sanctions are not known ahead of time, nor are the incentives. For failure to fulfill assignments to send workers to the vegetable base one can receive the most varied penalties, which could possibly be more severe than those for delaying the output of new technical equipment for mechanization of the work at the base itself. In a number of cases absolutely incommensurable things receive equal importance in the mechanism of direct influence: for example, incorrect determination of wages for the secretary and interruption of export deliveries.

It is not merely that phenomena of different orders of magnitude are regarded as equal. In general it is becoming difficult to establish the significance of the criteria. Today it is one way, tomorrow it is another. When the attitude of the management toward the director is good it can be different from what it is when this attitude is bad. The elementary rule of administrative management, which requires that incentives and sanctions be established and made public ahead of time, is frequently broken.

In the mechanism for planning and stimulation there is only one subject of the cost accounting unit. Many agencies are in command in the mechanism for direct management. The managers can be diverse: from the OBKhSS [Department for combating the embezzlement of socialist property and speculation] to the fire protection agencies. This results in a multitude of criteria for

evaluation. This is quite natural. Each agency has its own functions for which it is responsible. And for each agency the good general director is the one who has everything in order in the section which interests the given agency. It becomes difficult for the director. He is like the elephant painter in Mikhalkov's fable who, in order to satisfy all the critics and art lovers, must paint an oak tree and a garden, and even honey -- "in the event that suddenly a bear might come to see the picture."

As we can see, the changeover to complete cost accounting cannot be limited to the sphere of cost accounting itself. Cost accounting is part of the system of management. It is necessary to regulate all units of direct leadership. Direct leadership is necessary and inevitable in planned management. But it is necessary for it to be completely merged into the system of effective management and coordinated with it. It is apparently necessary to have a law concerning the basic cost accounting unit of the economy which reinforces complete cost accounting and regulates all channels of direct influence from the standpoint of complete cost accounting.

The decree of the CPSU Central Committee and the USSR Council of Ministers concerning expansion of the economic independence of the cost accounting production associations (1983) convincingly shows that the only correct path of development is expansion of cost accounting independence.

The task of this article has been to present one of the possible variants of expansion of independence which is especially important for enterprises of the branches which are involved in public consumption.

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## PROGRESS OF EXPERIMENT IN EXPANDING ECONOMIC RIGHTS REPORTED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 37-50

[Article by V. M. Vologzhin, general director of the Konveyer production association (Lvov): "Program of Action in Experiment"; passages enclosed in slantlines printed in boldface]

[Text] As we know, there is in progress in five branches of industry a large-scale experiment in expanding the rights of production associations (enterprises) in planning and economic activity and increasing their responsibility for the results of their work.

A great deal of significance is being attached to the conducting of the economic experiment. "The system of management of the economy and our entire economic mechanism require serious restructuring," said K.U. Chernenko at the February (1984) Plenum of the CPSU Central Committee. "Work in this area has just begun. It includes a large-scale economic experiment in expanding the rights and increasing the responsibility of the enterprises. We are searching for new methods of management in the sphere of services. This will undoubtedly produce a good deal that is useful and help us to solve a strategically important problem -- increasing the effectiveness of the entire national economy."

The experiment does not concentrate attention on the leading collectives. Various productions have been drawn into its orbit. They operate on the basis of unified normatives and they have equal opportunities.

What is the nature of your program of action in the experiment? Toward what goals are you oriented? We asked the general director of the Lvov Konveyer production association, V. M. Vologzhin, to answer these questions.

The program of action of an association or enterprise in the economic experiment is essentially the strategy for management activity under the conditions of greater independence and increased responsibility. Are the managers and collective looking far into the future or are they limiting themselves to improving current results? A good deal depends on this. I do not doubt that the majority of enterprises will try to determine the long-range prospects, the more so since the possibilities of production under the 12th Five-Year Plan will depend directly on the results of the experiment.

/Even when developing the draft of the plan for 1984 we had a sense of the great advantages resulting from expanding the rights of the associations during the planning of production activity. We succeeded in balancing the capacities and the production resources with the demands of the clients. This was of immense significance for our association/.

The Konveyer production association includes a plant and a planning and design institute (PKI). Although the history of the plant is not long, it is extremely instructive. Forty years ago it amounted to mechanics shops which later became a mechanics plant. Renovation was carried out during the 1960's: the plant specializes in the production of push conveyors which are necessary for putting the giants, VAZ and KamAZ, into operation.

It would have seemed that everything was fine: production volumes had increased and about 60 percent of the products were produced with the Emblem of Quality. And then, suddenly and unexpectedly, the demand for conveyors dropped! The drop in demand reached its culmination in 1980, when there were no orders for 20 percent of the products. In the end the plan was adjusted by 5 million rubles (out of 30), but this did not rectify the situation either. Some of the products which were manufactured in keeping with the plan before it was adjusted were not sold. Individual components remained, which increased the volumes of incomplete production and worsened the financial condition of the association, which was bad to begin with. Because of the drop in production volumes, the economic incentive funds decreased, earnings decreased, and people began to leave. But the main thing was that it was absolutely clear what the association could expect in the future.

A paradoxical situation arose. There were capacities for conveyor construction and there were objects for mechanization, since the level of manual labor in the country was still significant. But there were no clients...

It was necessary to figure out the situation comprehensively and objectively and to reveal the reasons for the drop in demand. An analysis showed that in addition to objective difficulties, to which everyone assigned the blame, there were also factors which depended on the production itself.

Apparently, when the problem of the plant's specialization was solved, the long-range prognosis of the demand for its products was incorrect. Powerful push conveyors, for whose output the enterprise was arranged, turned out to be unnecessary after the automotive giants went into operation. But there was another reason: the conveyors were not completely plant ready. To be sure, this was conditioned by production and delivery conditions. The push conveyor

is a complicated robotized transportation system, and, of course, many clients are not able on their own to fill it in with electrical equipment and metal. The same problem faces consumers of cargo-bearing conveyors. Moreover, the design and assembly of the transportation systems was prolonged for years. New problems arose because the components of the conveyor remained in boxes out in the open for years: some things were lost while others became inoperable.

Unskilled adjustment also had an effect on the demand for transportation systems. Not all installers are familiar with systems of push conveyors. They do their work poorly and the conveyor remains idle. The client thinks that the defect was the fault of the manufacturer.

/The association has never forgotten that it was not directly to blame for many of the problems of the clients, but it had not done enough to satisfy their demands for products because it was oriented toward the results of its own production and not toward the consumers/. The head organizations for developing new kinds of conveyors -- the All-Union Scientific Research Institute of Lifting and Transport Equipment (VNIIPTMash) and the VPO [All-Union Production Association] Soyuzprommekhanizatsiya of the USSR Mintyazhmash [Ministry of Heavy Machinery] -- were not aware of the clients' demands, and displayed no real interest in them.

Unfortunately, with the existing system of planning and organization of production the majority of enterprises and associations assign primary importance to production itself, and the problem of the demand for their products seems secondary. But life makes its own adjustments. The decline of demand because of the fact that the consumers' needs were not taken into account made itself clearly felt in the branches of light, local, and some parts of the food industry. The consequences of an incorrect orientation of production began to be felt by machine builders as well, mainly the creators of electrical household appliances.

With the help of scientists from the Lvov branch of the Institute of Economics of the UkSSR Academy of Sciences, we developed a program for reorientation of production which was aimed at satisfying the needs of the clients. The greater independence which was offered by the experiment and the elimination of superfluous trivia from our own ministry enabled the association to begin to implement the program.

Thus, according to the previous rough drafts of the 11th Five-Year Plan, by the end of 1985 we were to have achieved an annual production of 1,000 manipulators for MAK-1-50 conveyors (the first model of the conveyor manipulator, with a cargo capacity of 50 kilograms, designed by the VNIIPTMash), for which the plan for renovation of the plant envisioned the construction of a new production building.

Of course it was possible to construct this building and begin to manufacture these manipulators, the more so since the client ministries had confirmed the demand -- 1,000 per year. But, having had a bitter experience with conveyors, we decided that before developing series production we would find out what the real demand was. The market demand division which was created as part of the

It turned out that the consumers did not want the manipulators as individual units. They would remain in their boxes for years, as the components of the conveyors had done before this. The fact is that the utilization of robot equipment raises a number of problems: adjusters, programmers and mathematicians are needed. Moreover, the use of a small number of manipulators produces a negative effect -- just as machine tools with numerical program control do. In places where robot complexes have been created it is possible to organize service subdivisions -- and they justify themselves. But if an enterprise has only one or two or even several manipulators, their operation is disadvantageous.

Life confirmed our prognosis. In 1983 we received an order for 15 MAK-1-50 manipulators, and approximately the same number were ordered for 1984. But how then does one deal with the order for 1,000 which was predicted and confirmed by the ministries? The whole problem is that they do not bear responsibility for the figures they issue, and therefore they give them out very lightly. This, in my opinion, is one of the reasons for the lack of balance in plans.

In studying the demand we also learned the attitude of the clients toward the equipment for loading bags onto railroad cars whose production we had assimilated. These machines (a development of the VNIPTMash) were valued highly at mineral fertilizer plants and sugar refineries. The demand for the module manipulators developed by our PKI was confirmed. The institute created several standardized models of the SMTK-50 (system transport manipulator, conveyor, cargo capacity -- 50 kilograms) -- modules for turning, lifting, removing and accumulating, which completely eliminate manual labor when loading cargo onto the conveyor or removing it from the containers (for example, boxes). There is a great need for them at radio electronics, instrument building, electrical equipment and many other enterprises.

We became convinced that there is a demand for push conveyors, but we need modern transport systems of a high technical level which are equipped with computer-controlled manipulators, and then there is a great demand for light conveyors for footwear and food enterprises and also for trade, postal services and so forth. Since 1983 we have been working on robotized conveyors which are controlled by microcomputers for the Minsk Tractor Plant. They will make it possible to provide for flexible restructuring of the transport system for assembling dozens of modifications of the Belarus' tractor.

Lighter conveyor lines of this class are being created for the international post office in Vnukova and for a poultry farm and meat combines in Lvov Oblast. In terms of their technical specifications, the new systems will correspond to the world level, but they will cost the clients one-third to one-fourth of what they pay for imported ones. This is not to mention the savings on currency.

Thus we defined and defended the draft of our production program, which consists of two areas: the output of transport systems and the production of robot equipment in an overall volume of 33 million rubles. The association can produce this volume of output with existing production areas. But it

Thus we defined and defended the draft of our production program, which consists of two areas: the output of transport systems and the production of robot equipment in an overall volume of 33 million rubles. The association can produce this volume of output with existing production areas. But it would be expedient to begin the construction of the new building in 1985 when the demand for robotized transport complexes will have increased. The rate of growth of the production volumes, taking into account the proposed products list with 100-percent fulfillment of delivery commitments and assignments for increasing labor productivity, will give us the opportunity, according to the conditions of the experiment, to obtain good economic incentive funds, increasing them by 25 percent.

We became convinced of the possibility of completely fulfilling delivery commitments in 1983 when we first established close contact with the clients and filled all the orders. For the results of 1983 the association was awarded the Challenge Red Banner of the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee.

The output of products of a higher technical level and with complete plant readiness requires a good level of production itself. But by the beginning of the 11th Five-Year Plan the association was without repair and energy subdivisions and without an instrument base. In development it relied on basic production, and as a result its service capabilities were minimal. During the first 3 years of the 11th Five-Year Plan we began to develop certain service subdivisions and replace obsolete equipment. We let go of the foundry and developed repair and energy capacities. We did the work ourselves, with our funds for renovation and technical re-equipment, and without increasing the number of personnel. Thus the installation of wedge sheet rolling mills of the VNIIMetmash [All-Union Scientific Research, Planning and Design Institute of Metallurgical Machinery] made it possible to release the rolling mill operators. We transferred the released workers to the energy and repair services.

The plant was built for individual production. We are trying to increase the proportion of series work and are creating a technology for flexible automated productions (GAP) which are oriented toward rapid readjustments. The GAP's also enable us to test our transport systems which are controlled by microcomputers and evaluate what we are giving to the consumer.

The association is working on improving new technical equipment and technology in conjunction with many scientific research organizations: TsNIIRobototekhnika (Leningrad), the Institute of Applied Cybernetics of the Lvov Scientific Center of the UkSSR Academy of Sciences, the Kiev Institute of Cybernetics of the republic Academy of Sciences. We are also working with designers of the Experimental Scientific Research Institute of Metal Cutting Machine Tools and their colleagues from Odessa. We are working with the Odessites on the utilization of robotized transport systems in flexible automatic productions for mechanical processing of parts.

/In order to be reoriented toward the consumer, we shall have to solve a whole number of principally important problems. Above all, increasing the degree of plant readiness of the transport systems/. For the period of the experiment the Gosplan permitted the association to deliver some of the conveyor lines in sets, increasing the funds for metal and certain other materials in order to do this. But we were warned that beginning in 1986 the conditions for creating sets of equipment would be the same as they were before. It seems to us that this is radically wrong.

It is necessary once and for all to establish complete sets of deliveries, as was required by the decisions of the 25th CPSU Congress.

The orientation toward the consumer forces us to expand the functions of the association. We represent these functions in the following way:

designing new items and carrying out working plans for transport systems, taking into account the client's specific production conditions, and also conducting preplanning technical consultation with the consumers;

-- manufacturing the products that are ordered;

-- providing for machine service -- supervising assembly and startup and adjustment work;

-- organizing the training of personnel for servicing new conveyor systems.

Thus we set for ourselves the task of performing the entire cycle of work -- from the idea or order from the consumer to the release to them of transport systems which are "ready to go."

Expansion of the association's functions requires certain organizational and structural changes. The head design-technological and scientific research institute for the development of conveyor systems should be an institute which is directly associated with the production, i.e. our PKI. They have agreed with this conclusion in the branch. But it has turned out that, under the conditions of the experiment, this is disadvantageous for us ourselves since it makes for more labor-intensive designing and requires the creation of new subdivisions -- groups of electronics specialists, mathematicians and programmers. It would probably be expedient to place specialists who are working separately on this problem in the hands of a single supervisor. This would pay for itself several times over in the national economy subsequently.

It is also disadvantageous for us to increase the labor-intensiveness of the items themselves. But what else can we do, if the product itself is becoming more complicated and the level of its plant readiness is to rise?

We cannot get by without increasing the number of personnel when organizing machine service either. In order to provide for this, the association is suggesting the creation of a startup and adjustment administration which will render 1.2 million rubles' worth of services to the consumers every year. In large regions of the country -- the Far East, Siberia, the Caucasus, Central Asia, the Central Economic Region of the RSFSR, the Baltic area and others --

we shall create 11 startup and adjustment sections. One has already been organized -- in the association itself. It will develop the principles of machine service in conveyor construction and the organizational methods for the operation of the startup and adjustment administration.

Service in machine building is not sufficiently developed yet, although nobody is rejecting our proposal. On the contrary, it was supported in the oblast, the Gosplan, the UkSSR Ministry of Finance and the Mintyazhmash. We hope to find the same kind of understanding in the USSR Ministry of Finance. /It seems to me that the issue should be formulated this way: that which is useful to the consumer cannot be advantageous to the manufacturer/.

The clients are also asking this question: "Who will service the robotized transport complexes? Where will the specialists come from?" The branch supported our suggestion of opening in the association a branch of the Dnepropetrovsk correspondence tekhnikum of the Mintyazhmash, which would train specialists for servicing robots and robotized systems. We suggest gathering students from those regions where our startup and adjustment sections will be located. And workers who are qualified in this area would be trained in our vocational and technical school. In conjunction with the Lvov Polytechnical Institute, we are considering the possibility of group development of diploma projects with concrete assignments in robotization of transport systems.

It would seem that the final goal -- the introduction into the national economy of robotized transport systems -- is clear, and the experiment is providing additional possibilities of reaching it successfully. But there are a number of small problems which are holding things up.

Thus in the experiment the enterprises and associations are granted greater rights to solve problems of labor and wages, particularly by combining jobs and establishing increments to the salaries of specialists and the wage rates of the workers. We have done a lot of preparation and explanatory work and suggested making certain personnel changes and reassignments. And suddenly in December 1983 out of the blue we were given the assignment of reducing the number of administrative management personnel by 4.5 percent. We were left in confusion: how could this be allowed during the preparations for conducting an economic experiment?

Sometimes I wonder: what would happen to the number of administrative management personnel if each year it were reduced by the amounts prescribed by the instructions? Probably certain categories of workers would not remain at all. Strict prescribed orders naturally evoke a responsive reaction on the part of managers who are trying to retain the number of administrative management personnel necessary for the association or enterprise. They try to find ways around the instructions -- either they give the positions different names or they include the worker on the organization chart of some technical division while allowing him to keep his former functions ...

For us it is very important to have the opportunity for greater independence in the utilization of the wage fund. As is the case everywhere, we have a critical problem with paying the workers in auxiliary production, especially time-rate workers. And skilled people are needed here, the more so since at the present time, when we are installing complicated new equipment and changing over to the utilization of machine tools with numerical program control and robotized complexes. The experiment gives the director the right to establish of up to 250 rubles. Consequently one can hire repair workers, adjusters of machine tools with numerical program control and instrument workers with high qualifications. We also intend to give additional payment to electric welders of the 6th category if they are able to work with gas welding. Combining jobs will make it possible to reduce the number of people who are employed and to improve the quality of the work.

The experiment is making it possible to considerably regulate the wages of engineering and technical personnel and to motivate them to increase their qualifications. The right of the director himself to permit combining jobs of engineering and technical personnel is now especially important to us since the development of robot complexes, which our PKI did not do previously, involves the creation of new divisions and the recruitment of specialists in electronics, mathematics and software. We must have the possibility of maneuvering the staff. In some of the traditional divisions we intend to allow the more skilled specialists to combine jobs so as to have greater freedom in the development of subdivisions. /So they should not withdraw from the director the right granted to him in the experiment by issuing all kinds of instructions regarding reducing the number of administrative management personnel and others!/  
.....

Under the conditions of the experiment, problems of off-loading and /paying for the final product/ are aggravated. Neither the railroad nor the consumers bear any kind of responsibility for their actions. Whether the cars arrived for unloading on time and whether the products are paid for promptly or not -- these things change nothing for them. But for the supply enterprise every percentage of underfulfillment of the delivery plan means a 3 percent loss in the material incentive funds. When contractual commitments are fulfilled by less than 98 percent, the bonus is not paid at all.

In preparing for the experiment we have done a good deal to make sure that it has been possible to completely fulfill contractual commitments: we balanced the plan and made sure that the production of products was 2 weeks ahead of their sales. But even this was not enough. The fact is that not all of the products sold by the association are paid for by the clients. The installation of conveyor transport systems involves the construction of new enterprises and shops or renovation and technical re-equipment. A fairly considerable volume of our products are paid for through the Stroybank, which considers it its duty only to keep track of the correctness of the payment, but in no way tries to influence the acceleration of the turnover of capital investments. Frequently the enterprise, once it has received the equipment it has ordered, cannot pay for it since it had to do some construction work and has spent its limit of capital investments for the year. At the same time,

some other enterprises have not even used half of their planned sum of investments, which have remained frozen in their accounts. Not until the very end of the year, on 27-28 December, does there begin to be some redistribution of funds. But is this not too much to do in 2 days?

Some clients do not pay for the products because their plans have been changed and they have postponed the deadlines for the introduction of the facility. Others have difficulty in paying because the documents have been filled out incorrectly. The association cannot place itself at the mercy of the moment. We want to have complete information and be able to influence the situation, and therefore we need to send our representatives to the consumers so that they can not only study the state of affairs locally, but also render assistance in filling out documents and take other measures to accelerate the payment process. In our opinion, the Stroybank should handle all of this. It must begin to grant compulsory credit to consumers so that they can pay for the products they have ordered as is done by the Gosbank in keeping with the decree of the CPSU Central Committee and the USSR Council of Ministers concerning improvement of the economic mechanism (1979).

/The system of material incentives that has been developed in the association is directed toward increasing the responsibility of the collective for the final results of the work./ Incentives for managers and engineering and technical personnel of the main shops is made directly dependent on the fulfillment of the plan for product sales, taking into account deliveries and assignments for increasing labor productivity and reducing production costs. The results of the production and economic activity of the entire enterprise also affect the bonuses of personnel in auxiliary shops in the same direct way, for the bonuses depend on the results of the operation of the main shops which they serve.

The bonus for the administrative staff consists of two equal parts: the first is calculated depending on the fulfillment of the association's plan for product sales, taking into account deliveries and the reduction of expenditures per ruble of commercial output, and the second depends on the fulfillment of concrete functions by the divisions and services. Here one takes into account the personal contribution of each specialist on the basis of the coefficient of labor participation. In the first quarter of this year the association fulfilled the delivery plan by 100 percent. The growth rates of labor productivity according to the normative net output amounted to 107.6 percent instead of the planned 103.8 percent.

Participation in the experiment sets the task of considerably improving management and economic work in the association. We are engaging in this in conjunction with the Lvov division of the Institute of Economics of the UkSSR Academy of Sciences. We have jointly created the target "Organizational and Economic Program for Comprehensive Improvement and Development of Management of the Effectiveness of Production and the Quality of Work." It includes four separate subprograms:

- a comprehensive system of normative planning and incentives in the association;
- substantiation of indicators of the quality of work and improvement of product quality;
- stronger conditions for economizing on all kinds of resources and developing cost accounting;
- organizational and informational support for the target program.

The work for implementing the program has already produced positive results. The prestige of the production association has increased and we have a complete portfolio of clients. CEMA countries are interested in our products. We have seen a possibility of more effectively solving problems related to the introduction of conveyors into the national economy.

[The following material appears in a separate box on page 39 of the text]

V. M. Vologzhin is a young director, but his work experience in leadership responsibilities in industry is significant. Twenty years ago he graduated from the Sibirskiy metallurgical institute. He was head of a shop, and head of compressor production for Biryus refrigerators at the Krasnoyarsk machine building plant imeni V. I. Lenina. For the past ten years his business has been linked with L'vov enterprises, where at first he directed shops and production lines at the bus plant, in 1980 he was named chief engineer of the Production Association Konveyer, and in 1981 -- general director.

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## ROLE PLAYED BY PRODUCT QUALITY CATEGORY

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[Article by I. Ya. Shteynbok, deputy director for economic problems, Machine Building Plant imeni F. E. Dzerzhinskiy (Balakovo): "How to Curb the Insidious Indicator"]

[Text] During past years, the system of evaluation and stimulation indicators has come to be increasingly oriented toward the final results of the operation of the enterprise -- increased labor productivity, increased profit, increased output of products of the highest quality category and fulfillment of the plan for product sales in keeping with contractual commitments. Many of them have been established and take effect not from the base that has been reached, but as a running total both from the beginning of the year and from the beginning of the five-year plan (for example, labor productivity and NChP [normative net output]). Experience shows the appreciable influence of new indicators on increased production efficiency. Additionally, I should like to express a number of considerations about the merits and shortcomings of certain new indicators. I shall discuss one of the main ones -- the proportion of products in the highest quality category.

Let us discuss its stimulating role.

A good deal has been done to create conditions whereby it will be advantageous for the enterprise to assimilate new technical equipment. I have in mind the existing system of increments for the output of products in the highest quality category, increments for the effectiveness of new technical equipment, and a number of other measures. They exert a significant influence on the formation of the enterprise's incentive funds, whose role it is difficult to overestimate under modern conditions. Suffice it to say that these funds are the economic basis for the formation of the socio-economic program for the development of the collective. Therefore it is quite natural that the proportion of products of the highest quality category is one of the main technical and economic indicators which affect the bonuses of managerial engineering and technical personnel for the results of production and economic activity. Under the current five-year plan its significance has increased even more, since the formation of part of the material incentive fund has been made directly dependent on the change in this indicator as compared to the

level that has been reached. An increase in the proportion of products of the highest quality category in the overall production volume increases the material incentive fund, and a reduction of the former reduces the latter.

It would seem that everything is correct. The proportion of products of the highest quality category is growing and this means that the enterprise is operating well and increasing its incentive funds.

But our enterprise's work experience in creating models of new technical equipment enables us to express certain doubts about the objectivity of this indicator and to raise the question: does it actually contribute to rapid assimilation of the output of new models of products?

The Balakovo Machine Building Plant imeni F. E. Dzerzhinskiy is a medium-series enterprise which specializes in the output of diesel engines with a capacity range of 630-1,050 horsepower. The engines we produce are used in the oil refining industry on drilling rigs, in steam engines, in mobile electric power stations and in especially large dump trucks.

In 1972, having curtailed the output of two-cycle engines with small capacities, we began to assimilate modern four-cycle high-revolution engines with progressive technical and economic parameters. During 1972-1982 the plant began production of four new types of sets of diesel equipment (a steam engine motor with a capacity of 750 horsepower, a power aggregate with a capacity of 630 horsepower, a diesel generator with a capacity of 500 kilowatts and a diesel generator for 75-ton dump trucks). The finishing touches are being placed on several new experimental models. A new kind of product has been put into production practically every 2-2.5 years. All of the aforementioned machines were recommended for certification for the State Emblem of Quality.

In keeping with the existing rules for certification, the enterprise is given a certain amount of time to check on the technical and economic parameters of the new product under operating conditions, to have the consumer evaluate the product, and to gather and process information that comes in from the consumer. Thus the period of preparation for certification for the State Emblem of Quality from the time of the output of the first industrial batch is from 3 to 5 years for our type of products. Thus it took 5 years to certify the steam engine motor, 4 years for the power aggregate, and about the same amount of time for the DGR-500 diesel generator.

The proportion of new items is increasing. While in 1979 the proportion of new diesel generators amounted to 4.4 percent, in 1982 it was more than 11 percent, and in 1983 -- more than 15 percent.

Let us see what is taking place in this situation with respect to products of the highest quality category (see Table 1).

The volume of production of products of the highest quality category is constantly increasing. At the same time, its proportion in the overall volume of NChP has been decreasing since 1979, that is, since the year the new diesel generators were put into production. Having dropped sharply in 1979, this

indicator increased somewhat in 1980 because of the fact that the volume of production of the new machines remained approximately at the previous level, and then it began to drop again.

Table 1. Dynamics of Output of Products of Highest Quality Category, Percent

| Indicators                                                                   | 1977 | 1978  | 1979  | 1980 | 1981  | 1982  |
|------------------------------------------------------------------------------|------|-------|-------|------|-------|-------|
| Proportion of products of highest quality category in overall volume of NChP | 41.1 | 60.8  | 56.7  | 58.3 | 58.1  | 57.3  |
| Proportion of new machines in overall volume of NChP                         | --   | --    | 4.4   | 4.0  | 7.2   | 11.7  |
| Growth of volume of output of products of highest quality category           | 100  | 159.3 | 159.6 | 163  | 169.1 | 174.7 |

A natural question can arise: do not any other factors affect this process? In order to dispel these doubts, let us note that the main task facing the collective is the production of DG-600A automotive diesel generators in every increasing quantities. To this end, the plant is conducting extensive renovation: new shops are being constructed, new technological lines are being created, and the stock of equipment is being updated. The work is being done without halting production and without reducing its volume either in value or in physical terms (Table 2). The production plan is being fulfilled both in terms of the products list and in terms of all other indicators.

Table 2. Certain Technical and Economic Indicators of the Work of the Balakovo Machine Building Plant, Percent of Preceding Year

| Indicators                    | 1977  | 1978  | 1979  | 1980  | 1981  | 1982  |
|-------------------------------|-------|-------|-------|-------|-------|-------|
| Growth of commodity output    | 112.3 | 107.4 | 108.2 | 110.3 | 105.2 | 104.2 |
| Growth of NChP                | 110.6 | 107.7 | 108.3 | 110.4 | 106.1 | 107.4 |
| Increase in diesel production | 113.5 | 105.7 | 107.5 | 112.8 | 104.8 | 105.7 |

Thus we come up against an obvious contradiction. On the one hand, the volume production of products of the highest quality category is increasing, and the enterprise is proceeding boldly toward the assimilation of new products which are very necessary to the national economy, fulfilling the plan in terms of all technical and economic indicators. On the other hand, the output of new technical equipment reduces the proportion of products of the highest quality category. This distorts the picture of the production and economic activity of the enterprise and harms the economic interests of the collective. It turns out that the more new products that are produced, the lower the proportion of products in the highest quality category and the more appreciable the losses of the enterprise. Consequently, this indicator can also retard the production of new technical equipment.

Indeed, why should the enterprise take material and moral losses; would it not be better to stick with kinds of products which have already been assimilated, from whose production it regularly receives deductions into the incentive funds? This might be better for the enterprise. But what about the national economy. Delay in beginning the production of models of new technical equipment today can end up in immense, perhaps irrectifiable losses tomorrow.

One could reply: there are assignments and plans which regulate the production of new technical equipment, and nobody has the right to avoid their fulfillment. Finally, there are increments for effectiveness, which to some degree compensate for losses of the material incentive fund. Yes, such plans do exist, and there is no doubt that it is mandatory to fulfill them. We are speaking about making the observance of planning discipline in general, and in the assimilation of the production of new technical equipment in particular, not only mandatory, but also advantageous. As for increments for quality and effectiveness, these measures are intended to motivate the enterprises, and these stimuli work fairly well. But we wish to draw attention to phenomena which reduce the effectiveness of the introduction of new technical equipment.

It was noted in the materials of our party's 26th Congress: "That which is advanced which is created by scientific and engineering thought is to be assimilated without delay, embodied in highly effective, reliable machines, instruments and technological lines." The entire system of planning and stimulation should work toward this idea. In practice this frequently does not happen. Thus, in keeping with the existing Provisions, the amounts of the material incentive fund are decreased for enterprises which have achieved a reduction of the proportion of products of the highest quality category as compared to the preceding period. But as soon as the situation we have described becomes possible, the indicator that is supposed to stimulate the production of new technical equipment must be improved in order to eliminate its negative effect.

Imperfection of the indicator "proportion of products of the highest quality category" is not limited to cases that have been presented. There is another aspect of the matter. Let us consider a situation in which the enterprise fulfills the plan for commodity (normative net) output in full volume and with the given products list. Let us say that in the plan the production volume was 100,000 rubles, the proportion of products of the highest quality category -- 50 percent, and the volume of their production -- 50,000 rubles.

Variant I. The enterprise has fulfilled the plan in full volume and with the given products list by 100 percent. And the volume of products of the highest quality category amounts to 50,000 rubles. Then the proportion of products of the highest quality category is equal to 50 percent, which corresponds to the established assignment.

Variant II. The enterprise has overfulfilled the plan for production volume by 5,000 rubles. And the volume of products of the highest quality category, as before, is 50,000 rubles. But its proportion has decreased and amounts to 47.6 percent.

Our plant's experience shows that this is a real situation. In July 1982 we overfulfilled the plan, both in terms of the overall production volume (including for cooperative deliveries and spare parts for new diesels) and for production of products of the highest quality category. But the assignment for the proportion of these products was not fulfilled. A similar picture could be seen in November 1982.

It turns out that overfulfillment of the plan in this situation is an punishable act. Naturally, one can reply to this: "Overfulfill the plan, but only with products of the highest quality category." But to do this it is necessary to have certain conditions, including the appropriate capacities, batching items and materials. And if these conditions do not exist? Of course, when the products are not complicated their output can be increased by using internal reserves. But what happens to an enterprise like ours which produces especially complicated products and obtains a significant quantity of batching components from other enterprises, strictly in keeping with the funds that have been allotted?

It is known that, in keeping with the provisions that are in effect, not all products are subject to certification. But it does not follow from this that the national economy does not need them. For example, there is no certification for nonstandard and technological equipment which is produced at the enterprise, blank pieces and semimanufactured products that are delivered to other enterprises for cooperation, items manufactured under one-time orders, and so forth. Moreover, there are products which are subject to certification, but the time for it has not yet arrived. Does this mean that the aforementioned kinds of products should not be produced in excess of the plan, even if there is a demand for them?

I think not. If an enterprise can utilize its production capacities more fully, improve its capital-output ratio and obtain additional profit through above-plan output of products which are in demand, it should take advantage of this to the full extent.

Finally, what about the adoption of socialist commitments, a constituent part of which, as a rule, are points which mobilize the collective to produce above-plan products? In the situation above, the fulfillment of socialist commitments for the output of above-plan products (if they are not certified or subject to certification) will lead to an underfulfillment of one of the main indicators -- "proportion of products of the highest quality category."

A more objective indicator, which does not have the shortcomings inherent in the proportion of products of the highest quality category, is the volume of production of products of the highest quality category calculated (in rubles) according to the commodity or normative net output.

Let us consider the proposed indicator in more detail. In practice it exists in the form of the initial amount for calculating the proportion of products of the highest quality category. It is formed on the basis of a concrete list of items of the highest quality category and the planned quantity of these items, and thus it combines two of the most important physical indicators -- products list and quality. A failure to fulfill one of them entails a failure to produce the necessary volume of products of the highest quality category, and it is impossible to affect the result artificially. From Tables 1 and 2 it is easy to see that the proposed indicator interacts fairly well with the main indicators that characterize the operation of the enterprise. Moreover, one does not have to face those difficult situations in which the volume of products of the highest quality category is increasing, but their proportion is decreasing, there is no need to "force" the percentage or to increase the proportion of these products in spite of the interests of production in general and new technical equipment in particular.

Thus, in our opinion, the proposed indicator characterizes more objectively the work of the enterprise for producing high-quality products. Since it is an indicator of "direct" influence (making it possible to evaluate production volume for specific items with the Emblem of Quality in a given product list and with a set quantity), by nature it is more a volume than a physical indicator. This cannot be said of the indicator of the proportion of products of the highest quality category, which, being derived from a volume indicator (the commodity or normative net output), is also essentially a volume indicator and does not make it possible to see the real state of affairs.

It is not difficult to imagine how the indicator of the proportion of products of the highest quality category will behave if for one reason or another the enterprise fails to fulfill the plan for production volume. Paradoxical as it may be, this one of the most important indicators will appear to be extremely good. To illustrate, let us use the example already given (variant II), in which the production volume is equal to 100,000 rubles and the proportion of products in the highest quality category in the plan is 50 percent. With a failure to fulfill the plan in terms of production volume by 5,000 rubles, the actual proportion of products of the highest quality category will be equal to:  $50,000/95,000 \times 100 = 52.6$  percent. One could reply that such a situation is hardly possible. There is hardly a plant which, having failed to fulfill the plan for volume, could fulfill the plan for products of the highest quality category.

I think that such objections are groundless. There is a certain list of products that are not subject to certification. A failure to fulfill the plan for precisely this list will lead to the phenomenon that was described. With such "possibilities" the indicator of the proportion of products of the highest quality category can hardly be considered to be an objective indicator for evaluation.

With the introduction of the indicator "volume of production of products of the highest quality category" situations like the one described above will cease to appear. Even a considerable increase in the output of new models of technical equipment will not reduce the growth of the volumes of production of products of the highest quality category. And if the volume of production of these products increases, the amounts of the incentive funds will increase and not decrease. Correspondingly, the output of above-plan products will not create those situations from which there is no escape, since this will not affect the volume of production of products of the highest quality category either. There is no doubt that the system of material incentives should also be oriented toward this indicator.

The assignment for increasing the proposed indicator should be set as a running total from the beginning of the five-year plan. This is the form in which it should "work." Its role as a fund-forming indicator will be strengthened under the condition that we develop the corresponding methods of calculation which take into account not only the change in the indicator from year to year, but also the running total from the beginning of the five-year plan.

If the indicator of the proportion of products of the highest quality category is still destined to remain, its role should be reduced to an informative role, which does not affect the economic indicators of the enterprise.

In conclusion, one must say that the proposed indicator is not regarded as one which directly stimulates the production of new technical equipment. Stimulating the output of new technical equipment is a separate and very large issue. The purpose of this article is considerably more modest -- to point out the way to eliminating the negative effect of the indicator of the proportion of products of the highest quality category and thus removing certain difficulties on the path to the production of new technical equipment.

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## IMPORTANCE OF OBSERVING ECONOMIC LAWS DISCUSSED

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[Article by L. V. Nikitinskiy, candidate of jurisprudence, senior instructor of the department of economics and film production of the All-Union State Institute of Cinematography (Moscow): "The Law Lives as Long as it is Observed" -- a discussion]

[Text] "The law is the law" -- an uncompromising formula. While it originated as early as in the times of Roman law, it is the more crucial now, for there can be no compromises in the fight against violations of socialist law and order.

In his speech at the April (1984) Plenum of the CPSU Central Committee, Comrade K. U. Chernenko emphasized: "No one among us is allowed to break the law or to sidestep it. I am saying something everyone knows. But I am saying it, unfortunately, because not everybody draws the necessary practical conclusions from this." These words force us to think once again about the practical utilization of the rights that have been granted to the enterprises, about the attitude of their managers toward legal norms, and about problems related to improving economic legislation.

If You Want a Bonus -- Pay the Fine

There were about 5 rubles on the meter.

"Do not worry, I will not take from you any more than you owe," the talkative taxi driver comforted us and went into some of the fine points of his difficult trade.

Taxi drivers, as we learned on the way to the hotel, receive bonuses depending on the coefficient of payment for the trip, which is the quotient from dividing the amount the passenger pays for the trip by the overall number of kilometers. This forces the taxi drivers to look for longer trips, and once they have dropped off the passenger, not to turn off the meter, so as to run up more "paid" kilometers. Such a bonus system would be nothing more than an amusing absurdity, a variety of norm setting short-sightedness, if only the

taxi drivers did not demand very real rubles to cover these "false" trips, rubles which he squeezes out of the passenger's pockets, since he can see no other source.

Our driver would hardly have been so talkative had he known that we had come to check on how legislation was observed in his home automotive enterprise, and we were taking note of everything he said. But the inspection of the automotive enterprise, where, in addition to taxis, they had passenger buses and trucks, convinced us that the taxi drivers' cheating was child's play compared to the fantastic phenomena in the life of the garage: gasoline, rubber, spare parts and even live people somehow appeared here out of nowhere and then disappeared without a trace.

After a week the director of the automotive enterprise, a tired and morose man, sat opposite us with a look of doom, but still not showing a sign of nervousness. He admitted the things of which we had accused him without any superfluous protestations of innocence, and each time there flickered on his face a strange tinge of gloomy satisfaction. "Gasoline? Oh, yes, gasoline is a problem and we have to contrive something here," the director agreed and immediately brought us up to date on the mechanism for distributing fuel.

The republic ministry of automotive transportation allots funds for gasoline annually. Here only the trips of loaded vehicles are taken into account, and practically no attention is paid to the trips when they are returning empty. From the volume of fuel obtained this way, the ministry immediately subtracts 3 percent for future savings and another 3 percent for the State Committee for Petroleum Supplies and Sales. The oblast transportation administration, when dividing the funds among the enterprises, does not forget its 3 percent for "savings" either.

"What kind of cargo can a truck driver transport from a construction site back to a sand pit? Can gasoline which never existed in nature be regarded as saved?" the director asked a couple of rhetorical questions and, answering himself, spread out his hands.

"But no matter how you turn it, we have enough planned fuel to last us for about 8 months. And then? The ministry answers all these questions the same way: look for it locally. We are beginning to look for it: "You give us spare parts, we shall give you gasoline; if you do not give us gasoline we shall not transport anything for you; you need it, you get it; and where -- that is none of our business?" In one way or another the year has passed. In January of the following year there is an inspection: "How did you manage to do this?" "Well, you know, we economized ..." "Do not try to pull the wool over our eyes!" the inspecting comrades shake their fingers at us. "With the supplies that were allotted to you, you could not get through a year. Tell us from whom you got the gasoline?" "We will not tell you." "It will be worse if we find it out for ourselves."

And they find it, for such is their profession. From the accounts of those organizations which, without coordination or permission, have sold surpluses; the illegally acquired sums are written off, fines are imposed, and the managers receive penalties.

Of course the manager of an automotive enterprise can also have legal operations: more rigid control over expenditures, and better substantiated proof in the higher organizations in order to obtain additional gasoline. But it is apparently easier for the planners to let things take their own course than to plan precisely the amount of gasoline for all organizations which need it, thus eliminating the shortages of it for some and the surpluses which others have.

But in our automotive enterprise there were cases in which the truck drivers sold gasoline to owners of private Zhigulis, which had been adapted to use AI-76 gasoline. Where did these drivers get the surplus?

"There is nothing supernatural here," explains the director. "The essence of the matter is that the driver receives piece-rate pay for ton-kilometers. The wage rate is calculated so that under normal working conditions the driver's wages turn out to be quite acceptable. But you will not be able to find such conditions. Because of red tape during loading and unloading, breakdowns of the vehicles, and the poor condition of the roads, the driver manages to make only one trip per shift instead of three, and he does not accumulate enough ton-kilometers. Therefore the demands that the organization where he was sent give him credit for two trips instead of one. The "surplus" gasoline which has remained in the tank is sometimes simply poured into a ditch, but it is better to sell it if one can find a buyer.

"You somehow give the impression that the drivers are angels and some dark forces make them steal. Let us call things by their real names: we are dealing with write-ups and theft of socialist property," we said.

"Excuse me, but that is your lexicon. To catch us red-handed and punish us -- that is your job. But I am defending my men and will continue to defend them. I have a shortage of them too."

"So, comrade director, we finally understand your position, but we still have to penalize you. The law is the law."

"I am not afraid of a reprimand. And I shall pay the fine. If you want to receive a bonus -- you must also pay a fine sometimes ..."

"But in the end, with that kind of attitude you will be deprived of your bonuse and you will lose your job."

What Real Choice Does the Manager Have?

Many business managers are still inclined to regard legal norms as recommendations which, all other conditions being equal, it is best to follow, but which, in some cases, can and should be ignored. A violation of individual requirements of economic law is not always seen as an extraordinary event in production practice.

Why? A poor awareness of the law or the legal illiteracy of the business managers? No. Today's manager attentively and thoughtfully studies normative acts, but this is frequently not so that he can follow them precisely. The reasons for this "reverse legal consciousness" can be found in the economic life of the enterprise. When justifying violations the business managers usually refer to the need to fulfill planning assignments, thus juxtaposing the state plan to other legislative acts. Is there justification for raising this question?

The more difficult the plan, the greater the probability that the enterprise will violate economic, financial and particularly labor legislation. Usually the difficulty is brought about not so much by the magnitude of the planning indicators as by the partial lack of material support for them. A lack of correspondence between planning assignments and available resources -- this is the main thing which forces the director to search for a solution outside the framework of legal restrictions. The higher managers usually know about this, but they sometimes look the other way when such "research" work is going on because they cannot or do not wish to help the enterprise and coordinate the plan with legislation.

The internal conflicts experienced by a director who has repeatedly extricated himself from such a situation are enough to give even the healthiest person a heart attack. For legally the manager is equally obligated to follow the instructions of the plan and the requirements of all other legislation that is in effect. But in fact in certain cases the director will prefer to violate existing provisions and instructions in order to fulfill the planning assignment. For a failure to fulfill the plan threatens the entire collective with a lack of bonuses and the thirteenth wage, and the director's very job is threatened. For violations of financial instructions or labor legislation, when they occur, as they say, not for oneself, but "for business" the manager may receive a reprimand which is quickly removed, or at worst he may have to pay a fine which is many times less than his bonus.

Especially "unfortunate" are chapters IV and V of the labor codes of the union republics, which regulate issues of working time and time off. The rules concerning the prohibition of overtime work and work on days off at certain enterprises are not observed impeccably. Can one interpret this as malicious intent?

The planning indicators, calculated and verified down to the minutest detail in the offices of the ministries and associations, are perceived quite differently at the level of the enterprises. Not because the planners are unintelligent -- no, but because they could not or would not take into account certain real circumstances. The other workers who were involved failed to make deliveries, the railroad did not issue the cars, the energy engineers are threatening to cut off the electricity, the kolkhoz which is under the patronage of the enterprise needs 50 workers for haying ... Are these disorders taken into account during planning? Is there a planned reserve to eliminate them? Not in any instance.

Taking into account the losses of working time, the enterprise cannot carry out the calculated assignment. As distinct from the plan for the volume of output, the norm for working time cannot be adjusted. At certain enterprises the managers have to think of ways to fulfill the assignments without overtime. They are quite well aware of what they will have to do, they weigh the incentives and counter-incentives, and they take the measures of responsibility for violation of conditions for work and leisure (frankly, they are not too severe) as a manifestation of normal professional risk, with the philosophical staunchness of experienced fighters for the plan.

#### Defending the Worker Also ... From Himself

Trade unions and the legal and technical labor inspection teams that are under their jurisdiction, with which whom managers so dislike to "lock horns," everywhere accuse the directors of bureaucratism and for the fact that they allegedly deprive the workers of some of their normal leisure time, time spent with their families and possibilities of raising their cultural levels on their legal days off. But what about the workers themselves, on whose behalf the justified trade-union reproaches are made? Are they disturbed and do they demand that their leaders be punished? Not at all, they do not say a word. In rare cases, when the number of extra hours goes way beyond reasonable limits, the trade union agencies receive disturbed letters from the workers.

At one of the enterprises of Chelyabinsk Oblast, in the materials of the trade union committee, we managed to find a curious statement that was signed by a young worker: "I ask that the trade union committee permit me to work overtime because I am planning to get married and I need the money." We also found the minutes from the meeting of the trade union committee, which decreed unanimously: to permit someone to earn extra money after hours -- things being as they are, how can one not respect an individual? Because of his inexperience and excessive sincerity, the chairman of the trade union committee committed a blunder -- he accepted and registered the document, and he even filed it, to his own misfortune. And he should have simply whispered to the bridegroom who wanted to earn extra money: go and work, fix it up with the foreman as the others do.

This amusing incident leads to an idea: are we correct in thinking that it is always the rank-and-file workers and employees who have suffered from violations of conditions for labor and leisure? Would it not be more correct to say that in many cases they are knowing participants in these violations? Is it really only the administration that is interested in making up for arrears in the plan with overtime work? For the entire collective is deprived of its bonus, and not just the director. Along with purely mercenary motives, there are also higher ones in operation here: pride in one's enterprise, a reluctance to be included among the backward ones ...

Agencies for checking on the observance of labor legislation, and particularly trade unions, sometimes end up in an ambiguous situation: they raise the flag of protection of the labor rights of workers and employees, but the latter are not asking for protection, or else they understand it in an entirely different way. And if, say, the trade union forbids someone to remain for the second shift even though this is what he wants to do, it has accomplished nothing: if

a person has decided to earn extra money, one can rest assured that he will find a way to do this -- he can go across the street and offer his services to the neighboring plant. So why create additional difficulties for people and play hide and seek with oneself? Perhaps a person who desires to do so should be permitted to work in excess of the norm -- and there will be no problems?

But the law prohibits doing this, warning that the established norm for working time cannot be changed by an agreement between the administration and the worker or the administration and the trade union committee. This rule is based on the idea that the worker must be protected not only from an excessively zealous manager, and not only from the administration, but also thus neglecting his health and other interests.

#### Combining the Uncombinable

The existing norm for working time -- 41 hours per week -- was not taken arbitrarily. It originated as a result of economic, social, medical and other research as the most rational compromise under today's conditions between the two principal functions of labor legislation: production and protection. If the production function is directed toward the maximum possible quantity of output (work as much and as intensively as possible), the protective one is to protect the health and nonindustrial interests of the worker (do not become over-fatigued, leave time for rest and recreation). The dialectical combination of these two principles, which are in some ways opposed and in some ways intercoordinated, also conditions the norm of working time that is adopted today. It is no accident that in the Fundamentals of Labor Legislation of the USSR and the Union Republics it is emphasized that this norm will decrease as the necessary economic conditions are created.

But under the real and sometimes extremely difficult conditions of production activity, clear and rigid limitations sometimes do not look at all like they do on the pages of the code. And in those cases where they suit neither the administration nor the workers, the parties in production relations begin to arrange mutual demands in their own way. Then each takes the requirements of the Labor Code into account on the basis of his own interests.

The director is more impressed by provisions about labor discipline and ways of strengthening it. Managers frequently "improve" the Labor Code by inventing additional measures for dealing with violators of labor discipline: with their creation there has been a shift in the direction of the prevalence of the production function of the Labor Code over the protection function. The worker is most interested in articles which grant him various guarantees, privileges and benefits. In his awareness the protection function sometimes dominates the production function. And if the manager "because of production necessity" infringes on the established guarantees -- for example, the worker's right to rest on Sunday -- the latter demands other privileges in exchange, including ones which are not envisioned by the law.

Let us take a look at how the established rules for compensation for work on days off are applied in practice (recall that according to the Labor Code, this work is compensated for by granting another day off within the next two weeks). In those branches of the national economy where production plans are

taut and the actual shortage of personnel is great, work on days off is compensated for almost exclusively by double pay instead of compensation time. Frequently the workers also stipulate additional conditions: upon completion of work on Sunday, the bonus immediately in cash; otherwise no work.

In places where there is less stress, the work is usually compensated for as the worker chooses -- either by double time or by compensation time, but only on the rarest occasions is the compensation time granted within two weeks. Most frequently it is saved up and added to the regular vacation. Finally, in institutions where workers who receive fixed monthly salaries are called in to work on their days off for reasons that have nothing to do with their own institutions (vegetable bases, construction sites and so forth), the practice of granting two days of rest for one day off that is worked has become widespread.

Each of these random rules has its own reasonable justifications. Thus it is difficult to convince scientific associates to spend days off in a vegetable storehouse, and therefore the administration must increase the incentive: instead of one free day, it gives two. In branches of industry in which there is greater strain, there is no practical point in compensating for each man-hour with additional time off: for then the overall amount of time worked remains the same as it was before, while the intention was to increase it.

Yet one cannot but note that similar rules of compensation for work on days off in each concrete case take into account the desires of both sides: both the administration and the workers.

For example, at enterprises of the extraction branches of industry which are located in regions of the Far North, compensation for work on days off with double payment has not become very widespread, despite the obvious advantage of this for the administration. This is explained by the peculiarities of the payment of increments and regional coefficients for work in the North which are calculated for earnings under 300 rubles. Since the additional payment for work on days off usually goes above this ceiling, coefficients and additional payments are not calculated for it. The incentive turns out to be relatively small, so that the worker is not willing to give up his free time for it, and since no agreement can be reached, it is necessary to apply official legislation. Double time does not tempt working pensioners either, since their pension and earnings combined cannot exceed a certain level: if the additional payment for work on days off goes above this ceiling, the pensioner will agree to work only for compensation time.

The legislation is not capable of taking into account the uniqueness of each branch of the national economy, the specific features of each enterprise, local factors which are sometimes of an immediate nature or, finally, the needs and wishes of each worker. But this does not mean that the managers of enterprises have been given the right to "modernize" the Labor Code.

## Sources of "Shady Law"

The managers of one design bureau fought long and hard trying to legally force a group of draftswomen to draw up the blueprints of their plans more rapidly. Neither threats nor promises were of any help -- the young ladies continued to chatter and smoke cigarettes, and the last thing they thought about was their work. But then one sharp engineer came up with a simple solution to the problem: awarding bonuses to the draftswomen ... with their own working time, by turning it into free time. A monthly norm was set for them, and once they had filled it, they could go to their various homes (the salary, naturally, remained the same). And although this norm considerably exceeded their previous daily achievements, the draftswomen were glad to agree to it. Then they showed what they were capable of: each day they would leave an hour to an hour and a half before the whistle blew.

Things went along splendidly until a new director came to the design bureau. Having encountered a draftswoman who was proudly crossing the corridor at 4:30, he called in the deputy in charge of discipline. And what happened? When they were made to change back to working in the old way, the girls began to do half as much as they did before, and some of them quit altogether. Formally, discipline was strengthened, but in reality -- if one looks at the final results -- it was weakened.

From the standpoint of the laws, the new director was undoubtedly right. The norm of working time as established by the law can be neither decreased nor increased by agreement (except in cases of a partial work day or work week, but then the wages are decreased accordingly). Why did the new boss immediately earn the reputation of being a "play-it-safer" and a short-sighted manager in the design bureau? Because in his position a more courageous person would have left everything as it was: let them leave an hour early, as long as they get their work done. Are there really so few cases like this?

Article 5 of the Fundamentals of Labor Legislation, having closed off the possibility for the worker and the administration to regulate their interrelations through free agreement on a legal basis, was still unable to eliminate such agreements, which are engendered by economic conditions. With a superficial familiarity with the work of an enterprise, one gets the impression that everything is done here within the framework of the existing rules and regulations: there are no complaints from the workers, the documents are in order, all kinds of accountability strictly follow those tendencies which the keen director's ear has caught at the latest meeting of "higher-ups." But this is only the tip of the iceberg.

In the reports which the USSR ministries and Gosplan study and use in their further calculations, the volumes of overtime work and work on days off are frequently reduced.

Lack of coordination in planning, supply and distribution of human and material resources, and various kinds of unforeseen obstacles to production which are multiplied by the categorical nature of the requirements of the normative documents, lead to a situation where behind the official facade with

its impeccable reports and indicators neatly certified by a lawyer lies a special system of labor relations which cannot be seen by people from the outside.

If the economy sometimes engenders "shady" economic relations, for example, speculation, theft and so forth, they, in turn, give rise to "shady law" -- a unique code of unwritten rules and customs.

In the shops one can frequently see the following picture. Nobody knows what the workers do during the first half of the month: there are no materials and the plan is forgotten. By about the 15th of the month everyone begins to get a little nervous: the bonus is being threatened. By the 20th, when there are just a few days left before the critical cut-off date, the materials finally arrive. The workers work two or three shifts, forgetting the difference between day and night. The management does not leave for an entire week. But then, when they have spent their last energy, the shop has produced the final batch of products and managed to include it in the plan. The management breathes a sigh of relief and the workers wait for their progressive wages and their time to rest.

It has been established that the largest numbers of registered violations at enterprises fall during the first and third 10-day periods of the month. And while during the first 10 days it is typical to have absences, tardiness and early departure from work, during the third 10 days phenomena of quite a different kind become frequent: slipshod work, and violations of production technology and industrial safety requirements.

If, as it frequently the case, the "tricks" of the suppliers are repeated from year to year and from month to month, the behavior which has brought about the irregular deliveries assumes the holy force of tradition. Special local norms of labor discipline and payment for labor are originated and strengthened. They are gradually formed into a unique system of rules which become more and more customary, and official labor legislation is pushed into the background.

Such a situation is fraught with curious circumstances. Let us say that the enterprise's internal and external economic ties are excellently arranged. But now you can no longer make the workers work uniformly throughout the month: they have become accustomed to rush work and irregularity, they have gotten used to a certain level of wages "plus overtime" and nobody wants to change anything. It turns out that even what seem to be temporary departures from existing legislation will be dangerous in the future and it is best not to allow them!

The insidious unexpected events in production practice, however, frequently force us to shake the well arranged structure of labor legislation. Some managers try to explain this need by referring to violations during job transfers, administrative vacations, combining jobs and other cases. But if one were to try to gaze over the entire scope of labor legislation as though from the point of view of a bird in flight, the epicenter of the tremors, where powerful underground shocks originate and spread in circles, would be obvious. This is the area of wages and bonuses.

The state is interested in increasing labor productivity in all ways. Each individual enterprises which is experiencing a shortage of personnel is also interested in this. But it is necessary to pay a lot of money for more intensive labor. The norms of existing legislation do not always make it possible to do this, and there are sometimes delays in granting permission for various additional payments and increments under the legislative policy. As a result, the managers increase the earnings of the workers through illegally combining jobs and occupations, filling positions with nonexistent people, artificially increasing the rates and retarding the output norms, and also artificially increasing the reported volumes of work that is done.

Therefore a collective, while rejecting an inconvenient legal norm, at the same time is careful to create the illusion that it is being observed and protects the customary system of interrelations from unwanted intervention.

It is difficult for an individual in such a collective to appeal to judicial or other supervisory legal agencies because he can meet with strong opposition from his colleagues who are quite satisfied with the traditions that have grown up around them. In such collectives it is considered better to smooth out conflicts and offenses through internal means. But the number of conflicts and offenses hardly decreases this way.

#### The Law of Necessary Diversity

"We have plenty of good laws. Now it is primarily a matter of observing them precisely and unwaveringly. For any law lives only when it is obeyed -- obeyed by everyone and everywhere." These words were uttered from the podium of the 26th CPSU Congress (Materials of the 26th CPSU Congress, Moscow, 1981, p 64.) These remarkable words have given power to us lawyers, scholars and practical workers, everyone who is fighting against violations of socialist law. We have been taught thus: when you notice a violation -- eliminate it; this is your duty!

The question is point blank: either retain existing labor and economic legislation in its unshakeability and try to eliminate "shady violations" by increasing the responsibility of the officials and introducing effective control over their activity, or introduce correctives in the legislation itself, bringing its permissible limits closer to the relations that have actually taken form at the enterprises.

Yes, it is possible to have certain divergences between the law and practice. And not only because of the imperfection of certain legal norms, which sometimes lag behind life, but also as a result of the fact that the law sometimes surges forward and orients practice toward the best examples and the highest achievements, which have not yet become universal models of behavior. At the same time one cannot allow a situation in which economic and labor legislation, on the one hand, and practice, on the other, sometimes recall the piece of ice which is cracking, with the current drawing the two halves farther and farther apart.

But what is the influence of these incompletely adapted norms on the economic processes? It seems that they are something like rocks that have broken off and fallen into the middle of a river: there are, of course, some changes in the bed, the current becomes irregular, and whirlpools and holes appear, but on the whole the river does not change its direction -- the water flows around the obstacle. The same thing is true in industrial life: if a legal norm blocks behavior which is expedient from the standpoint of the participants, it risks remaining forever a dead rock in the middle of a living river, and its effect will be replaced by norms of the moment from the "shady law."

So perhaps it is not worthwhile to intervene in the natural course of events at an enterprise, and to let life itself dictate an efficient solution to the problem? This is precisely the point of view held by certain officials in agencies for planning and economic management. How else can one explain why these branch agencies, which are well aware of the local situation and the actual capabilities of the enterprise, sometimes give them assignments which they know cannot be carried out?

One cannot but admit that fairly frequently, participants in production relations, who cause no harm either to the state or to the interests of the workers and employees, find ways of solving problems facing industry which are more effective than the ones suggested by "minor" branch legislation. If they manage to find a balance between the production and the protection functions of the law, there is a marked increase in labor discipline and labor productivity at the enterprises and the overall moral climate improves. "Shady norms" are unstable, shaky and unclear: the subjects of the production process cannot be sure that an action that is approved of or neutral today will not be disapproved of tomorrow. And no guarantees are created for participants in production relations: the randomly originated "shady" norms do not envision the possibility of going to court or anywhere else for protection. In this situation coercion is carried out not by a dispassionate arbitrator, but arbitrarily, by the participants in the conflict themselves.

It is also understandable that spontaneous norms usually lead to violations of generally accepted norms of socialist management. For example, workers' wages are generally increased. Economic transactions which are originally carried out in response to an immediate production need frequently grow into illegal machinations later, and the participants in them usually end up in court.

Self-regulation is a wise thing. But it is not the same thing as self-will. The fact that any complicated system should be self-regulated and will be self-regulated certainly does not mean that its development need not be controlled from outside. The problem is to find a correct relationship between external influence and control and self-regulation.

In a meeting with the electorate of the Kuybyshev electoral district in Moscow on 2 March 1984, General Secretary of the CPSU Central Committee K. U. Chernenko drew attention to the importance of developing modern forms of management. "To do this it is necessary," noted KJ. Chernenko, "to grant greater rights to the enterprises, to increase their responsibility, and to relieve them of surplus red tape from central organizations."

Intelligent legal regulation of relations among participants in the production process is one of the most important aspects of expanding the independence of enterprises and releasing the creative forces of the workers and managers. By enclosing participants in production relations within a legislative framework that is too tight, we deprive them of the possibility of maneuvering and the possibility of reacting quickly and efficiently to deviations that arise in the course of the production process as well as the possibility of displaying initiative. Such a situation stands in contradiction to the principle of management which is known as the law of necessary diversity. In the laconic language of cybernetics it is formulated as follows: the degree of diversity of the controlling system should be no less than the degree of diversity of the controlled object. And today the number of variants of decisions granted by legislation to participants in the production process is impoverished compared to the living diversity of practice. Herein lies the main reason why violations of labor and economic discipline are fairly frequent.

The drafts of many provisions, instructions and norms are developed by knowledgeable specialists. Figuratively speaking, the director's suit was tailored by experienced masters, and this is not simply the way it is after many alterations. Why has it become too tight? Was there a mistake from the very beginning, or has the director grown?

Most likely the tightness is explained by the fact that the cutters did not make allowances and did not take into account the fact that in his new suit the director would not only have to stand at the podium, but also walk, run and work with his sleeves rolled up. In other words, the law was worked out for ideal conditions, while at the enterprise we sometimes find conditions which are extremely difficult. Since we are trying to improve them, it is not far-sighted to raise them to the rank of a model and be oriented toward them. Enterprise managers must be given the opportunity to select economic decisions within the framework of a sufficiently flexible and realistic legal norm.

Above all, it seems to us, one should expand the opportunities for free agreement as a method of regulating interrelations among participants in the production process. A certain amount of decentralization of legislation could only increase the effectiveness of those guarantees against impinging on the interests of the workers and employees, who are now drowning in an endless sea of normative material. Participants in the production process should be granted the legal and not the covert opportunity to come to agreement concerning certain benefits in exchange for improved quality and increased intensiveness of labor.

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## METHODS OF RAISING LEVEL OF PLANNING WORK

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 79-86

[Article by Yu. A. Sklyarov, director of Tyumen'promstroyproyekt Institute: "Planning Work and the Economy"]

[Text] The majority of the country's planning organizations responded warmly to the initiative of the Gidroproyekt Institute imeni S. Ya. Zhuk to raise the scientific and technical level of plans, to reduce the estimated cost of construction of facilities and to economize on labor and material resources. Each year there is a larger number of plans which have received an excellent rating upon approval. At the same time the working conditions for the planners do not provide for maximum effectiveness of the utilization of capital investments, and their interests are not coordinated with the interests of the state.

Optimal planning is possible only as a result of the development of many variants of the plan. Electronic computers render a great deal of assistance in this. But the deeper the development of the decisions adopted in the plan, the greater the labor-intensiveness and cost of the planning work and, consequently, the lower the output of the performers of the work and the profit of the planning organization. The time periods for the development of plans are also prolonged. And yet the activity of the planning organization is evaluated in terms of the volume of completed planning output and profit. What is to be done?

It turns out that by achieving effective utilization of capital investments and saving the state many millions of rubles, the planning organizations worsen the technical and economic indicators of the work of their own collective. Material incentives and the personal motivation of the performers of the work run counter to state interests.

Now the cost of the development of plans is estimated according to price reference guides which were developed in the middle of the 1960's. The plans that were adopted as standards at that time have not existed for a long time, they are obsolete, and the sequence of stages of planning work has changed twice during the past 20 years. The modern plan is as similar to its "standard" as the atomic ice breaker is to the prewar steamer.

The determination of the cost of planning work in the stage of rough drafts for the price references is based on the volume of construction and installation work (SMR). The greater this volume, the higher the cost of the planning. But then what is the point of reducing the cost of construction and installation work and saving the state money if this harms the economy of the planning organization? Moreover, as part of the planning documentation today one develops new sections which were not envisioned by the old price references and there is not additional payment for them: the organization of the preparation for the assimilation of planned capacities within the normative time period and environmental protection. A large amount of work is done for organizations that complete the construction: Soyuzglavstroykomplekt, Soyuzglavkomplektavtomatika, Soyuzmashkomplekt and others.

Thus the price references that have been in effect up to the present time, even taking into account the mass of correction coefficients, by no means reflect the actual labor expenditures of the planning organizations, and they not only do not motivate the planners to search for economical solutions, but they restrain them from doing this.

The same thing applies to the selection of sites for the construction of enterprises when drawing up designs for the development and distribution of the productive forces of the branch. This work can also be found in the price references, and for the planning of a specific enterprise. In both cases the amount of funds allotted for this is miserly. Yet the selection of the site determines to a large degree how economical the functioning of the future enterprise will be.

Practice shows that immense possibilities of reducing the estimated cost of construction lie hidden here. For example, a ceramic gravel plant was to be constructed in Nizhnevartovsk with a capacity of 200,000 cubic meters. The institute considered six variants of the location of the plant within Tomsk Oblast and recommended to the USSR Minpromstroy [Ministry of Industrial Construction] that it be constructed in the region of Tyumen, and the ministry agreed with this decision. By spending 6,000 rubles on comparing the variants of the construction sites, the institute saved the state more than 7 million rubles, and annual operational expenditures were reduced by 2 million rubles.

One can give many examples like these. But in order for the selection of the construction site by the planning institute to become the norm, the cost of this work should motivate the planners and not frighten them into failing to fulfill the plan for profit. Then the state will save hundreds of millions of rubles. Unfortunately, we are finding that everywhere the planning organizations and the clients are not comparing the variants of the location of the enterprise on plots of land.

The situation is exacerbated by the existing system by which output and profit are planned for planning organizations on the basis of the level that has already been reached. Having achieved high results in profit and labor productivity one time and receiving a planned increase of them each year, the planning organization can no longer allow itself to delve more deeply into planning developments or calculate an extra variant on the computer, since

this can cause them to fail to fulfill the plan for the release of the planning product to the client and reduce profit and other report indicators. Here a great deal depends on the moral qualities of the institute's management and on the head engineer of the plan. What should be given preference -- the interests of the state or those of one's own collective? It is necessary to continue to work with the collective, and quality cannot be weighed on scales. Just try and prove that some better variant has been cast aside!

A large amount of harm is caused to the quality of the plans and to effective utilization of capital investments by the lack of normatives for the duration of planning work. The reference published in 1965 for determining the duration of planning work has become outdated and is not used in work. The plans on which we are now working practically do not exist in this reference, and those which are there are as different from modern plans as day is from night. Therefore the time periods for the output of plans are set by the client ministries without observing the technology for planning work and frequently to the detriment of quality and economy.

To a certain degree one can understand the haste in developing working documentation when all of the major issues have already been resolved: the optimal site has been selected, the products list, the capacity of the enterprise and the technology of the main production have been determined, surveys have been completed and so forth. But there is also haste when nothing is clear yet, and the deadlines set by the ministries and the planned volume of completed planning work of the institute bring pressure to bear. This is when the variants that are adopted have not been completely investigated, and the state pays for everything.

The location of enterprises in industrial centers reduces construction costs, cuts operational expenditures and reduces the area which is to be built up, which is especially important in the petroleum and gas regions of Tyumen Oblast. With group location of enterprises the interrelations among industrial enterprises are arranged more intelligently, bolder solutions are found to architectural-landscape and urban construction problems, there is an organic connection between industrial and surrounding build-up, land and water sources are utilized more efficiently, and problems of protecting the water and air basins from pollution are solved comprehensively.

Today designs of industrial centers have been created for the majority of regions of concentrated industrial construction on the territory of the Tyumen North. They determine the facilities which the center has in common, networks of utilities and underground mains, facilities for social and cultural services and also the sums of shared participation of each enterprise in proportion to consumption load and the volumes of utilization of the services of the facilities which the center has in common. These are the facilities that should be introduced first in order to support subsequent construction.

General builders are assigned for all of the industrial centers, and they are responsible for carrying out the plans.

Despite the obvious economic advantage of group build-up of industrial zones, this method is not yet making a satisfactory place for itself. The reasons are shortcomings in the planning and financing of the construction of common facilities for the center and the lack of interest of the enterprises in the common cause of reducing the cost of construction.

Many general builders do not perform their functions, as a result of which in the majority of industrial centers there is nobody actually in charge, who sees to the execution of planning decisions which would reduce the cost of construction of the enterprises. Without the proper demand and motivation to carry out the approved plans for the industrial centers, the managers of the enterprises do not perform the functions for which they are responsible and do not transfer the intended shared funds to the builders.

The general builders do the same thing, not demanding the money from the share holders and not contributing their own shares to the construction of common facilities and underground mains for the center. And both are firmly convinced that, having constructed their main shops, they will find complete understanding from local party and soviet agencies and ministry leaders, that they will convince them of the impossibility of delaying the startup of the enterprises, and that they will obtain agreement to engineering support of the industries under a temporary plan or by permanent, but local decisions.

Naturally, engineering facilities for individual enterprises, as a rule, cost less than the common facilities for the industrial center, but when they are added up for all the enterprises, they are considerably more expensive than the common facilities for the industrial center are. Nonetheless nobody takes stock of the actual cost of engineering support for the industrial center and there are no financial sanctions for incorrect expenditure of state funds.

An example of effective utilization of funds allotted for industrial construction is the building up of the North-Eastern industrial center in Tobolsk, where the functions of the general builder are carried out by the Tobolsk Petrochemical Combine. There are many positive aspects of the building up of the industrial zone of Noyabrsk and the Western industrial center in Novyy Urengoy. But there are more negative facts related to the build-up of the industrial centers.

It is necessary to have an economic lever which motivates all parties participating in the creation of groups of enterprises -- general builders, planners, the bank and so forth -- to reduce the estimated cost of construction and to create common facilities for the center which reduce one-time and operational expenditures. And here assistance is needed from science. Up to this point effectiveness in the utilization of capital investments in industrial construction has been a matter for enthusiasts. There are no material incentives for performing the functions of the general builder, and it produces nothing but trouble and unpleasantness.

Making the enterprise responsible for the functions of the general builder does not give it the right to increase the number of personnel or wage funds for the capital construction division, and it brings with it many concerns about planning and financing, construction, provision of equipment and

operation of the common facilities that have been constructed for the center, which sometimes places a heavy burden on its technical and economic indicators.

There are no material incentives for the territorial planning organization to implement the plan for the industrial center either. Is this not an essential reason why many plans for industrial centers, which promise the state a great advantage in the expenditure of monetary funds, labor force and material and fuel-energy resources, are never carried out?

Our institute has been performing the functions of the territorial planning organization for petroleum and gas regions of the oblast since 1 January 1983. Despite its relatively small amount of experience, we can share our ideas about possible ways of further increasing the effectiveness of capital investments.

When looking over industrial centers developed by Planning Institute No 2 for petroleum and gas regions of Tyumen oblast one is struck by the abundance of industries of the same kind. Thus, for example, in the industrial center at the Khanto station there are 10 automotive bases, 6 of which are under the jurisdiction of Glavtyumen'-neftegaz; and there are also 12 bases of construction administrations, 6 of which are under the jurisdiction of enterprises of the same main board. It is difficult to say whether Glavtyumen'-neftegaz needs this number of small productions of the same kind in Khanto, but one thing is clear: they did not think about effective utilization of capital investments here.

Many subsidiary and auxiliary productions of the same kind are created at enterprises which are separated only by a fence. The desire of each builder to have his own personal dock, lathe section, dining room, vehicle washing facility and so forth entails extremely unsatisfactory utilization of equipment, labor force and capital investments. The construction workers are just as bad as the petroleum workers. At almost every base they create concrete mixing facilities, small testing facilities for reinforced concrete items and warehouse bases with the highest labor-intensiveness for the handling of cargoes.

When creating bases for construction organizations in petroleum and gas regions it is necessary to change over decisively to a progressive structure of organizations and to mobile variants of construction. This will make it possible to reduce expenditures by approximately 30 percent.

The docks of the RSFSR Ministry of the River Fleet are being constructed slowly and behind schedule. This prompts the petroleum, gas and construction workers to create their own primitive docks. The development of designs for dock which are easily constructed would make it possible not only to save money, but also to regulate the industrial build-up of shore zones in cities and villages of the oblast.

A real problem in industrial construction, which is creating chaos and expenditure of funds that is not always justified, is construction of temporary buildings and structures according to the so-called chapter 8. And

although these are paid for with the same money as the construction of basic objects is, the attitude toward this money is, to put it lightly, extremely careless. In the estimates there appear "holes" through which public money leaks, never to be recovered.

Taking advantage of the fact that temporary structures are not coordinated with territorial institutes, the contractors, with the agreement of the clients and local agencies, build where they wish and what they wish. And although it is known that there is nothing more permanent than temporary structures, these objects are still being created. Frequently the funds allotted for temporary buildings and structures are spent to cover poorly thought-out decisions on the part of organizers of construction and serve as a screen for wastefulness. Thus in the Tobolsk Petrochemical Combine expenditures on temporary structures amounted to 12 million rubles. It is necessary to introduce a policy which will make it compulsory to coordinate with the territorial planning organization the section entitled "organization of construction" of large construction projects having to do with the location and construction of bases for construction and installation organizations.

In their desire to reduce expenditures on the assimilation of plots of land and to obtain an immediate effect in the petroleum and gas regions of the oblast, people are practicing with increasing frequency selective assimilation of the territory of the industrial center on sections with the least expenditures. This leads to the appearance of unassimilated areas in the industrial center, expands its boundaries, and increases the length of the networks of underground mains and roads, and, in the final analysis, it leads to making the production capital created in the industrial centers more expensive and violates the zoning of the industrial centers as well as fire safety and sanitary norms.

The conflicts enumerated in this article and also many others could be avoided if the system for determining the cost of planning work, the planning of the volume of planning work that is completed and submitted to the client, and also profit corresponded to the principles of effective utilization of capital investments. Then it would motivate the managers and executors of the plan to search for the best variants of planning decisions.

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## RESPONSES TO ARTICLE ON FEEDBACK PRESENTED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 87-105

[Unattributed article: "Who Should Be in Charge of the Collective" -- a survey of ideas and suggestions. For text of original article see JPRS 82810, 7 Feb 83, No 1039 of this series (USSR REPORT: ECONOMIC AFFAIRS) pp 91-100. Passages enclosed in slantlines printed in boldface]

[Text] We Raise a Problem

Under this column head in EKO No 9 for 1982 we printed an article by A. A. Avakyan entitled "Feedback." The article elicited many responses, some of which have been published. The edited article presented below, which includes a survey and a generalization of these responses, completes our consideration of the problem "The Production Manager: How to Prepare Him?"

And so let us sum up the results. The discussion of the problem of selecting and training management personnel for production has attracted the attention not only of scientists and specialists in management, but also workers in various occupations from all regions of the country, from the gold mines of Siberia to the planning and design organizations of Latvia. This fact is remarkable in and of itself, and it shows both how crucial the problem is and how immensely interesting it is to the readers.

The production manager is always to be seen. His decisions, business and judgments fall into the field of vision of people of the most varied job positions, from the worker to the minister. They determine the fate both of an important state matter and of the individual person, the member of the production collective. The requirements placed on the manager have always been high. But today they have increased even more because of the fact that intensive factors in the development of the economy are becoming decisive, the revolutionizing role of scientific and technical progress is becoming stronger, and the role of the human factor is increasing immeasurably. And the course undertaken in the national economy toward expansion of the rights

and responsibilities of associations and enterprises brings to the fore among the most important features of the manager the ability to make independent decisions and to think strategically.

At critical times, there is always a pleiad of talented managers who are curious, energetic and abreast of the times. Like navigators who chart new routes in the sailing directions of the national economy, they draw others behind them. The system of organization and management of the large industrial complex which was created at VAZ [Volga Motor Vehicle Plant], the methods of increasing labor productivity by expanding the zones for servicing equipment, the combining of occupations and the reduction of the work positions of the Shchekino chemists, the efficient methods of brigade organization of labor at the Kaluga turbine plant which have become textbook cases -- all these owe their origins to the talented managers and specialists of these enterprises. Now many collectives are turning to the experience of the Sumy Machine Building Association imeni M. V. Frunze in utilizing production capacities, which are an important source of intensification of production, and to the experience of the Krasnoyarsk Biryusa refrigerator production complex, which produces products that are on a par with the best world models. These enterprises themselves are becoming schools for training personnel to manage the national economy.

A party organizer and later production manager of Biryusa, V. M. Mikhaylov, after completing the Academy of the National Economy, headed a large scientific production organization in Leningrad. The chief of compressor production section of Biryusa, V. M. Vologzhin, became the general director of the Lvov Konveyer Production Association. He immediately acquired supporters in the new collective. Initially it seemed to many that he was only complicating the tasks of the association, which was in a difficult situation in the first place -- the conveyors were not being sold and production volumes had dropped. But Vologzhin thought that it would be impossible to win over customers without being concerned about equipping the conveyors with control systems based on computer equipment or without arranging a service section which would make it possible to provide qualified adjustment of the conveyors. /The strategy for bringing Biryusa up to the world level, which envisioned solving similar problems, convinced him of this. Two years is not a long time. It is still too early to draw the final conclusions. But the first results have shown that the Konveyer Association has selected the correct path: the file of orders is full and the plan is being regularly fulfilled./

During the course of the discussion, the editorial staff received more than 150 articles and letters. Many of them have been published as separate materials or have been included in the survey of responses.<sup>1</sup> The magazine will try to respond to certain suggestions and requests in subsequent publications. For problems of production management, management training, and the style and methods of the work of managers have been and still are the leading ones in the magazine.

The suggestions, remarks and requests of our readers can be combined into several consolidated groups:

improvement of methods and criteria for evaluating the activity of managers and candidates for promotion;

improvement of work with the reserve for promotion;  
observance of the principles of sequence and succession in promoting industrial management personnel;

strengthening the role of personnel services of enterprises and associations.

Let us consider each of these.

#### How to Evaluate?

/The evaluation of the personal and business qualities of the managers and the results of their activity is one of the most important elements of the personnel policy./ The methods and criteria for evaluation exert a direct influence on the level of management of production.

/"We need to verify the suitability of people ... To check on people and to check on their actual performance of their jobs -- herein, again herein, and only herein lies the crux of all of our work, of all of our policy,"<sup>2</sup> -- this instruction of V. I. Lenin remains timely even today./

The principles he formulated for evaluating personnel -- "a) from the standpoint of conscientiousness, b) from the political position, c) knowledge of business, d) administrative abilities"<sup>3</sup> -- are the basis of the personnel policy.

When considering the problem of training and promoting production managers, we concentrated our attention on the professional and business qualities of management personnel. What is a manager actually like, how does he actually perform the work entrusted to him -- does he develop production by increasing its volumes by enlisting resources, people and capital investments or are qualitative indicators most important for him, and is it important for him how and at what cost he obtains the desired result? What did the manager do during the period when he was in charge of production? Did he increase labor productivity and efficiency, did he take advantage of the possibilities of scientific and technical progress? How did he resolve the social problems of the life of the collective? How does he use modern management methods, and is he raising his professional level? Has he discovered the capabilities of his assistants, and has he developed worthy replacements for them? /These are the deeds and actions by which one must judge the manager, in terms of his works in the broad sense of the word, and not merely in terms of indicators of the plan and immediate results;/ one must compare the achievements of the production of which he was in charge with the best in the country and the world, not closing one's eyes to missed opportunities, and not counting off for local peculiarities and difficulties in selecting management personnel.

But evaluations are still frequently dashed off amid the bustle of current business. Frequently a manager is judged according to how easy it is to work with him. In these cases the manager who does not argue with the higher-ups and is able to provide a peaceful life for the enterprise ends up with the advantage. And the one who raises difficult problems, being oriented toward the requirements of scientific and technical progress and modern tendencies in the development of the economy sometimes ends up in the position of the mountain climber, hanging alone from some mountain crag.

For example, for many years the Ivanovo machine tool building association was not really high on the list in the branch and the VPO [All-Union Production Association], even after it was demonstrated that its products could compete on the world market. In order to have the opportunity to produce them, the association insisted on a revision of the plans, on the production of new equipment instead of the series-produced machine tools for which there was no longer a demand. But it was required that the association produce the volumes and fulfill the plans for the obsolete machine tools, and bonuses were not paid. Only the persistence of the general director of the association, V. P. Kabaidze, and the collective enabled the Ivanovo workers to defend their position. In 1983 the obsolete equipment was excluded from the plan. The association changed over completely to the output of machine tools with numerical program control and processing centers on whose basis the flexible automated productions (GAP's) are now created. For the development of the GAP's a group of managers and specialists of the association were awarded the USSR State Prize for 1983.

/Today certification is one of the main forms of evaluation of industrial management personnel and engineering and technical personnel./ A unified policy for certification was approved by a decree of the USSR State Committee for Science and Technology and the USSR State Committee for Labor and Social Problems of 5 October 1973. But certification does not extend to those managers of enterprises and associations whose hiring and firing are decided by higher agencies -- all-union industrial associations, ministries and departments. Thus a significant group of officials who hold the most responsible posts in production administration are actually not subject to a system evaluation. Yet the cost of mistakes in their decisions and actions is especially high. Many scientists and specialists (in particular the center for management of industrial production at Moscow State University<sup>4</sup>) have already suggested introducing certification for this category of workers.

/In order to evaluate the business and personal qualities of an individual comprehensively and reliably, it is necessary to improve the content and procedure for certification -- and this is one of the conclusions from the materials of the discussion./

Now, in a majority of cases, certification commissions have at their disposal only such documents as the personal file and job references. Frequently, the job references are composed according to a standard form, and on the basis of these it is difficult to discover the individuality of the person being

certified. An instructor at the Novosibirsk Higher Party School, L. A. Kostarev, brought up a fairly interesting fact in a round-table discussion: at one enterprise it was impossible to recognize a single individual from the job references; all they had really done was fill in the names.<sup>5</sup>

The questions asked by the certification commission are sometimes routine and uniform too. The director of the Kishinev Signal Plant, I. T. Bordyugov, correctly wrote that just as an examination cannot reveal all of a student's knowledge, so a certification, which has a similar procedure, cannot provide a complete idea of the specialist.<sup>6</sup> Shortcomings in the procedures and methods of certification lead to a situation where the possibilities of a subjective approach are increased.

Scientists and specialists in production administration are constantly working on improving certification methods. We have already discussed the interesting experience in the Estonian SSR.<sup>7</sup> We know of the research in this area by Leningrad enterprises which are working in conjunction with scientists of Leningrad University. The works of Prof A. A. Aunapu are also worthy of attention. He has developed new forms for the certification sheet in order to improve the evaluation of the results of the activity, the promise and the potential capabilities of specialists.<sup>8</sup>

An interesting system of certification has taken form at VAZ. It is based on multilateral analytical evaluation of the production activity of the workers. Along with a detailed job reference, a "Sheet for Analytical Job Reference" and a "Sheet for Self-Evaluation" are filled out for each worker.

But our readers state -- and in this we cannot but agree with them -- that experience in improving certification has been poorly generalized and disseminated and that scientific developments and methodological recommendations do not undergo sufficient practical testing.

We share the viewpoint of the Kiev engineer B. I. Braslavskiy, which he expressed in a letter: /"10 years from the time of the introduction of certification at enterprises and 15 years since it was introduced in scientific research organizations is a long enough period to make it possible to generalize the experience, to draw conclusions, and, on their basis, to refine the methods and procedures for certification, the criteria for evaluation and the expediency of certification for upper management levels."/

#### Who Does the Evaluation?

Who should be entrusted with the responsible matter of certification? A heated debate flared up around this. A. A. Avakyan's suggestion to entrust this work to expert consulting firms was met critically by many readers and participants in meetings of the EKO round table. The editorial staff shares their viewpoint. The major task of these organizations is consultative assistance at the request of the enterprises in improving the management and organization of production.

The requirements placed on the manager are extremely multifaceted and contradictory. He cannot be in charge of the work entrusted to him without special knowledge, but at the same time he must know the economy and the systems and methods of management. He must express state interests and at the same time defend the interests of the collective. Therefore it is necessary to have on the certification commissions specialists who are able to evaluate the worker from various sides. If the commission consists entirely of the direct superiors of the individuals being certified, subjectivism cannot be avoided. At enterprises and in associations it is expedient to include on it representatives of banks, planning agencies, local soviets and public organizations, and also, possibly, sociologists and management specialists.

The commission for the certification of managers of the higher level of management of enterprises and associations should be created by the higher authorities. But it should still go out to the work place, and take along as part of the commission scientists and specialists of similar enterprises and representatives of territorial party agencies and labor collectives.

#### How to Ensure Objectivity of Evaluation?

Certification is one of the most important, but not the only method of evaluating production management personnel. In many cases it is useful to augment it with other methods, especially when a new manager is being selected or when it is necessary to choose candidates for promotion and judge their potential capabilities and the prospects for using them in the given position -- this is another of the conclusions from the discussion.

Many specialists think that the most objective form of evaluation is the competition of plans.

/"Competitiveness, public disclosure and the responsibility of the administration for making the final decision -- these points, it seems to me, were formulated long ago," writes the reader Yu. S. Kovalenko from Omsk. "Competitiveness expands the possibilities of searching for the best managers, public disclosure prevents the pushing unsuitable candidates through, and responsibility forces the administration to delve more deeply into personnel problems. So why are these clear-cut points not being introduced? It seems to me that this is because the administration is afraid that a management position might be filled by a candidate it does not like."/

There were also other opinions about competition. Some people think that it will reveal more the specialist's competence in a given area than his business qualities.

Of course the main thing in management activity consists in integration of the efforts of the subordinates in order to carry out the tasks that have been set. Still it is frequently necessary to disclose the level of specialized knowledge, especially now, under the conditions of the acceleration of scientific and technical progress and the complication of production processes and methods of controlling them. /Therefore a competition of plans can be extremely effective not as a replacement for certification, but as a supplement to it./ There is apparently some point in taking advantage of the

rich experience in conducting competitions in creative unions: the works are examined by a specially created jury, and the works themselves are presented anonymously.

At certain enterprises, for example, at the head plant of the Riga Komyutator association, competitions are held for filling vacancies for all shop line managers, beginning with the foreman and ending with the shop chief.

To increase the objectivity of the evaluation -- this idea pervaded a majority of the letters and articles which the editorial staff received during the course of the discussion. Unwavering observance of this principle can put a stop to cases of protectionism and advancement to management positions of workers who are known to be weak because of their personal connections. Many suggestions were made which will help to make the methods of evaluation more objective and diverse. In particular, in our opinion, attention should be given to the circulation of questionnaires, with the information that is received being processed on computers. To be sure, here one must note that some people make a fetish out of this form of evaluation and the role of computer equipment, thinking that herein lies the only possibility of an objective approach.

Computer equipment really does expand the arsenal of the means and methods of management. The subsystem "Personnel" has appeared in the ASU's [automated control systems] of many enterprises and organizations. But the computer is only a /means/ which can be used to accumulate, process and rapidly feed back the necessary information, and it is not a /method/ of evaluation.

The circulation of questionnaires for evaluating managers has been successful in the Leningrad Elektrosila association. Here they developed methods of sociological research on the basis of questionnaires. The questionnaire envisions the evaluation of 30 qualities which are divided into 8 groups: 1) political maturity, 2) discipline and attitude toward labor, 3) level of knowledge, 4) organizational abilities, 5) moral qualities, 6) ability to arrange relations among people, 7) style of leadership and 8) authority.

For each question on the questionnaire there are five choices of answers, which are arranged consecutively according to the degree by which the evaluation is lowered. The objectivity of data from questionnaires is provided, on the one hand, by the guaranteed anonymity of the answers and, on the other, by the mandatory participation of no less than 20-25 people in the questionnaire. With respect to those being questioned it is on three levels: higher managers, colleagues and subordinates.

The information that is received is processed on a computer. The information from the tabulagram is transferred to a sociogram, which is a graphic and tabular expression of the evaluation coefficients. In the conclusion of the sociogram one notes the worker's positive qualities, the shortcomings which must be eliminated, and the qualities which can be developed. For managers of all ranks, through dispersion analysis, one determines the "Zone of correspondence." The certification commissions, when giving their decisions, take advantage of the sociogram along with other documents.

With the increase in the role of the human factor, greater requirements are placed on the manager as a leader who performs important social functions. Under these conditions it becomes even more important to have his activity evaluated by all workers of the enterprise. The law concerning labor collectives which was adopted by the 8th Session of the USSR Supreme Soviet reinforced the principle of comprehensive evaluation of officials: /"Hiring and firing of management workers ... will be done taking into account the opinion of the labor collectives. Consulting with them is a good guarantee that competent workers will be promoted," said G. A. Aliyev, a member of the Politburo of the CPSU Central Committee and first deputy chairman of the USSR Council of Ministers, in a paper devoted to the draft of the law concerning labor collectives./<sup>9</sup>

Attention should be given to suggestions from our readers concerning appointment of managers by election and re-approval of them. The principle of appointment of managers by election is used in several socialist countries. Defending this principle, the mathematician and programmer from Moscow, Ye. A. Belyakov, asserts: /"Along with the introduction of the democratic mechanism for filling jobs, the authority of the managers also increases, since any democratic mechanism leads to the selection of 'stars,' to use the sociologists' terminology. With this kind of authority the manager will have nothing to fear from constructive criticism from his associates since he will already have a sufficient 'reserve' of authority."/

And our readers consider it necessary to draw attention to one more aspect of evaluation -- the moral aspects of the activity of the manager. This, in particular, was discussed in the letters of a candidate of technical sciences from Yerevan, N. T. Davidyan and the engineer V. V. Tseber from Yurmala (Latvian SSR) for, /"regardless of what else we may discuss when evaluating a manager, we will always discuss responsibility, morality and conscience"/ (from V. V. Tseber's letter).

#### Long-Term Personnel Policy or Random Appointments?

/Personnel work should be systematic and based on the observance of principles of sequentiality and succession in job advancement of production managers -- this is another of the conclusions from the materials of the discussion./

If we want to have a good director tomorrow, today we must have good foremen and shop chiefs. V. I. Lenin pointed out the need for succession of management and a correct combination of old experienced personnel and young energetic workers. He sharply criticized those who complained about a shortage of personnel but would not promote young workers. "/It is better to retire/ such an organizer and clear the way for young forces whose energy more than makes up for ordinary and studied routine."<sup>10</sup>

The best Soviet managers are typically concerned about who will be their successors and into whose hands they will be able to turn over their enterprises. They create systems of work with personnel which are oriented toward sequential job advancement of production leaders. We know the work that has been done in this area by the director of the Tiraspol sewing factory, V. S. Solov'yeva, and the experience of the general director of the

Yerevan Masis footwear association, G. Kh. Arutyunyan, is worthy of attention. In the factories of the association, almost all of the shop chiefs are under 35 years of age, and the average age of the directors is no more than 40. Here they consistently promote young people, entrusting key management positions to them.

/But one cannot close one's eyes to the fact that each year the enterprises are experiencing more and more difficulty in selecting line personnel for the shops./ Participants in the discussion correctly noted this tendency, pointing out many reasons why these jobs have no prestige and why young people do not want to be foremen. Their alarm is quite explicable and their increased attention to the "problem of the foreman" is quite understandable.

The formation of the enterprise's management personnel begins with the foreman, the first job in production management. The foreman has direct contact with the workers. Educational work and concern for labor discipline should occupy leading positions in his functions. Now problems of discipline have been aggravated and there is greater exactingness and intolerance toward idlers, habitual absentees and slovenly individuals. The conflicts have become more severe. The foreman is the first person to experience them.

The newspaper TRUD wrote about how a lathe operator of the mechanics shop of the Factory imeni Kaminskiy, A. Zubkov, having shown up for work drunk, was not allowed to work with the lathe, and this caused him to attack the foreman with an axe. The workers helped to disarm the criminal. The Ivanovo oblast court sentenced him to 9 years of incarceration in a hard corrective labor colony.<sup>11</sup>

Of course, this is an extreme case. Such conflicts are not frequent. But nonetheless it is the foremen who are the first, one might say the major management unit in the work for strengthening discipline and educating the labor collectives. And yet he is frequently taken away from his basic duties to solve problems which have not been solved by the functional divisions of the enterprise. The wage level of the foremen is lower than that of skilled workers.

There is another reason for the lack of prestige of the job of foreman which was pointed out by many participants in the discussion -- the lack of clarity concerning the possibilities of further job advancement. If the enterprise has no system for promoting personnel, these prospects seem extremely problematic to an individual.

/Observance of the principle of sequentiality and succession in promoting managers depends largely on the arrangement of the work with the reserve./ This is created at all enterprises, but it is certainly not used the same way at all of them. It is one thing if everything ends with drawing up a formal list. People do not even look at it when there is a need to fill a vacancy, and very frequently they bring in managers from the outside without even evaluating their own personnel capabilities (participants in the discussion wrote about the fact that there are many cases of this). It is another thing when there is a comprehensive selection of candidates for promotion and planned training of them for the new positions.

At the Kishinev Signal plant the reserve is considered to be all workers who have prospects for advancement to management posts, beginning with workers who have received higher and secondary specialized education and have demonstrated abilities for organizational activity. A file card is introduced for everyone who has been enlisted in the reserve. The candidates for promotion draw up personal training plans to prepare for the position that is being offered. The methods council under the personnel division checks on the course of the training and organizes a cycle of lectures on economics, management, economic law and on-the-job training at the places of their future work.

The organizers act correctly in those production organizations where they draw up a long-range plan for the selection and placement of personnel which is based on their sequential advancement.

Principles for forming the reserve for one particular job or another have turned out to be a subject for debate. Can the candidate's conscientious performance of his previous duties be sufficient justification for promoting him? Certainly not. People must not be appointed to high management posts as a reward for good work. This kind of promotion can have the most negative consequences both for management of production and for the individual who, having failed at his new job, can lose confidence in himself. Unfortunately, such personnel mistakes occur not infrequently. Their basis is, in the first place, the one-sided certification whose goal is to reveal only if the person is qualified for the job he holds, and not the candidate's potential capabilities, and, in the second place, the lack of clear-cut principles for making selections for specific positions. The head of the construction division of the Kamchatka CPSU Obkom, Yu. V. Fokin, was quite right when he said: /"It is not always necessary to advance people in jobs. They should also be advanced in terms of salaries. It is expedient to pay a good specialist additional money for his high level of competence."/<sup>12</sup> A well-known specialist in administration, V. I. Tereshchenko, said regarding this: "One must not reward people with jobs which require management abilities."<sup>13</sup>

Before beginning to enroll people in the reserve for one job or another, one should determine the requirements for the given position. The provisions concerning the tasks of the manager of the given subdivision or the job instructions, which are available at the enterprise, can be used for this. When there is a detailed description of the job and the requirements for it are known, then one can list precisely the qualities which the workers who are applying for it must have.

The approach to selecting managers of enterprises should be even more differentiated. It is necessary to know not simply the level of standard requirements for the director in general, but those qualities which are necessary for those concrete circumstances in which he will be working. Will he enter a smooth-running collective of an enterprise with an established production or will he have to start from the beginning -- be in charge of the directors of a new plant that is under construction or work for a radical restructuring of a lagging enterprise -- a different set of qualities is needed in each of these situations.

Participants in the discussion correctly noted such complicated aspects of the work with the reserve as the moral and psychological side of the matter and the age qualifications of the candidates. Managers have different attitudes toward the candidates who are to succeed them in their positions. Some help them to take over, while others exhibit caution or even resistance. Here a good deal depends not only on the individual qualities of the management workers, but also on whether or not there is a system in the personnel policy of the given industry, and whether the principle of sequentiality and succession is observed. If a specialist sees his future career, he is even interested in making sure that his replacement is trained promptly.

/"In our opinion, work with the reserve for advancement should include mutual commitments: on the one hand -- from the worker who has been enrolled in the reserve -- that he will demonstrate through his activity that he is suitable for the proposed job, and on the other -- from the manager of the enterprise -- that enrollment in the reserve is not just routine paperwork, but a document which defines actual prospects."/ -- suggests the engineer A. V. Revin from the Novovoronezhskiy atomic electric power station.

It is generally known that the speed and precision of reaction and the ability to make on-the-spot decisions quickly decrease with age. These conclusions are confirmed by sociological and medico-biological research. It is especially important to take into account the age qualifications when selecting line personnel, where quick and correct decisions play an important role. Participants in the discussion made a quite correct suggestion: analogous to the age qualifications that are in effect in the army, to introduce a similar evaluation when selecting and promoting management personnel for the enterprise.

#### Professional Training in Management is Needed

And finally, one more important aspect of preparing management personnel for production -- the organization of their training and advancement of qualifications. Participants in the discussion especially singled out two key levels of professional training of managers:

- VUZes and tekhnikums, where the basis of knowledge of management is laid;
- institutes for advancing qualifications and special departments at VUZes for retraining managers.

Many noted that training programs of VUZes and tekhnikums in management disciplines do not satisfy us today, either in terms of the volume of the course, or in terms of the selection of disciplines that are offered, or in terms of methods of training and practical preparation of students and pupils.

The opinion of a young foreman, recent VUZ graduate G. Samoylov from Chekhov in Moscow Oblast, is not without interest. /"Nobody will question that the foreman, the section chief and the shop chief, as distinct from the engineers of functional services, require more advanced legal, socio-psychological and economic training,"/ he writes. /"But in the institute they all acquire the same knowledge: a little bit of this and a little bit of that./

/"Student on-the-job training does not expand our ideas of management methods either. Recalling them, I come to the conclusion that their effectiveness is very low. We simply became accustomed to heavy work on equipment. When we protested against this practice we were told: 'Engineers are not afraid of dirty work. Watch how the foremen work.' But whom do we watch when His Majesty the Plan goes into effect! The entire shift is at the machine tools -- and there is not time for the newcomers to observe. By the time I got used to things -- the practice was over .../

/"But why not make evening courses out of one or two of the final courses in day training? And perhaps during this time the student could be assigned to train as a foreman? This has already been done at one time. And this helped to reduce a great deal the time it takes for young specialists to adapt."/

It is necessary to improve the programs in the management course and the methods of training and organization of production practice in VUZes and tekhnikums. Attention should be given to the suggestion concerning on-the-job training in the final courses, as is already the case in medical institutes -- such was the conclusion from the suggestions of participants in the discussion. In order to increase qualifications and retrain production commanders, a well-developed network of institutes has been created for increasing qualifications, special departments have been created at VUZes and courses have been arranged. Professional training in management is a means of putting industrial management personnel in touch with organizational progress. We know of a large number of cases in which enterprise managers, when they have returned from training, have introduced a number of organizational innovations and improved the structure and methods of management. Thus his work on a paper on management information systems (UIS) served as an incentive for the director of one of the plants, Yu. I. Tychkov, to improve the ASU. Since his training Yuriy Igorevich has been delving deeply into this problem, informing other plant managers of it and creating a UIS subsystem for managers as part of the ASU of the enterprises.<sup>14</sup>

The director of the Moscow Krasnyy Proletariy machine building plant, O. A. Korolev,<sup>15</sup> during the time of his training, also did a calculation of the optimal utilization of the enterprise's production capacities. Subsequently, under his leadership, plant specialists delved more deeply into these calculations and used them as a basis of the plan for the products list.

But training in the IPK [Institute for the Improvement of Qualifications] and in special departments for managers, in many cases, lasts for only a very short time, during which it is impossible to acquire really profound knowledge. In this connection, there seems to be much usefulness in the suggestion given by the candidate of economic sciences from Saratov, V. V. Lysikov,<sup>16</sup> concerning the organization of special management training centers on the basis of academic institutes of an economic profile, higher educational institutions and economics departments of universities, which have highly qualified academic and teaching personnel and have proved themselves to be good at retraining personnel.

We must not forget about such a valuable source of knowledge about management as the experience of the managers of the leading enterprises. The man in charge of the dredge of the Bodaybinskoye administration of the Lenzoloto association, A. M. Duz'<sup>17</sup> and the secretary of the Zayel'tsovskiy CPSU Raykom in Novosibirsk, I. I. Indinok'<sup>18</sup> suggested introducing official on-the-job training with the best production workers. The suggestion deserves attention. It would be especially good if this on-the-job training were given to newly appointed directors of enterprises and associations before they assumed their responsible duties. It would also be useful to have on-the-job training for candidates for promotion to the middle management level in the best shops and divisions of their enterprises. This is being done in some places even now.

Of course, in addition to increasing managers' qualifications with leave from production, a large role is played by current training, which makes it possible to augment one's knowledge with useful new information on the spot. In Omsk, for example, the managers' school which was created by the city party committee is very popular. Leading scholars and specialists in management are invited from various cities of the country to give lectures there. The directors of enterprises share their experience in the classes. Reciprocal visits of managers to other enterprises are being organized. In Novosibirsk, under the aegis of EKO and the oblast board of the scientific and economics society, a club of directors was created. Critical management problems are discussed at its meetings.

Special attention should be devoted to training managers of the middle level. The readers point out that this level of management is less included in centralized forms of training, and it is frequently even forgotten locally. Thus the experience of those enterprises which conduct training of shop managers is even more valuable. One can refer to the Magnitogorsk metallurgical combine, where training of shop chiefs and deputy chiefs has been arranged well. This enabled the Minchermet [Ministry of Ferrous Metallurgy] to create on the basis of the combine a branch school for training shop managers.

#### The Personnel Service Today

With the growing role of the human factor in production and the increased requirements on the system of selection and training of management workers, the role of the personnel services increases. Are they prepared to perform their new and more responsible duties? Who is training specialists for them? This group of questions drew special attention from participants in the discussion.

While the designer, technician and economist are people with quite specific occupational education, the personnel services, in the occupational sense, present a very spotty picture. Many workers from these services are people who have a large amount of experience in life and production, but no special training. They have performed fairly well the traditional functions associated with documenting hiring and firing and keeping track of the movement of personnel, but it has turned out that they are not prepared for their new functional duties. Organization of professional selection of workers and management personnel, investigation of factors that influence

turnover and labor discipline, work with the reserve for advancement and organization of their training, certification of engineering and technical personnel -- this is far from a full list of the current duties of personnel services. It presupposes knowledge in the areas of sociology, law, industrial psychology, and so forth.

Recently, leading enterprises and production associations have begun to bring the structure and the professional composition of personnel services into line with the tasks of the modern day. Social, labor and personnel blocks are being created, which are oriented toward the performance of those functions which are related to management of the human factor. Within the services they are developing divisions (sectors, groups, bureaus) for sociological research. The block of these services is under the jurisdiction of the deputy director for labor, personnel and social problems. This kind of organizational structure makes it possible to conduct personnel work more expediently.

Thus, improvement of the system of selection and training of high-level management personnel requires that the workers in the personnel divisions have a high degree of preparation in the area of human relations. It is necessary to organize in VUZes the training of specialists for personnel services, to increase their prestige and to improve the payment for their labor. EKO suggests beginning a discussion of the role and position of the personnel service in the enterprise.

Participants in the discussion made many valuable suggestions about how to improve the selection, advancement and training of people who are given the honor of heading up a production collective. In this concluding article we have tried to generalize these suggestions. We hope that this will attract the attention of interested organizations and departments.

#### FOOTNOTES

1. See Nos 9, 11 for 1982, Nos 2, 7, 12 for 1983, No 2 for 1984.
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3. "Leninskiy sbornik" [Lenin Collection], XXIII, Moscow, Partizdat, 1933, p 164.
4. Popov, G. Kh., "Five Questions on 'Feedback'," EKO No 7, 1983.
5. "Appointed to the Position," EKO No 9, 1982.
6. Bordyugov, I. T., "There Are Vacancies," EKO No 11, 1982.
7. Tarasov, V. K., "Certification of Industrial Workers With Computers," EKO No 7 1982.
8. Aunapu, A. A., "Metody podbora i podgotovki rukovoditeley proizvodstva," [Methods of Selecting and Training Production Managers], Moscow, Ekonomika, 1971.

9. "Materials of the 8th Session of the USSR Supreme Soviet," IZVESTIYA, 18 June 1983.
10. Lenin, V. I., "Poln. sobr. soch.," Vol 9, p 306.
11. See "Deserved Punishment," TRUD, 12 August 1983.
12. "Not a Search for Natural Talent, But Planned Work with Personnel," EKO No 2, 1983.
13. LITERATURNAYA GAZETA, 19 August 1970.
14. Tychkov, Yu I., "Managers and ASU," EKO No 5, 1978.
15. Korolev, O. A., "A New Orientation for Development," EKO No 1, 1978.
16. Lysikov, V. V., "Personnel Training Centers Needed," EKO No 12, 1983.
17. See EKO No 2, 1984.
18. See EKO No 9, 1983.

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11772

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## EFFECTIVENESS OF FOREMEN'S DECISION MAKING STUDIED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 106-111

[Article by A. A. Zimin, candidate of economic sciences, sector chief of the Planning and Design Bureau of Automated Control Systems (Cheboksary): "The Foreman Makes a Decision"]

[Text] The foreman, according to research of the Kanash Railroad Car Repair Plant (KVRZ) and the Murom Plant imeni S. Ordzhonikidze, makes from 230 to 350 decisions in his work. How does he do this, and how effective are they? In order to answer this question we used a time-and-motion study of the foremen's work day.

We developed and verified the following method of conducting a time-and-motion study of the work day.

On the observation sheet in the section entitled "What is being observed" we singled out: events ("What happened"), decisions ("What you decided") and actions for implementing the decisions ("What you did"). For each work day the foremen were given one sheet for self-observation which was divided into 8 parts (for the number of hours). Each hour, in turn, was divided into 15-minute segments (0-15, 16-30, 31-45, 46-60).

In the column "What happened" they entered events observed by line personnel during the course of the shift which drew their attention and required intervention. The entry was made in general form (who did what, what happened to whom). Generally accepted abbreviations were allowed. The decisions were registered in the column entitled "What you decided."

In the column entitled "What you did," they entered not only actions for carrying out decisions and instructions received from above, but also observations (checking on the arrival of workers, checking on the availability of materials, inspecting the equipment and so forth). Here we also recorded the foremen's participation in conferences with an indication of the place where they were held, the filling out of documents (orders, receipts for materials, semi-manufactured products, and so forth), the time required for thinking about and justifying decisions, natural necessities and the meal

break, and the discussion of individual tasks with workers, foremen, chiefs and engineers. The entries were made on one side of the sheet, and the rules were given on the reverse side (see Table 1).

Table 1. Fragment of Filled-In Self-Observation Sheet at KVRZ  
Oreshin, A. M. (Last name, first name, patronymic)

| Mechanics shop No 2, mechanics section |         |                            |                                      | Shift I (I, II, III)           |
|----------------------------------------|---------|----------------------------|--------------------------------------|--------------------------------|
| Hour                                   | Minutes | What happened              | What you decided                     | What you did                   |
| 1                                      | 0-15    | Arrival at work            |                                      | Assigned work to everyone      |
|                                        | 16-30   | Received assignment        | To start work                        | Checked work positions         |
|                                        | 31-45   | Machine broke down         | To call a repairman                  |                                |
|                                        | 46-60   | Workers idle               | To assign workers to other positions | Called repairman<br>Moved them |
| 2                                      | 0-15    | Workers idle               | Move workers to other positions      | Moved them                     |
|                                        | 16-30   |                            |                                      | Signed out                     |
|                                        | 31-45   | Hydraulic press broke down | To call repairman                    | Called repairman               |
|                                        | 46-60   |                            |                                      | Ordered special clothing       |
| 3                                      | 0-15    |                            |                                      | Inspected technical process    |
|                                        | 16-30   | Discovered defect          | To find reason                       | Checked at work position       |

The time-and-motion study of the work day was processed and analyzed in the following sequence. First the data from the observations were distributed according to the kinds of production events (random influences) for which entries were made in the column "What happened" according to the following classification: lack of parts and batching items; lack of energy; disrepair of equipment, and so forth. Depending on the specific nature of production, they can be grouped and new ones can be discovered. Thus at the time of the observation at the Murom plant certain public duties were being performed during work time, and this kind of activity was also recorded according to the types and the amount of time spent.

Data for the various kinds of random events were summed up, and a special formula was used to calculate the amount of economic harm that was caused by nonproductive expenditures of working time. After determining the amount of harm, they determined the divisions and services that were functionally responsible for preventing nonproductive expenditures of time for the given

kind of random event: for the lack of parts and batching items -- the production dispatcher division and the division for obtaining batching items from outside; for the lack and disrepair of instruments and fittings -- the instrument division. As was shown by the results of the time-and-motion study of the working day which we conducted, from 11 to 13 percent of the supply of working time is lost because of random influences.

On the basis of the data from the time-and-motion study of the working day and the random events distributed according to kinds, details of general plant measures are given with respect to each shop, since it is known specifically which machine tool was in disrepair, which part was missing and where it should have come from, and so forth. The generalization of these data makes it possible to determine the tasks of each shop in improving production management. For example, for the railroad car assembly shop of KVRZ at the time of the observation it was crucial to improve the supply of parts and batching items, for the running parts shop -- to improve the repair and renewal of equipment, for the wood processing shop -- to relieve the foreman of the job of receiving raw and auxiliary materials, and so forth.

For each kind of event we recorded variants of decisions that were made, with figures of the workers who selected the given variant (in the denominator) and an indication of the time spent on adopting and implementing the given variant (in the numerator).

With the first comparison of the data concerning the lack of documentation at the Murom plant it was discovered that the foremen of the auxiliary production were more occupied with technical documentation, and the foremen in commercial production -- with accounting documentation. Each of them spends no less than a half hour filling out documents for new products and filling out statements of work that has been performed.

The materials of the research that was conducted make it possible to single out several criteria for evaluating production managers. First of all one must determine whether making a given decision is among the functions of the foreman and if it corresponds to his job instructions. If he makes a decision he is not supposed to make, it is regarded as a mistake. For example, in the procurement section of the repair and mechanics shop, the foreman brings metal samples to the plant chemical laboratory to determine the grade of steel. Such an erroneous decision is made, on the one hand, by his ignorance about the grading of steel, and, on the other, by the incorrect storage at plant warehouses, and the lack of production space and equipment for proper storage of raw materials in the shop storage facilities or in the section.

In the second stage the decisions are evaluated for their effectiveness. The most effective are considered to be the ones which require the least time expenditures on the part of the manager with equal results. In this case one gives preference to the variant of the decision which involves the least time between its adoption and its implementation by various foremen.

Decisions are subsequently evaluated with respect to the time of the development of the event. The following kinds are singled out: preventive, current and "after the fact."

In the fourth stage the foreman's decisions are checked to make sure they correspond to legal, technical, economic and organizational norms and acts (statutes). Attention must also be devoted to their correspondence to principles of interaction with public organizations and the foreman's schedule.

The time-and-motion study of the working day makes it possible to evaluate the nature of the decisions that are made. Some decisions are wrong. The foreman's mistakes are sometimes his own fault and sometimes they result from shortcomings in the system of management of the enterprise. Unclear delimitation of duties and a failure on the part of individual workers to perform their immediate duties lead to a situation where the foreman must perform them. This reduces the amount of time he has to supervise the production section, which leads to increased frequency and duration of random events, and also to a reduction of the effectiveness of production.

For example, many foremen spend time issuing and distributing blank pieces to workers even though there are batchers and auxiliary workers in the shop for these purposes. Why? The production managers are not demanding enough. There are forced deviations because of the poor work of the shop dispatch bureaus. It is necessary to have a policy whereby the dispatchers register the time the request arrives from the section and note down the time the request is filled. Foremen should not have to go to the production dispatch division, obtain limit cards at the plant administrative office, and so forth. All documentation for provisions should come to the section as a part of the information service. The foreman has to go to the various divisions and argue with chiefs of other shops when his own management is not efficient enough.

It should be noted that it is not necessarily a mistake every time the foreman leaves the section. Frequently this is caused by the specific nature of production. For example, the foreman of the metallurgical section of a repair and mechanics shop is assigned the duty of distributing orders in the foundry, transporting the blank pieces for forging, drawing and bending, and also looking for transportation to deliver the blank pieces to the section. Then one way or another it is necessary to leave the section, but this does not mean that it is left without management. The managers act correctly when they have a worker on their shift who can take their place for a short time, most frequently one of the experienced brigade leaders or skilled workers.

During the course of the research at the KVRZ and the Murom plant, with the mass of decisions that were received, an attempt was made to evaluate individually the activity of the production managers. To do this, three spheres were singled out. The executive sphere included the functions of checking on the observance of labor discipline, product quality, the expenditure of materials, and the following of rules and orders from the chiefs; the [second] sphere of initiative included the selection of raw materials, processed materials, equipment and methods of processing the items, and the placement of personnel. There was individual recording of the time spent on performing the functions of a worker, dispatcher, another foreman, a chief, a time keeper, a tally man, a receiving clerk, a warehouseman, a mechanic and a power engineer -- this was the third sphere. The evaluation

produced material for certifying individual work with the foremen, made it possible to adjust the forms and methods of training, and facilitated the organization of an exchange of experience.

The experience in analyzing the variants of the decisions revealed the possibility of automating the operational management of production. When developing information systems, one is interested in the types, frequency and duration of events revealed by the time-and-motion study of the working day. For example, at the KVRZ, the following distribution of the proportion and frequency of the most significant kinds of events was obtained from the time-and-motion study of the working day (see Table 2).

Table 2.

| Kind of Event                                           | Proportion, Percent | Frequency |
|---------------------------------------------------------|---------------------|-----------|
| Malfunctioning of equipment                             | 28.0                | 146       |
| Shortage of parts and batching items                    | 14.8                | 133       |
| Lack of raw materials, chemicals or auxiliary materials | 15.6                | 113       |
| Shortage of energy                                      | 5.4                 | 26        |
| Lack of fittings and instruments                        | 5.4                 | 8         |

The rest of the losses of time result from a lack of transportation and mechanisms, violations of technical safety, a lack of underground mains, technology and so forth. The time-and-motion study of the working day confirmed that the orientation of information systems toward material flows is justified, since violations of these cause a total of approximately 30 percent of all the losses of working time. Additionally, at this level of automated management of production more attention should be devoted to information about the utilization of equipment, and not simply accounting for entire-day and intra-shift down time, but also formulating tasks for analyzing the causes of the malfunctioning of machine tools and mechanisms.

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11772

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## STANDARDIZATION FACILITATES REPAIR OF HOUSEHOLD APPLIANCES

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 111-113

[Article by M. I. Poylin, general director of the Rembyttekhnika association (Kuybyshev): "Standardization and Repair of Household Equipment"]

[Text] Domestic service has been formed as a branch within the past 20 years. The turnover here numbers in the billions (even in terms of the cost of the work), but the traditions, economic work and methods of approaching imminent problems have not been studied well.

The area of our association's work is the repair of complicated household equipment. From my viewpoint, we are slow in solving the problem of standardization of its components and parts, including for refrigerators. An immense number of various kinds of parts are required to repair a refrigerator, which makes material and technical supply for domestic service enterprises more difficult. The zeolite cartridge, automation instruments and part of the compressors are practically all that have been standardized.

We have long been considering the problem of standardization of household refrigeration equipment on the basis of the creation of so-called parametric series. The Minlegpishchebytmash [USSR Ministry of Machine Building for Light and Food Industry and Household Appliances] is responsible for it. There are about 70 types of refrigerators produced in the country at the same time. Taking into account those which were manufactured previously, there are about 110 models in use among the population. Under these conditions the consumer service enterprises have to order an immense number of spare parts: evaporators -- 35 to 40 models, interior compartments -- 70 to 80, rubber seals -- 70 to 80, decorative strips -- 60 to 70 types, and so forth. Situations are being created in which, while we have a 6-month or even a year's supply of certain parts, we are frequently unable to repair a refrigerator because the parts are not interchangeable.

The question of standardization has assumed not only economic, but also social and public repercussions. Because of the fact that it is not being resolved, it is necessary to refuse to satisfy the most essential needs of the population.

The majority of manufacturing plants have established a 3-year warranty period for the operation of new refrigerators. During this period the consumer service enterprise must eliminate any defects which appear. Practice has shown that the main defect during the warranty period is the breakdown of the assembly unit (this comprises 50 percent of the defects). On orders from the consumer service enterprises, the manufacturing plant sends out new assembly units, and after the malfunctioning ones have been replaced they are sent back to the manufacturer. We need 1,000 containers to receive new components and send back the unsuitable ones.

The most frequent of the other defects are the following: breakdown of condensers (10 percent), evaporators (5 percent), zeolite cartridges (14 percent), and leaks in the soldered places (21 percent). Our oblast needs 150-160 containers to deliver these parts.

Enterprises of Rembyttekhnika have gone to the manufacturing plants with requests to organize the restoration of assembly units locally, but the issue is not being resolved. Yet as a result of this Kuybyshev Oblast alone would save 800 containers. In the country as a whole tens of thousands of containers would be released. Moreover, not only would there no longer be any need for extra means of transportation, but also it would be possible to release the entire staff of warehousemen, tally men and warehouse premises which are used for these assembly units (in our association alone they take up an area of more than 600 square meters).

But now at many refrigerator plants, including in Dushanbe, the assembly units that are returned are practically never repaired, or at best the compressors are used.

According to the rules for the exchange of industrial goods, after two repairs the owner of the refrigerator has the right to refuse to use it any more if it requires a third repair job. In this case a certificate is issued to exchange the refrigerator in the trade network. During 1982 we issued 1,602 certificates. The owners turn the refrigerators in to the trade network and the stores send the malfunctioning equipment to the plants. But the trade enterprises do not have the capabilities for packaging the refrigerators in keeping with technical specifications, which the manufacturing enterprises could do. Therefore after they arrive at the plant more than half of the refrigerators have lost their commercial appearance and it would hardly be possible to restore them.

It seems to me that these refrigerators should be restored by Rembyttekhnika associations and sent to rental points where they could give long service.

Such problems arise with the repair of other technical equipment too. Thus there is a great economic advantage in restoring washing machine motors. The annual need for these motors in our oblast is about 12,000. In order to restore one motor it only takes from 200 to 600 grams of winding wire, while to manufacture a new one, in addition to the wire, one must expend metal. It would be possible to restore 90 percent of the motors that have broken down.

As you can see, it is possible to restore the motors, but to do this it would be necessary to allot winding wire to enterprises of Rembyttekhnika. And here is the crux of the problem. We are only given 10-15 percent of the capital we need.

Standardization of complicated household equipment and improvement of the organization of its repair require the attention of branches that manufacture technical equipment and the consumer services ministry.

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#### READERS' REMARKS ON INVENTIONS SUMMARIZED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 114-145

[Article by Yu. P. Voronov, candidate of economic sciences: "Their Rights -- Everyone's Benefit"]

[Text] The stream of letters on problems of invention is turbulent in and of itself. There is no need to encourage the authors or persuade them to respond to new published material. They write of their own accord, investing in their lines a true desire to improve the introduction of technical innovations into the economy.

The suggestions formulated in previous EKO articles for improving invention work amounted to the creation of patent courts, which would consider disputes between inventors and patent expert agencies outside the system of the USSR State Committee for Inventions and Discoveries, and to the publication of rejected applications so as to exercise stricter control over the decisions of the experts. The destinies of these suggestions differed. The first proposal went unnoticed both by the State Committee for Inventions and Discoveries and by other departments whose interests it involved. But it was discussed actively by the authors of letters to the editorial staff.

V. R. Skripko, a patent expert from Moscow, writes: "The suggestion to create patent courts is worth considering in order to increase guarantees and protect the rights of inventors more fully. The experience of socialist countries (GDR and Hungary) where patent courts exist provides us with much that is useful. For example, in Hungary the functions of the patent court are performed by the board of the Budapest city court, which includes three judges who have specialized education. Disputes about the qualifications of inventions also come under the competence of this court.

"I think that our State Committee for Inventions and Discoveries deals successfully with questions of qualifications of inventions. It would perhaps be inexpedient to create yet another 'superstructure.' But I think the idea of having the patent courts examine other disputes is interesting and fruitful."

Perhaps attention will be paid to opinions of the magazine's readers and the idea of patent courts will at least be officially considered to begin with?

The destiny of the second EKO suggestion -- concerning the publication of rejected applications -- is more promising: they have been included in the branch information system of the USSR Minelektrotekhprom [Ministry of the Electrical Equipment Industry].<sup>1</sup>

Our, on the whole optimistic, evaluation of the possibilities of publishing rejected applications is not shared by certain readers, who think that an unjustified refusal to recognize an invention will cause harm not only to the author of the invention, but also to the economy as a whole. "It would be possible to estimate these losses to some extent after the publication of all rejected applications, but the State Committee for Inventions and Discoveries will not allow this," thinks the patent expert, L. I. Il'in. It seems to us that the futility which is felt in this suggestion has not been substantiated with a serious analysis and can serve rather as a justification for inaction than to the benefit of the cause. Any department is capable of publishing rejected job applications, as is done by the Minelektrotekhprom (and it is not the only one).

In other letters, the publication of rejected applications is analyzed as a practical matter, and ways of improving systems of patenting and providing information about the latest technical achievements are considered.

The Moscow resident A. F. Renkel' wrote us: "If the invention has ended up among the rejected applications in the archive of the All-Union Scientific Research Institute of State Patent Experts (VNIIGPE), interested organizations are not informed of it and it is not included in the reports. But the description of the prototype invention has been returned to the shelves of the All-Union Patent Technical Library (VPTB) in its previous category -- an unrealized degree of technical progress. The collection of descriptions of inventions in this library is not the same as in a museum of history of the development of world technology or in a cemetery of errors which have drowned in the Lethe, but a mine of technical wisdom, a collection of architectural ensembles that have not been completely constructed, many of which have remained incomplete because of their premature birth. Submitting more than once (not to mention repeatedly) and then requiring evaluation of applications which duplicate patented technical decisions stands in contradiction to state interests.

"In my opinion, the annotation of inventions that is published in the bulletin of inventions of the State Committee, the RZh VINITI [Reference Journal of the All-Union Institute of Scientific and Technical Information] and in branch reference publications on invention work, which have subscribers abroad, is only the first cursory notification of a new technical decision. It also serves as a "test balloon" for determining the interest of foreign business circles in Soviet inventions. The basic and most important part of information activity in invention work -- the analytical and synthetic processing of documentary scientific and technical information, which has been done, is being done and always will be done by the inventors themselves -- should be increased and diversified."

We shall touch again on the question of the functions of the inventors themselves in the present distribution of rights and responsibilities. Should he inventor himself introduce his own invention? It turns out that there are various opinions regarding this. But there is no divergence in the responses to the question: should the inventor himself create for himself an information system for verifying the originality of his technical decision? No, there should be just one of these systems for everybody, and it should actively offer its services to every inventor. So far this important national economic matter has been left to fend for itself.

"In order to prevent the wasteful publication in various periodicals of annotations on inventions, which duplicate one another and are practically useless," writes the engineer A. F. Renkel', "it would be expedient to divide up the information responsibilities among these publications. On the pages of the Reference Journal of the VINITI it would be good to publish annotations on the most recent promising inventions and annotated selections on preceding inventions (in this case repeated publication is justified) on the corresponding subject or on individual devices. And in branch journals on invention and in scientific and technical surveys of special subjects it would be desirable, in addition to the publication data (registration number of the author's certificate, name and address of the applicant, the developer and the loan holder, the names of the authors) and to give information describing the productivity and efficiency factor of the device, its size and weight, a list and the main characteristics of the batching mechanisms, and also the basic data that pertain to technical and economic effectiveness of the invention."

In this suggestion one can see a clear structure of future rights and responsibilities: in interbranch publications -- surveys, and in branch publications -- brief annotations of current inventions related to a chosen topic. But so far only the branch ministries have been active in this area.

#### Expand the Rights of the State Committee for Inventions and Discoveries

The overwhelming majority of the writers write about the inadequate rights of the State Committee for Inventions and Discoveries itself and its poor participation in the control of scientific and technical progress. The decree of the CPSU Central Committee and the USSR Council of Ministers, "On Measures for Accelerating Scientific and Technical Progress in the National Economy," says: "The State Committee for Inventions and Discoveries must strengthen its leadership of invention and efficiency work and its control over the most rapid introduction of inventions into the national economy, and it must improve its provision of patent information for developers of new technical equipment."

V. A. Danilov, an Honored Inventor of the USSR from Riga, calls for changing the State Committee for Inventions and Discoveries from a recommendation agency to a regulatory agency similar to the State Committee for Science and Technology.

Stepping up the activity of the State Committee for Inventions and Discoveries is one of the most pressing tasks related to the acceleration of scientific and technical progress. L. I. Il'in suggests creating within the system of the State Committee for Inventions and Discoveries a network of enterprises which test experimental models. This will make it possible, in the first place, to solve the problem of the fate of private (non-job) inventions (their introduction is not regulated now); in the second place, to find a "guardian" for each effective technical decision in the form of an enterprise -- the developer or the first manufacturer. When nobody except the author will "bother" with the invention, the lack of restrictions on its utilization violates the principles of cost accounting [khozraschet]. Such a guardian will solve the problem of remuneration for the authors of inventions, who now frequently have to play the role of a litigator. In the third place, this will eliminate the alternatives which face Soviet scientists: to fill out an application or to write an article. Only applications should be the basis for a working publication. It is not easy to supervise the organization of the manufacture and testing of experimental models. And it is difficult for the State Committee for Inventions and Discoveries to take on such a large project. But if we want a governmental, scientific approach to invention, it is necessary to begin this work as soon as possible."

Although the State Committee for Inventions and Discoveries has invested significant efforts in improvement of the internal work procedures of its own subdivisions, in the opinion of those who wrote letters to EKO, they have had no special success. On the contrary, many inventors speak of the growing complexity of the procedures. An inventor from Gorkiy, L. N. Shchepetinshchikov, suggests eliminating the Control Council, since it, like the VNIIGPE, is under the jurisdiction of the State Committee for Inventions and Discoveries. The existence of two authorities under the same jurisdiction, through which the inventor must sometimes pass one after the other, is pointless.

A docent from the Perm State University, P. A. Bykov, notes that voluminous correspondence causes harm simply by the fact that it wastes the inventor's time on unnecessary work. And the letters and trips of the inventors to various organizations under the same departmental jurisdiction only increases this harm. P. A. Bykov suggests making the time periods for considering applications stricter and introducing control over the actions of the experts through information sheets.

It seems that such requirements will recede into the background when compared to the more insistent appeal to the Goskomizobreteniy [State Committee for Inventions and Discoveries] which could be heard in the aforementioned decree of the CPSU Central Committee and the USSR Council of Ministers.

The main agency for control of invention work in our country, along with its rights, has relieved itself of a significant part of its responsibilities as well. Even if the opinion of our readers is somewhat against the struggle against departmental interests that is developing everywhere, they are definitely interested in making sure that invention work is in the charge of a strong department which has extensive rights and capabilities.

"Inventions need a master" -- this is the thesis advanced by A. N. Sarbaytsev, a patent expert from Kazan. "Along with the recognition of the declared technical decision, with the invention the State Committee for Inventions and Discoveries should indicate the enterprise which has it on its books and its book (estimate) value. The enterprise which owns the invention should annually deposit into the state budget funds which are similar to the funds paid for fixed capital. After the invention is assimilated these payments will stop. When the invention is used by other enterprises (organizations) they must pay its creator (or the first user) the sum determined by law (normative act) as reimbursement for expenditures on its assimilation."

"The proposed policy does not entail any restrictions or prohibitions on the utilization of inventions. Any enterprise can use any invention without anybody's permission. But the compensation payments to the enterprise that created it (or first user) will contribute to the introduction of cost accounting into invention work."

"In the materials of the announcement one should indicate the profile of the enterprise (association, department or ministry) which would use the invention, on whose books it would be expedient to include it. And if this enterprise (department, ministry) agrees, it should be included as one which has made the announcement, and it, like the basic declarer, should be given a certificate of invention."

It seems that now the State Committee for Inventions and Discoveries is not checking on the compensation payments. After calm procedures of issuing author's certificates or refusing to issue them, one cannot immediately take up such a serious matter. Many readers, taking this into account, present more modest proposals. "Poor-quality consideration of applications in the VNIIGPE and their delay in excess of the established time period is certainly not a justification for revising all of the legislation," thinks the engineer N. B. Ostrovskiy from Sverdlovsk. "Improving the quality of expert evaluations of patents is a common cause. Each year there is a larger number of applications for proposed inventions, but the VNIIGPE cannot stretch like rubber. Since there is an increased number of qualified personnel in the local areas, it would be desirable to raise the question of creating divisions of the VNIIGPE on the basis of local divisions of the All-Union Center for Patent Services. In such divisions, where patent experts would work with the rank of deputy division chiefs, the applicant and the expert could jointly come to an effective solution which would correspond to the country's economic interests." Carrying out this proposal would be a practical step in implementing the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Measures for Accelerating Scientific and Technical Progress in the National Economy."

#### Introduction in Self-Service

The inventor K. K. Chubarov from Leningrad told a story which alarms us because in one form or another it is repeated everywhere: "The technology for strengthening the surface of metals by treating them with rollers, which sharply increases the resistance of items to wear and tear, is widely known. The Goskomsel'khoshtekhnika [State Committee for Supply of Production Equipment

for Agriculture] is declaring an all-union competition for restoring worn-out surfaces of the necks of crankshafts of diesel engines, promising 2,000 rubles as first prize. Did the money go begging? Not at all. They polish the crankshafts and then temper them with high-frequency currents, not because they do not know about the technology of strengthening by treating the surfaces with rollers. But because it is difficult to get to the neck: this cannot be done with known methods of strengthening which require that the roller be placed along the axis of the surface that is being treated. Traditional polishing does not provide the necessary resistance to wear and tear. As a result there is a premature gap in the "bushing - neck" connection. Within certain limits the gaps can be eliminated by repolishing to a smaller size and the use of bushings with different diameters. After this, as a rule, the crankshafts are discarded.

"The competition was declared at the end of 1980. But as early as 22 July 1977, the USSR State Registry for Inventions had registered the invention of N. N. Bogorodskiy and K. K. Chubarov (author's certificate No 580102) for a roller with a screw-type deforming surface, which makes it possible to apply strengthening treatment of the neck of any crankshaft.

"The design of the roller does not require that it be placed on the axis. While turning, its screw-like surface rolls along the surface that is being treated. The points of contact between the instrument and the part change, but then the roller is immobile along the axis. The productivity and the surface hardness are twice as great as with known methods, and the purity of the processing is raised to the 13th class.

"Crankshafts of ship engines, for example, are destroyed because of the fact that on the working surface there remain even insignificant traces of treatment with an abrasive instrument. In the country we have been looking in vain for a technology for strengthening treatment of the necks of crankshafts. But the inventors of the screw-type roller are trying to find someone who will begin to use it in production. Quite recently workers of the Kirovskiy Zavod association and, at the same time, correspondence students who chanced to learn of the existence of such a roller in the department of technology and instrument building of the Northwestern Correspondence Polytechnical Institute, were ready to begin to introduce it."

In order to convince the editorial staff that this is not the only case, K. K. Chubarov gives another example. "Today there is probably no problem more important than improving the quality of metal castings. We produce more steel than the United States does, but we receive considerably fewer items from it (see PRAVDA 19 February 1982). The quality of the metal affects the demand for it. Almost 30 percent of the cast metal pieces (the so-called feeder head) have to be melted down again.

"In conjunction with an associate from the Leningrad Khimanalit Institute, B. A. Lebedev, I developed a device for directed crystallization of liquid metal in a vacuum which makes it possible to obtain castings with high density and to reduce the feeder head to 2-3 percent of the weight of the casting (author's certificate No 520189). The principle has been developed, but, unfortunately, there is no client."

The critical reader exclaims: "Find your own client; you are the one who invented it!" Initially such a remark seems just. But ...

In their letters the readers criticize EKO for romanticizing issues of invention. They sharpened the humor and irony especially carefully in a picture of the future which was described in one of the articles: the entire family is sitting around in the evening and reading aloud the "Bulletin of Inventions, Discoveries and Industrial Models." This dream is a little naive, but you will agree that if it were to come true nothing bad would happen.

It is considerably more difficult to respond to these words: "It has been suggested that the introduction of the invention be assigned to a specific department right on the author's certificate, and the author be given the functions of a pusher. This exhibits a kind of economic romanticism. In the first place, it is objectively impossible to introduce everything. In the United States, for instance, only half of the technical decisions that are protected by patents are used. In the second place, the utilization of innovations is always determined everywhere by the economy's interest in them. Lending it greater dynamism is the basic condition for the active application of technical achievements and qualitative improvement of them." So thinks I. I. Dakhno, a candidate of economic sciences from Kiev.

Everything is correct and it would seem that there is nothing to which to object. But there is one weak point in this judgment. The active introduction of inventions is a particular, but fairly important means of "lending the economy greater dynamism," which can also be regarded as a result. It is impossible to achieve greater dynamism without accelerating introduction.

The "Provisions Concerning Invention Work" adopted in 1931, clearly envision the job title of inventor at industrial enterprises, that is, someone who would engage in nothing else but invention work. Unfortunately, monographs on the history of the national economy do not describe how the matter of professional invention work stood in practice. This experience should undoubtedly be restored to memory so that it can be used in the future.

From this point of view, using the rich and inadmissibly forgotten experience, we should analyze the entire system of legal documents which are related to a striking fact: the inventor turns his rights concerning the invention to the state, but no specific party is responsible for its utilization. And if there is no specific economic responsibility, why have such a complex system of expert evaluation?

The author's certificate is essentially a receipt for a gift. All the power of our system of legal recognition of inventions is directed toward verifying what the inventor has given the state. Imagine for a moment: guests have come to stay with you for the holidays and each has brought a gift. Instead of thanking them and inviting them to dinner, you begin a long and tedious verification of the quality and value of the gifts ... In general there is no recognition of the author's rights, at least not with respect to income. For he receives remuneration only after the invention has been introduced. This

attitude is especially inappropriate with respect to inventions that have been carried out outside the framework of job responsibilities. The scientific results are known to a narrow group of specialists, and they are publicized in small collections and brochures. Courses in invention and patent work are given only in technical VUZes, and even then there are ridiculously few of them. Economists see problems of invention through a dense fog. The following section was composed from the readers' letters to the editorial staff primarily for them.

### The Games We Play

One philosopher reasonably noted that the modern theater has something like a dual structure. The roles are distributed not only among the actors, but also between the actors and the spectators. Everybody knows that after the curtain goes down the one group should stand and applaud while the other group should come out and bow. To be sure, nobody regards applauding the actors as participating in the spectacle.

The inventor who has prepared an application for a proposed invention participates in a game which cannot always be considered a game.

"The attempt to evaluate the usefulness of an invention, as a rule, is made when it has not been embodied and has not been tested," writes the patent expert L. I. Il'in. "And if it has been tested, one should ask by whom and how. A search for a solution to this problem led the VNIIGPE into the blind alley of formalism. A desire to increase the objectivity of the evaluation of the usefulness forced the State Committee to consider only developments that are close to completion, which, in turn, forces the applicants to present them as such."

Is it not true that this is like assigning roles: one side wants to see the invention when it is close to completion, while the other side deals with this in the simplest way -- by saying that that is the case. In games in which inventors from the State Committee for Inventions and Discoveries play there is a good deal that is unexpected for the uninitiated player or one who has never played before. Sometimes the experienced inventor will come to his senses and think about the role into which he has been drawn. Questions immediately arise, for instance: "Why, in order to submit an application in our country, is it necessary to study instructions which include hundreds of points, while in other countries they make do with a 'Summary of Negative and Positive Rules for Submitting Applications' which contains 24 points." The question was addressed not only to the EKO editorial staff, but also to the State Committee for Inventions and Discoveries where, apparently, they were essentially unable to answer it.

Many of those who wrote letters also regard as an incomprehensible game the requirement to indicate the analogs and prototypes in the application when they do not have a complete file of patents at their disposal locally. And also the repeated questions: "Who needs the expected effect, who can give an account of it?" Again we addressed these questions to the State Committee for Inventions and Discoveries.

"Inventions and discoveries cannot be divided into good and bad, large and small, important and unimportant, primary and secondary. All of them must be considered under equal conditions within an established time period. One is surprised that the State Committee for Inventions and Discoveries, in spite of existing legislation, requires that when applications are submitted for proposed inventions, calculations of the economic effect from the invention be included. These cannot be given and substantiated, for instance, in medicine, labor protection and technical safety," notes the inventor N. B. Ostrovskiy from Sverdlovsk. It is not even a matter of the sphere of economic activity where the effect cannot be calculated in rubles. But even in areas where this is possible, one can hardly gratify oneself and those around one with mythical future millions. They subsequently shrink to such a degree that all one can determine is the author's ability to utilize various tricks of the game.

The rules of the game are constantly changing. One of the recent changes was introduction of the so-called assembled prototype. Its essence is that, in order to refuse to issue an author's certificate, it is not necessary for all the features of the proposed device to have existed in some preceding device. It is enough for these features to have been found in various preceding inventions. This innovation was introduced on the spur of the moment, without warning the inventors, in the internal instructions for the experts.

A. Chernov, Honored Inventor of the RSFSR, wrote about this in the journal IZOBRETATEL' I RATSIONALIZATOR (1981, No 5, p 13): "In order to prove that all of the individual features of any invention formula are known, it is not at all necessary to dig into the patent library; an encyclopedia is enough." But for the experts it would be too simple to play it this way. And they compare applications, which are available only to the experts and not to anyone else. In particular, to an application from one of the authors in the survey, 3233088/21/003768 of 6 January 1981 they contrasted the rejected application 2974408 of 15 August 1980, which intersected with the new one on only one point. In terms of the volume of information, the file of rejected applications is known to exceed any encyclopedia. It does not make sense to use it only for making out a rejection to one more application. Even the procedure, when one application is rejected, of making reference to another one that has been rejected is filled with a unique kind of legal indefiniteness. Yet in the generally available instructions, the experts are not given the right to refer to rejected applications, but they use this device all the time."

Rules are rules, but in any game one finds people who are ready to cheat. "The experts are without exception drawn into contrasting applications that have been submitted with utterly absurd materials which have nothing to do with its essence," thinks the inventor K. Seleznev (IZOBRETATEL' I RATSIONALIZATOR, 1977, No 2, p 41).

We must admit that we do not wish to believe such a general reproach, which sounds like a wholesale accusation. But a year after K. Seleznev's opinion was published, the author of these lines submitted an application to register a means of checking printing plates, and after the proper amount of time received notification that a comparable method was in existence -- a Japanese installation for deep-water drilling. Neither the Japanese nor the

international class of inventions coincided. Only the choice of language made sense: a lot of water will flow under the bridge before you figure out the comparison.

If the expert takes more than the amount of time stipulated by law, there can be complaints. They will not cause any special harm, but it is better not to make waves. The more so since every expert must fulfill the norm. At one time it was eight applications a month, but because of the increased labor productivity it has jumped to 14.

Violations of the rules are so open that notifications of them fill thousands of volumes. But there has been no appreciable effect from these notifications. "As one can see from the official bulletins, the majority of applications are not considered within the established time periods because of the lengthy correspondence between the applicants and VNIIGPE experts," we read in one of the letters. There is nothing to add to this. We do not conceal it because we have nothing to fear!

The main purpose of normative provisions concerning inventions is obvious. They should increase the number of large-scale and effective inventions, in the words of our reader and writer from Moscow, M. A. Shimanovich -- "the seed fund of scientific and technical progress." But what kind of germination do we get from these seeds as a result of the "inventor - expert" games?

First about the special purposes of one of the parties who is playing the game.

A fraction, as we know, consists of a numerator and a denominator. The percentage of inventions which are introduced is a particular instance of a fraction. In order for it to become greater, one can increase the numerator, that is, simply increase the effectiveness of introduction. But it is also possible to direct one's efforts differently -- reduce the denominator. The fraction will increase just the same. Making it more complicated to submit applications is one of the ways of reducing the denominator, which from the standpoint of arithmetic is the same as increasing the number of inventions that are introduced. But who needs this kind of accounting?

This rhetorical question was formulated by L. I. Il'in. Unfortunately, we do not know how in reality complicating the submission of applications affects the percentage of introduction. But even if we assume that this influence is positive, then the best and most effective inventions, which, as a rule, are more difficult to introduce, will end up on the list of rejected applications. Many readers unanimously note that the more complicated the procedure for considering applications, the smaller and more trivial the invention becomes. Small improvements can pass through any system of expert evaluation, regardless of how complicated.

In the readers' mail there are many complaints about how complicated it is to fill out applications. It is impossible to say ahead of time whether they are fair or not since we know so little about the state of the problem at the present moment. Thus it is even more necessary to study it using extensive empirical material.

One other opinion was expressed in the letters. If greater demands are placed on filling out the applications, then their content actually decreases. According to data from S. I. Bereslavskiy, an inventor from the city of Odintsovo near Moscow, now two-thirds of the applications are recognized as inventions, while in the 1970's only one-third were, and in the 1960's -- one-fourth. But now only about one-fourth of the inventions are introduced while previously this figure was higher. Some outstanding figures for Novosibirsk Oblast are given by A.A. Chistota: for every 10 inventions that are used, it is necessary to obtain 17 author's certificates and submit 32 applications for the proposed inventions. The actual figures apparently range between the indicated limits.

Every 10 minutes a regular technical innovation is recognized as an invention in our country. The intensiveness of the work is significant, especially if one takes into account that there are more that not recognized as inventions than there are of those that are recognized. This intensiveness should be of greater advantage.

Superimposed on top of the game between the inventor and the expert is the game, which is no less complicated in terms of the procedure and tension, of the inventors among one another.

L. F. Avilov from Zheleznogorsk in Kursk Oblast reminded us of the example of the picture "Morning in a Pine Forest," in which, as we know, the landscape was painted by I. I. Shishkin while the bears were sketched by K. A. Savitskiy. By the agreement of the two artists, Shishkin is given credit for the picture. But if one were to follow the instructions that are in effect for invention work, Savitskiy would automatically be given credit. He would write in the application: "Picture, 'Morning in a Pine Forest,' including a landscape consisting of stumps, growing and felled trees, mainly pines, rocks, grass and bushes, distinguished by the fact that, in order to give it greater harmony and expressiveness, dispersed on it in a particular order are bears, for example, three." According to point 7.23 of the Instructions EZ-2-74, after this Savitskiy would be recognized as the creator of the picture.

L. F. Avilov's joke explains well another area of infringement on the rights of inventors: any improvement, even the slightest one, gives its author the right to the invention as a whole. L. F. Avilov suggested revising author's certificate No 372096. Installations for cleaning dump-cars of frozen dirt with a stream of gas from the nozzle of a discard aircraft engine were already known before he came along. The invention from author's certificate No 372096 introduces a space between the nozzle and the pipeline that sends the stream. Because of this, the authors of the installation itself forfeit the right to remuneration. It is transferred to the person who thought of the space ... One can easily foresee the potential possibilities of regularly stealing from authors of pioneering inventions: think up some trivial change -- and the entire invention is yours.

Under the existing conditions the inventors themselves are concerned about expanding their rights. They are actively addressing various state authorities, offering proof, making demands, and obtaining fair decisions regarding particular questions. Along with this kind of exercise of the rights of any citizen of our country, there are also other ways of increasing the rights of the inventor. Among these the authors of the letters include enlisting as co-authors of the invention people who hold high positions and have scholarly degrees and titles. From conversations with experts who know the rules of the game in detail, one can draw the conclusion that there are standard ways of staffing invention "brigades."

Repeatedly, and sometimes in sharp terms, the writers of the letters to EKO point out an inequality which seems to them to be absurd. An individual who has defended a candidate's or a doctoral dissertation receives the right to a permanent increment to his wages. At the same time the author of any invention, even one which demonstrates the greatest talent, has the right ... Incidentally, nobody speaks more eloquently of this than do the lines of the "Provisions on Discoveries, Inventions and Efficiency Proposals," Point 11: "Remuneration for the utilization of an invention which has brought about a savings is paid to the author for 5 years after the beginning of the utilization of the invention at the enterprise which was the first to use this invention."

Here we are dealing with the game of the inventor and the enterprise which introduces his invention. Most frequently, of course, the inventor regards the distribution of the volumes of introduction among the various years as a fate which does not depend on the will of man. But this distribution significantly affects his income. If, say, during the course of the five stipulated years the item is gradually assimilated in small batches and it is put into mass production in the sixth year, the inventor derives nothing from the greatest part of the effect. And the inventor behaves accordingly.

"For which invention -- ski bindings or a supersonic airliner -- would you give the greater remuneration?" -- one of the readers asks this question. And he answers it himself: "Obviously, if you had a 100-ruble note and a 3-ruble note, without even thinking you would give the former to the inventor of the airplane and the latter to the inventor of the ski bindings. But according to existing instructions concerning the policy for remunerations on inventions and efficiency proposals, you would have to do just the opposite. Why?

"So far they have manufactured only one model of an aircraft that was invented 5 years ago. It is good if the expenditures are recouped within about 5 years after the beginning of series production. But for an invention they can pay only during the first 5 years in which the invention is used, that is, during those years when the aircraft is bringing only outlays. According to existing rules, the inventor receives a remuneration in the amount of 2 percent of the savings. And if there are none at all, the remuneration is calculated according to the 'Instructions for Determining the Amount of the Remuneration of Inventions and Efficiency Proposals Which Do Not Produce a Savings.' The higher the coefficient, the greater the remuneration. For instance, the coefficient of the volume of utilization of the invention with single unit

production is equal to one. And this is the one we must choose for the invention of the aircraft. A coefficient of 8 can be chosen only if the product is mass produced at many enterprises.

"Ski bindings which were invented 5 years ago have probably become widespread. A savings of kopecks on one set, when multiplied by hundreds of millions, will save millions of rubles. The 2-percent remuneration received from the savings of a million will amount to 20,000 rubles.

"The system of payment of remuneration according to the economic effect, which is not related to the inventor's labor, has exhausted itself and should be replaced. After all, is the inventor of an atomic electric power station to blame if the businessmen have not put his brainchild into operation during the first 5 years?"

This is one side of the "inventor-enterprise" game. The other one has to do with the interrelations among the enterprises regarding inventions. An engineer and inventor from Voronezh, Yu. A. Povolotskiy, thinks that "there are many reasons for slow introduction, but the main one is the lack of motivation on the part of the enterprises. It is not advantageous for the enterprise to be the 'first introducer' since this involves a certain risk, additional expenditures of material and labor resources, and restructuring of technology, which threaten to bring many kinds of unpleasantness when the plan is a difficult one. It is better to wait until the neighboring enterprise goes through all the stages of introduction (planning, testing, adjustment) and purchase the technological documentation from it at a reduced price (a ruble per sheet). And if the invention that is introduced does not produce the expected advantage there, the other enterprise will be the loser."

The "devices" for operation described in the letters of the readers not only are not directed toward acceleration of scientific and technical progress, but sometimes serve as an obstacle to the introduction of the latest technical achievements.

#### Supports of Economic Levers

The inventor would be ready to sacrifice part of the author's remuneration if only his work were as stable as that of the scientist and he had the conditions necessary for complete manifestation of his creative abilities.

"If the numerous orders to solve the more complicated problems, including interbranch technical problems, were concentrated in one place, say, in the interbranch invention laboratory, where the region's inventions which have produced the greatest results would be gathered together, it would be possible to invent what is wanted and needed. 'We intend to solve a problem which has attracted our attention' -- such would be the principle for bringing talented people with various specialties together into one brigade. While they would select work to their liking, at the same time they would be filling concrete orders "from the file" of the national economy. And having filled an order, they would again regroup according to their inclinations in order to solve other problems.

Such interbranch territorial invention laboratories could be organized under the aegis of the USSR State Committee for Science and Technology, which is quite familiar with the most important scientific and technical problems in the country, but does not have its own scientific and technical base. In addition to solving purely invention problems, the problem laboratories could then become unique research centers for studying crucial technical problems which have for decades been included in the subject plans of the departments." These are the suggestions of K.K. Chubarova, another voice in the general chorus of those who wish for the GKNT [State Committee for Science and Technology] to have its own scientific research institutes, experimental industrial productions and introduction base.

Other suggestions pertain mainly to increasing the activity of the State Committee for Inventions and Discoveries in utilizing economic levers. An inventor from Gorkiy, Yu.V. Zheltov, presents his position this way: "It is time to revise the provisions concerning co-authorship in invention, whereby only a person who has created declared features of the invention is regarded a co-author. In my opinion, the actual importance and usefulness of the idea of the invention under conditions similar to those of introduction should be revealed and a form of realization suitable for public utilization (which, in the final analysis, is what decides whether it is an invention or not) should be created not by the inventor himself, but by some other person. And he should be recognized as a co-author. He has done work which would have had to be done by the inventor himself. In solving a correctly formulated problem the role of the invention idea can be similar to the role of the mouse who has pulled up a turnip." Yu. V. Zheltov suggests making it incumbent on the enterprises to notify the State Committee for Inventions and Discoveries of their needs for new technical decisions, and it would generalize and publicize these demands in a state publication, and also coordinate the ties between the enterprises and the inventors.

It would be desirable to recognize as co-authors and guarantors of the invention those enterprises which are the first to concretely substantiate that the solution to the problem is an innovation and have provided for its introduction. Before the introduction of an invention which is created from the published list, the labor of the inventor would be paid for in proportion to the time from the date of publication of the list until the date of the arrival of a decision which satisfies the enterprise.

An Honored Inventor of the USSR, V. Ya. Grinshteyn from Odessa, thinks that "it should be mandatory to determine a certain percentage as a bonus to the VNIIGPE expert for contributing to the introduction of the invention, and his name would also be included in the description. There should be a reduction of the proportion of the author's remuneration established by law in the sum of 'author's remuneration plus bonus for contributing to introduction,' correspondingly increasing the proportion of the bonus for contributing to the introduction. It should then also be permitted to pay bonuses to those authors who participate directly in the introduction of their inventions. The limit of the overall sum received by the authors as remunerations and bonuses for assistance could remain at the present level of 20,000 rubles."

One also finds more fully developed proposals in the mail to the editorial staff: "All functions for paying remunerations of authors and bonuses to participants in the introduction should be made the responsibility of the existing 'Administration for Protection of the Rights of Inventors and Centralized Payment of Remunerations,' suggested Yu. A. Povolotskiy, "its functions should be broadened and it should be renamed the 'Administration for Financing Inventions.' Bilateral direct ties of 'administration-enterprises' should preclude the intervention of the ministries. The administration could create a supply of introduced inventions consisting of reports concerning each invention that is introduced. All steps in the introduction of the invention and payment of authors' remunerations and bonuses for assistance in introduction would have to be recorded in the administration.

"An enterprise which has decided to introduce an invention includes it in its plan for new technical equipment and at the same time notifies the administration. It notifies the administration again when the invention is introduced. The latter calculates the economic effect per unit of output during the time from the beginning to the end of the introduction and notifies the enterprise of the amount it must transfer to the account of the given invention which is in the supply of the Administration (say, 15-20 percent of the annual economic effect), leaving a certain sum for itself, in the fund for introduction. The enterprise awards bonuses from the incentive fund to the most active participants in the introduction. Such a policy by design is mandatory for all enterprises that introduce the given invention, regardless of their departmental jurisdiction."

As one can see, the suggestions of the EKO readers are far from being trivial demands to "pay more." In their opinion, it is not a matter of sums, but of methods of calculation and control over the payment of remunerations. They closely coordinate the purely financial aspects with the organizational ones, and incentives for inventive talent with the stimulation of the hard work of introduction.

The need for more intensive and direct stimulation of the work for introduction is emphasized repeatedly in the letters. This idea is disclosed most fully in the letter from E. G. Zolotukhin, the inventor and patent expert from Donetsk: "The factors here are not only legal. According to the existing methods for calculating the economic effectiveness, the invention is compared with the base object which is in operation at a specific enterprise, one which is frequently far from modern. But the author makes improvements in the latest model of technical equipment, the best in the world, which is called the prototype and exists only in patent or scientific literature. According to the methods, the sum of the effect inevitably includes the effect of this prototype and other predecessors on the long and thorny path from the base object to the prototype. Although the improvement that is made to the prototype is insignificant and it is stretching things to call the proposal an invention, the author's remuneration is almost the maximum.

But this is one side of the coin. Who bears the main burden in realizing the invention? The author covers only a small section of the final stretch, beginning with the prototype. And he is not at all bothered by the actual condition of production or the question of whether or not the prototype can be

used. All the burden of the marathon distance, beginning with the actual technical level, is actually on the shoulders of the introducing enterprise, which, in a short period of time, must overcome the backwardness, but at the finish line it must hand the palm of victory over to the author of the invention! Enterprises that handle the introduction are protesting the practice of attributing the entire effect to the inventor alone. The bonus for contributing to the introduction is ridiculously small: the entire fund is calculated only from the first year of the introduction, and in extremely small percentages.

"All this also gives rise to prejudice toward the inventors, a lack of confidence in the indicators of effectiveness and reduced remuneration payments, especially in terms of the 'actual value' (translating inventions from those which 'create' to those which 'do not create' savings). Here the possibilities of 'independence' are unlimited. As a result, the sum of the remuneration is reduced to one-twentieth the original amount. This also explains the tendency toward reducing the savings.

"The entire path of the creation of an invention should be divided into two parts. And the part involving the economic effect, which is not conditioned by the efforts of the inventor and the advantages of the invention, should be excluded from the calculation of the author's remuneration. The economic effect calculated according to existing methods should be reduced by the amount of the expected effect from the prototype (since it has not been introduced), calculated by the same method and with the same volume of introduction. In other words, the effect from replacing the prototype with the invention belongs to the inventor, and the effect carried over from the base object to the prototype belongs to the enterprise that introduces it.

"The difference obtained this way is one-third to one-fifth the previous calculated amount of the effect. The author's remuneration is reduced correspondingly, but not to one-twentieth, as it is when calculating in terms of the actual value. The remainder, as was said, goes for incentives for individuals who have contributed to the introduction. This evaluation of their contribution, with a separation of the part involving the remuneration, undoubtedly promotes the interests of the inventors. Shared participation will serve as a good stimulus for the introducers to assimilate more and more new inventions. And the enterprises themselves will be motivated to calculate and pay the remunerations."

E. G. Zolotukhin suggests that the inventor should share part of the remuneration, arguing: "Although the amount of the author's remuneration for one invention will decrease, the sum of remunerations for all inventions will increase as a result of the increased number of inventions that are introduced and the increased volume of introduction."

The varied problematics of economic incentives for invention and introduction are concentrated around one principal point. Here is how this center of problems is described by A. A. Mzokov from Yessentukov, an inventor and a war veteran who is continuing to work at one of the planning institutes: "The primary reason for all of the invention problems lies in legalized nonpayment for creative invention work. The inventor is like the two-faced Janus: on the

one hand he has had to work or else he would not have received the author's certificate, but on the other it is as though he has not worked: he does not receive a penny for his invention until it has been introduced. If he is fortunate enough to have his invention introduced, he can 'beat out' the remuneration he has coming to him. But if one takes a sober look at this, the inventor is receiving money not for his own labor, but for someone else's, which has been brought about by the the objective need of a particular production."

A. A. Mzokov goes on to remind us that during the first years of Soviet power, the labor of an inventor was not regarded as free of charge. Here is point 3 of the decree of the SNK [Council of People's Commissars] of 31 July 1919: "Inventions which are recognized as useful are declared to be the property of the RSFSR, either with the agreement of the inventor or, if not agreement has been reached, as a compulsory act, for a special remuneration which is not to be taxed" ("Decrees of Soviet Authority," Vol V, Moscow, 1971, p 322). "This is 'wartime communism,' but the inventor is awarded a 'special remuneration which is not subject to taxation.' Now he receives a red piece of paper for his creative labor -- and not a cent," summarizes A. A. Mzokov.

But if we do not hurry and straighten out this problem, there will be no cause for surprise. Immediately after a competent state agency has recognized an invention as useful, payment to the inventor will correspond fully to "wartime communism." Is the given product needed or not? There is no need to put it on the market in order to answer this question; demand for it will be determined centrally. Is the given invention useful? Again the conclusion of the corresponding central agency is sufficient. Such was the solution to the problem that was seen during the time of "wartime communism." The correctness of this viewpoint has been under heated discussion recently. The fate of this category echoes in a unique way the history of the development of the national economy as a whole. The independence of management organizations increased, commercial production was formed -- and evaluation of an invention's usefulness extended somewhat beyond the competence of the central agency. The applicant himself demonstrates the usefulness of the invention, and it is only in the rarest of cases that the expert disagrees with him. This fact has already been noted in previous EKO publications. Evaluation of an invention in terms of the probability that it will be rejected as such is an insignificant part of the range of possible uses of the category of usefulness. In theoretical works "usefulness" and "consumer value" are still being interpreted on a general plane. But here is extensive empirical material from expert evaluations on usefulness of inventions. It awaits the researchers.

V. V. Valov and B. F. Popkov, workers of the Kazakh SSR Minmontazhspetsstroy [Ministry of Installation and Special Construction Work], adhere to the idea that "this is a matter of the dual nature of the effect from the invention: it satisfies the interests of an individual production collective, and at the same time -- those of society as a whole. Every concrete invention is embodied, from the idea to the materialization and utilization, not by society but by the collective. This embodiment is the more successful, the greater the extent to which the effect from the invention is distributed between the collective and society as a whole in proportion to the expenditures of the live labor of the collective and the embodied labor of the state.

"While today the authors of inventions are given incentives in amounts of up to 20,000 rubles (the sum in an of itself is considerable, but quantitatively it is justified by nothing except perhaps by the fear of their 'getting rich'), the authors of its materialization -- designers, technologists, experimenters and so forth -- are given such insignificant incentives that, in our opinion, this is the reason for the lassitude in invention work as a whole." (Let us note in passing: this is one of the rare complaints about the insignificance of the author's remuneration.) "The effect from the invention is so greatly removed from the collective that invention work, having been artificially severed from the interests of the collectives, has not been able to become the main form of change in the technology of public production."

Let this reproach to the inventors not conceal from the reader the main idea of the construction workers from Kazakhstan: "The effectiveness of the invention under the conditions of collectivization of the means of production is the only possible criterion for the invention. And the norm of effectiveness should be the average effectiveness of inventions during the given time segment, say, a year. The only objects which should be recognized as inventions are those whose effectiveness is no less than the accepted (established) norm." The authors of the letter also suggest combining the procedure for recognizing inventions with increments for the quality of the products which are produced subsequently.

The Leningrad patent expert, V. S. Gudkov, suggests creating a unified system of quality control and recognition of inventions. One cannot but agree with him when he says that problems of quality and innovation in socialist production are separate only in terms of origin, and it is time to merge them into one.

In the opinion of an inventor from Ordintsov, S. I. Bereslavskiy, "the recognition of an invention makes sense only if it is embodied in practice, if only in an experimental model, and its public usefulness and expediency of utilization are established."

Three centers of crystallization of opinion regarding this issue are differentiated with respect to the point at which the usefulness is calculated: when the invention is recognized, when the first models of it have been produced, and when they have begun production (and sale) of the new item in a volume that satisfies the society's needs. The inventor Yu. A. Povolotskiy suggested a compromise which could suit proponents of all three points of view -- to transfer this problem into the sphere of extending credit and advances. Until an inventor's idea is embodied in a machine tool or machine, it has no value and produces no advantage for the society. One can speak only of the potential capabilities of the invention and even calculate the economic effect that a particular invention will produce when it is introduced into the national economy. It would be a mistake (and a harmful one for the national economy) to have a system of complete payment for the labor of the inventor before the introduction of the invention. The mutual interests of the inventors and the state are met best by a system of advances, that is, paying the inventor part of his remuneration before the introduction

of the invention (immediately after receipt of the author's certificate) with subsequent subtraction of the sum that has been paid when the invention is introduced.

#### Our Ambassador -- the Inventor

"Increasing the requirements for filling out applications for proposed inventions," notes the patent expert, L. I. Il'in, "contradicts one of the main goals of invention work -- protection of the domestic market." The role of inventors as representatives of our country's economic interests on the world market is not great so far. Many of those who wrote letters note that it could be increased, beginning with something simple: with publicity of the achievements of Soviet inventors on the world markets. O. M. Kiselev, a Leningrad patent expert with a good deal of experience, thinks: "Organizations that sell licenses abroad should be given incentives and recognition. The All-Union Aluminum and Magnesium Institute (Leningrad) has brought a great deal of currency into our country through the sale of its ideas. But is much known about this?"

After propaganda comes a sequence of subsequent steps. The reader V. I. Pankov from Kharkov suggests that, in addition to the Litsenzintorg [Foreign Trade Association for export and import of patents] which is already in operation, we create a joint-stock company which would engage in foreign patenting and the sale of licenses for inventions which are not recognized as such within the country. In his opinion, this will increase the effectiveness of invention activity as a whole and will strengthen our country's priority with respect to those technical innovations which do not yet have legal protection. "It is necessary to wait with the introduction of open prepublication of materials from all applications that come in to the VNIIGPE until the business level of work for exporting domestic inventions and licenses is raised significantly," V. Ya. Grinshteyn, Honored Inventor of the USSR from Odessa, responds to one of the first suggestions expressed on the pages of EKO regarding the reform of the system of recognition of inventions.

With a skillful approach the activity of inventors can bring in foreign trade income, and a good deal of it.

The need to import foreign technical innovations in the form of plants, equipment, licenses for new technological processes and so forth shows that the activity of USSR Inventors does not always produce the desired results. The readers give concrete examples of possibly refraining from acquiring technical innovations from abroad, if the inventor had the opportunity to bring his invention up to the stage of introduction.

It is necessary to purchase licenses only if all the internal means of bridging the gap have been utilized. Since at the present time one cannot truthfully say that licenses are acquired only after an intensive search for similar solutions within the country, it also follows that consistent replacement of foreign technical innovations with ideas of Soviet inventors is a thing of the future. A program for an active patent policy should become one of the scientific and technical programs which provide a priority status for Soviet inventors both within the country and outside it.

In the opinion of the Novosibirsk patent expert, N.P. Layko, "no country is capable of being the first in the world on the entire front of science and technology. Therefore the exchange of technical innovations through the purchase and sale of licenses will continue to develop in the future. The growth rates of trade in licenses exceed growth rates of trade in commodities. And our country will be participating more and more actively in the world trade in licenses." Incidentally, everyone more or less accepts the thesis of "being incapable of being first on the entire front," but there are no strong arguments for this. But no two kinds of trade are alike. Our high general educational potential and widespread technical literacy place our country in a principally new position on the world market of scientific and technical achievements. The time has come in our patent policy to change from defensive tactics to offensive ones.

How can one define an active patent policy? -- Now patent investigations are limited to a search for patents and authors' certificates which keep one from recognizing an innovation as an invention.

With an active patent policy, which is more appropriate for the planned economy of developed socialism, the "bastions" of legal protection are established not by looking back at already existing protective certificates, but by gaining for our country patent rights to the key inventions in the leading branches of science and technology. Let the patent search continue to be the search for the sake of guaranteeing that the proposed invention is an innovation. But in addition to this it is necessary to have planned patent work, which should narrow the possibilities of granting patents for foreign applicants.

In response to this, N. P. Layko said: "Patenting is not simply a test for the future, and it is not done for the sake of protecting priority. There is only one goal: commercial utilization, which means the sale of licenses and the export of machines, equipment and technology, batching deliveries and other kinds of foreign economic agreements. This can be achieved when our technical decision is a level above the foreign one. Then one can be confident that expenditures on patenting will not be in vain.

"An analysis of the creative activity of inventors of certain organizations shows that the number of authors' certificates which are received is growing, while the number of patented inventions is decreasing. What does this tell us? We are protecting less important solutions which are not of commercial value. It is not worthwhile to patent them."

The reasons for the increased popularity of less significant inventions have already been discussed. But there is another side to the problem. Let us demonstrate it with an example. A doctor of physics and mathematics and an expert in the field of weak-current electronics, R. D. Baglay, in 1960 received an author's certificate for a method of strengthening constant and slowly changing intensities. A description of the invention was published in 1961 and several articles were published during the next 4 years. In 1963 he published an author's abstract of his candidate's dissertation, and in 1965 -- a monograph entitled "Strengthening Weak Signals of Random Form." The idea of

the technical decision was in the air, and it had already been patented in Japan: accepted application No 38 - 16565, which was submitted 2 days before R. D. Baglay's was, and was published in 1963.

Despite the requirement of English law concerning patents, in 1967 the English firm Dynamco submitted an application for an identical method of strengthening weak signals, and in 1969 received patent No 1168873. In 1968 a well-known American electronics magazine received an article from Australia, in which it was described without reference to R. D. Baglay's amplifier. This article was printed in August 1970, also without reference to Baglay.

One can read about the fact that this is not the only instance of this in the article by the Leningrad patent expert B.I. Belen'kiy in the collection "Praktika izobretatel'skoy i patentno-litsenzionnoy raboty" [The Practice of Invention and Patent-License Work] (Leningrad, 1974, pp 48-53), from which our example was taken.

It would seem that in such cases all the power of our country's foreign economic institutions should be used to defend the rights of the inventor (remember that they are turned over to the state). They play rough on the world market of scientific and technical innovations.

An ever increasing number of technical innovations, instead of giving a clear description of the invention, are beginning to look like riddles. Concealed behind them is knowledge which the firm can sell for money. This method of selling inventions is becoming more effective each year. To do this it is not always necessary to introduce the invention on a large scale; it is enough to protect it legally. One can consider the failure to disclose the essence of an invention, as happens, for example, in the Minelektrotekhprom, to be a particular instance of this kind of protection.

It is in this stage of introduction that one sees the main time advantage. Each year many pages are devoted to the problem of introduction. When the discussion comes around to inventions it is simply sinful not to mention the difficulties of introduction. But still we shall try.

The creative potential accumulated by Soviet inventors and scientists significantly surpasses, and for a long time will surpass, the possibilities of its introduction. We must recognize that it is a value as such and in an of itself can bring in a good deal of income. To do this, we must sharply increase our work on patents, so that no new patent which appears, say, in the United States or the FRG will be something unexpected for us and so that we shall begin to be able to predict many new technical innovations.

The rights of researchers and inventors are no less valuable than experimental models which are manufactured with great effort. Unfortunately, there are still many cases in which everything ends with the experimental model or the demonstration exhibit. This too was discussed in the letters from our readers. But why not turn a disadvantage into an advantage?

In oral conversations and in correspondence, our readers object more to the active patent policy than they approve of it. Here is one of the typical judgments: "It is impossible to conduct any patent policy which would narrow the possibilities of foreign patent applicants. This would not correspond to the course which our country has taken toward mutually advantageous scientific and technical exchange both with socialist and with capitalist countries."

How can one reply to this? They say that the best defense is a good offense. The best form of exchange is that which is advantageous for one's self. USSR inventors are quite capable of ensuring our country's scientific and technical superiority in many areas. And they will ensure it if we pay attention to their wishes and suggestions.

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## INTRODUCTION TO FOLLOWING ARTICLES ON MANAGEMENT PERSONNEL

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 p 146

[Text] When considering the decisions of the April (1984) Plenum of the CPSU Central Committee, the expanded meeting of the secretariat of the USSR Union of Cinematographers noted that a number of significant works devoted to important problems involved in the social development of socialism have been created in the studios of the country during past years. At the same time it was emphasized that the country's cinematographers should study life more intensively and profoundly in order to create movies that correctly reflect all the complexity of social processes that are taking place in the society.

Possibly the readers will recall the discussion organized by our editorial staff in conjunction with the journal ISKUSSTVO KINO (see EKO No 6, 1982)-- "The Production Manager: Individual and Image." After the discussion we received many responses in which the readers reproached us for the fact that it did not include enough participation from production managers whose "portrait" was being discussed so heatedly by writers and economists.

Today, continuing our discussion of the subject, we are giving the floor mainly to managers of large and small economic subdivisions and to those who are bringing up the future generation of managers.

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## MANAGERIAL DUTIES DESCRIBED AS ARTISTIC

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 147-149

[Article by P. N. Tiflov, director of Pervomaysk plant for machines and instruments for rail transportation (Pervomaysk, Gorkiy Oblast): "The Manager is the Director"]

[Text] The discussion of the personality and the image of the manager cannot be considered ended since the forces of the two sides were unequal: one representative of "live" production against an "entire army" of scientists and dramatists. I should like to defend our hero's right to real art.

The "industrial theme" and the "agricultural theme" -- unfortunately, these terms still break down into something secondary from the standpoint of real art, while we should obviously be speaking only of the merits of each individual work, regardless of its theme.

A film can in no way be justified if the sociologist viewers do not recognize themselves in the sociologist artists on the screen. The readers and viewers react sharply to the slightest imprecision and anything false.

I read Ye. Yevtushenko's novel "Berry Patches" with the greatest satisfaction. I am one of the poet's long-standing fans, but I must say that the image of the director of one of the large Leningrad plants was not successful in the novel. Or it would be more correct to say that it turned out to be a caricature. A director who cannot conduct himself properly among people without prompting from his wife, who does not have authority among his own family, who cannot control his boy, who imagines heaven knows what about himself ... This is a contrived figure and is remote from life.

Such examples are not rare, and they demonstrate, above all, that the personality of the manager is being distorted for some reason. One of the reasons is ordinary ignorance. No, the manager is not the best object of observation, and, moreover, he is very unwilling to reveal himself. But it is necessary to know him well in order to portray him.

Management is a profession; some people have an interest in management and others do not. As in any profession, some people are successful at management work while others are not. Some handle it satisfactorily, others -- well, and still others -- brilliantly.

The role of the manager will probably be even greater in the future society. People are not indifferent to the person who is in charge of them. You do not like the terminology? Well, we can use another term -- the person who conducts them. It would never enter anybody's mind to doubt the need for a conductor in an orchestra. The conductor is the most experienced musician. This is exactly the kind of conducting that is required for any collective activity. Just like the conductor's work in the orchestra, the manager's work in the collective cannot and will not be done all in sequence. Since the entire collective is interested in the success of the overall work, the most experienced person is entrusted with directing it. Therefore the work of the manager is not simply a matter of dispatching.

There are, incidentally, essential peculiarities in the profession of the manager. Apparently left over from the old world, there still prevails a negative idea of the manager who, at best, is a person who stifles the initiative of others. Everybody encounters a poor manager at least once in his life. Such encounters are painful experiences and are remembered for a long time. There are also extremely fresh examples, which one can read about in the newspapers. These are related primarily to subjective factors. The people immediately notice any blunder on the part of the manager because it affects their lives.

Another peculiarity of the management profession is the fact that it is not the first one a person has. A person cannot be "learning" to be a manager, he must become one. And it is not until he has learned the science of management and acquired practical experience that a person becomes a professional manager.

In think that in the future there will generally be no appointments; there will only be elections. In the ordinary work in his specialty the person should have the sum of qualities and sufficient authority so that the collective will select him as its leader. Only after this, in my opinion, should he begin to learn the science of management.

It is here that we find the main watershed between our understanding of the role of the manager and the understanding that prevails in the West. We cannot think only about the results of the operation of the firm, forgetting about its workers, about the fact that we are building communism, and that the means of its achievement should be worthy of the goal. Oblivious of these truths, our literary colleague, Cheshkov, holds a weak position.

At the end of the 1960's, perhaps thanks to V. I. Tereshchenko, a large quantity of material about the science of management, including foreign, was distributed among our managers. It produced an impression and many were drawn to this science. And then on the wave of growth and, it seems to me, as a result of an uncritical attitude toward foreign practice, Cheshkov appeared. I. Dvoretzkiy's play was good, and it helped us to figure out what was what,

although both Cheshkov and his conflicts were contrived and not taken from life. In exactly the same way, in its time the unforgettable "conflict" was contrived between the physicists and the lyricists.

People may ask: but what about "rationalism" and "people without emotions"? It seems that this comes from foreign practice. Western management recommends that people learn to conceal their emotions so as not to let their intentions be known ahead of time, in order not to come up the loser. There is nothing wrong with controlling one's emotions. Within certain limits it is quite useful. But this in no way means that emotions are disappearing from our life. Nor has the concept of "callous people" disappeared yet, those people who are glad to hide behind various fashionable formulas. Thus "rationalism" too, under closer scrutiny, frequently turns out to be very similar either to egoism or to local favoritism. I think that it is art that should teach us to distinguish between true values and false ones.

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11772

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## CRITICS' ATTITUDE TOWARD PLAY CHARACTERS DISCUSSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 149-151

[Article by V. N. Grigor'yev, laboratory chief of the Kiev Scientific Research Institute of Micro-Instruments of the Kristall Production Association: "Return Cheshkov!"]

[Text] Indignant with the critics and movie activists who "ruined" Cheshkov, I was more or less sympathetic when I read the article in LITERATURNAYA GAZETA devoted to an analysis of industrial novels and stories. I read it and I failed to fully understand something in the moral values which were being defended by the critic.

The literary experts were somehow too quick in passing over the business person -- who is intelligent about economics and organization, consistent and systematic, who has not only learned, but also applied everyday social and psychological elements of the science of management.

But this person, so needed now in our economy, is not the person the critic needs. Unfortunately, this lack of acceptance has only become worse with the years. Accusations of "esthetic pragmatism," a utilitarian approach to spiritual categories and moral concepts rained down on Cheshkov's head after the movie (I emphasize -- not after the publication of the scenario, and not after the play was staged by a dozen theaters, but only after the film version) appeared. The critics were convinced: Cheshkov is hard, cruel and so forth, in the final analysis not very moral, and can by no means be a hero worthy of emulation.

And it was somehow painfully difficult to tell the story of the time before Cheshkov was appointed, of the director and of those probably moral people who brought Cheshkov's predecessor to the point of attempting suicide.

As a former shop chief with a destiny that was fairly similar, I shall take the liberty of not agreeing with this interpretation of the image. I remember the play: an immense industrial complex that was operating inefficiently; managers of the shop and plant levels who were corrupted by regularly juggling the figures. Almost everyone who passed before the eyes of the viewers knew about this juggling of figures. And the juggling of figures in and of itself is an immense destructive force. It paralyzes searches for effective decisions and the energy and inventiveness of the people, and it transforms a collective of people who think alike into a band of cohorts. This radically changes production relations and puts an end to mutual demandingness and adherence to principles.

Why did the plant management, in spite of a hierarchy of authorities which had been in place since the war years, decide to hire Cheshkov? Well, because they were keenly aware that in the given situation only a person from the outside, who was free of the oppressive traditions of the shop, could break the vicious circle of irresponsibility, falsification of report documentation and fake bonuses.

Cheshkov found a system, the only one possible under the given conditions, a system which purged people of the filth of lies and inertia. The constituent parts of this system were economic accounting, efficient organization of labor, and the most rigid minute-by-minute schedule. From the outside, the system seemed to critics to be too confining, rigid and directed against the human being. But let us look at it more carefully.

Without individual and general conversations about morality and duty, the system would cut off the criminal past and give people the opportunity to return to honest creative labor and become once again a collective of people who think alike. Naturally, having given the people a clear conscience, it would have required a breaking up of the existing norms and methods of management. Everyone remembers the so-called "rebellion of the commanders." Many reproached Cheshkov for this. But also in on this were the deputy director, Ryabinin, the deputy shop chief, Manararov, the economist Shchegolev, the chief of the technical control division shop, and, finally, the recently punished building chief Kolin, whose shout during the "rebellion" -- "Let this 'scum-ism' be stopped!" -- was so wonderful and filled with multiple meanings ...

Compare this shout of a clean human conscience with the suicide attempt of the shop manager who lived in a condition in which he was constantly deceiving the state!

So were Cheshkov and his methods of working moral? Where is his place in the system of moral values which Soviet art presents to the people? It seems to me that it was this successfully performed mission of Cheshkov's, which made it possible to purge and restore the collective, that determined the unconditional morality of Cheshkov as a modern manager.

If one uses the image of Cheshkov as a point of reckoning, perhaps the "socially punished" manager hero should have a better set of moral qualities; perhaps he should be the all-forgiving mother of his own children. Perhaps... But to me as a production worker it is extremely clear: today we need Cheshkovs who begin with a thorough inventory, a work schedule, production organization and state discipline, who begin with the formation of a collective which should and can work successfully in the system of production relations that have been formed.

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11772

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## ROLE OF COLLECTIVE IN INDUSTRIAL MANAGEMENT DISCUSSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 151-154

[Article by A. P. Feoktistov, senior mine surveyor, Yagodinskiy GOK [Mining and Concentrate Combine] (Magadan Oblast): "The Main Hero -- The Collective"]

[Text] A discussion not so much about the image of the manager as about the requirements modern life places on the manager is extremely important.

In my view, the opinions expressed on the pages of EKO show that deep down in their souls many agree with the fact that the manager cannot "envelop within himself" all questions of life and the development of the collective and production. And on the basis of this they sometimes try to create an image of an "optimal" manager. One has been able to maintain control over more, another -- less, one has been attracted by technical progress, another -- by solutions to social problems.

But in general can an individual personality, even the most multifaceted one, manage without error a collective of members of a society with equal rights (equal to those of the manager)? And can he lead in such a way as to combine the interests of each worker and the collective as a whole, and the interests of a specific enterprise with the needs of the national economy. It is not easy to deal with the demands of an individual personality, but it is even more difficult to develop an active individual who is capable first, without grief, of putting everything he owns into the public coffers, and then taking a reasonable share for himself.

It seems to me that the center of gravity in the creation of the image of the modern Soviet manager should be shifted to his ability to develop collective foundations in production management and in the solutions to social and educational problems. I should like very much to see a manager who considers it a rule to write in the heading of an order: "Implementing a decision of the workers' meeting ..." And in keeping with this, to see how the most pressing problems are resolved in public institutes and at meetings, how step by step in the process of discussion the collective reason approaches an objective and dispassionate decision.

Not to become more and more deeply entwined in the web of current affairs, but transfer the functions of management, one after the other, into the hands of the collective, leaving it with the responsibility -- here is where one sees the talent of the manager today.

No less important is the figure of the manager of the party, trade union and Komsomol organizations. If we set as our goal the creation of the image of a manager who is capable of solving the maximum number of problems by himself, then, in my opinion, we shall inevitably depart from real life and the problems of the day and we shall no longer be able to answer the question: but still how does one advance the economy? And on the basis of the interests of the economic and social development of production and the collective, the need to awaken the activity of each worker and his creative attitude toward the matters entrusted to him, we shall arrive at the conclusion that only the full participation, not in words, but in deeds, of each worker in production management through various social organizations can produce the necessary effect. Such questions as labor discipline, the selection of the reserve cadre, occupational training and increasing labor qualifications can be resolved today only with the active participation of the entire collective.

In my opinion, it is the aura of efficiency which, with an external show of modesty, many top managers create for themselves (not without the help of literature and the movies) that gives rise to the "innocence of the guilty," as A. I. Gel'man said in the discussion. To dispel this aura and show how the executive is able to arrange his own relations with public organizations and, with their help, solve problems -- this is what our art sometimes lacks.

I shall give an example from my own practice, which I do not think is unique. Five years ago I was elected a free representative of the mine's trade union committee. During our first conversation the director of the mine advised me to continue the line of the previous chairman, and he named as his main virtue the ability to obtain yet one more powerful bulldozer. This was at a time when year after year our output per registered machine was decreasing, we were not fulfilling the plans for increasing labor productivity, we had a great deal of unplanned idle time of technical means and equipment, and we were maintaining personnel in excess of the plan. And for the next 3 years while I was working at that job I heard the same thing: "Help scare up some spare parts and equipment; if necessary say that we have to have it, that the plan was increased, that the weather is bad," and so forth.

But when it came to a question of evaluating our own capabilities, of preparing serious evidence that our plans and assignments could not possibly be fulfilled, evidence backed up by calculations, I was given to understand that I was more of a hindrance than a help.

A. I. Gel'man's play, "Bonus," is perhaps one of the few works in which it is possible to see the secretary of the party committee in his place, and at the end of a meeting of the party committee. The secretary, apparently not fully convinced that the viewpoint of Potapov and his brigade was actually correct in the situation that had arisen, takes out like a trump card a newspaper with the lead article which he needed on this occasion. And what if this lead article had come out later? Let us take the film "Facts of A Bygone Day."

The most memorable remark of the party secretary remains: "Sailors have no questions." It is evident that his credo has the same root. In life such secretaries do not command respect. Or the "Official novel" of E. Ryazanov, which was not conceived as productive but in passing accurately showed the work of an institution from the inside and brilliantly represented a trade union activist, whom "they brought forward and could not pull back". This would have been funny ...

It seems to me that authors of works of art on the industrial theme should revise their system of priorities. A collective is primary -- this is not a declaration, but life. Methods of management change, but the collective remains, and its goals are much more long-term and important than the goals of any manager are. But to give the work the necessary showmanship -- this is a job for the author's talent. Here I am not a judge, but simply a spectator.

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11772

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## IMPORTANCE OF MORAL DEVELOPMENT IN MANAGEMENT WORK STRESSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 154-157

[Article by V. M. Nikonov, chief of the programming division, KIVTs [Cluster Information Computing Center] of Glavbryanskpromstroy [Main Administration for Industrial Construction of Bryansk]: "The Task of Art -- Development of Morality"]

[Text] Unfortunately, some managers still think that the main thing in management today is still to achieve the greatest return from the work of their collectives. This idea pervaded the discussion published in EKO in 1982 as well.

I think this task is important, but I cannot regard it as the main one, because then the formation of the collective's goals and work for the future would be secondary. The organization can turn out like the donkey with the carrot in front of his nose ...

When a manager speaks of the goal of his organization, usually no questions arise. But there should be questions.

I recall the play by A.I. Gel'man, "We, the Undersigned." It clearly demonstrates that the activity of any organization has two results: material (the construction of a bakery on time and with the necessary quality) and social (human relations, moral norms and methods of management). Since there are two results, the question arises: which is more important and how are they related to one another? It is frequently suggested that if one chooses human relations, then production ends up in oblivion. But this is a deception.

A. S. Makarenko considered the main result of his labor to be not the production shops of the colony, but the happy colonists. In general, the "Pedagogical Poem" is not only a book for educators. In my opinion, it is the best industrial novel in our literature.

The desire to imitate an invented hero, even if this hero is outstanding in his qualities as an organizer and leader, produces mainly a longing for conformity and authority which would eliminate the need to think independently. Why not imitate Makarenko then? One might reply that the

conditions in the colony were too specific. But if one were to follow this logic, the positive example of the leader of the metallurgical plant would be useless to the director of a machine building plant, not to mention to a kolkhoz chairman or director of a scientific institution.

Management ideas in scientific and artistic literature should have a high degree of generalization. The manager who is really capable of creating an excellent organization will not imitate anybody, although he will use others' ideas and methods very intensively.

In literature and art there continues to be the predictable investigation of the image of the "strong" manager -- the autocrat. It never enters the autocrat's mind to doubt the effectiveness of deeply hierarchical organizational structures, even though they are known to have organic shortcomings such as the inability to solve problems that have never come up before, a lack of flexibility and incompetence. It is always suggested that these aspects of the structure be compensated for by the personal qualities of the manager. The organization does not notice the individual human being, so this means that the manager must be especially human; the organization as a whole is not especially competent, so the manager must be competent; the organization is not flexible enough, so the manager must be flexible, and so forth.

It is hardly possible to combine such clearly expressed personal qualities in one individual. Instead of searching for such rare people, another task would be more realistic: to create an organizational structure which would not place on the manager requirements which are too diverse, unique and largely contradictory. By improving the structure, that is, by reducing the number of negative features that are organically inherent in it, one can arrive at a situation where even a person who does not have especially outstanding organizational capabilities can become a good manager.

The level of requirements placed on a good manager (his personal qualities) is inversely proportional to the degree of perfection of the organizational structure. If we were to return to the literature, I could support my idea by calling for assistance from the main hero of the novel "Battle Along the Way." Externally he is like an autocrat, but he is not one in essence. Bakhirev himself develops the plant's future, he himself finds the causes for the breakdown of the plant's tractors, and he himself makes the decision to modernize the shops. The novel depicts Bakhirev's personal engineering and moral virtues. But the most important thing from which one could learn -- the creation of the collective, methods of solving organizational problems -- is missing from the novel. Consequently, it does not portray a manager who correctly understands his moral duty to the collective.

Among all the areas of spiritual activity which contribute to developing high moral sensibilities in an individual, literature and art hold first place.

Very frequently, when speaking about morality, one considers man's attitude toward man and man's attitude toward society, and one forgets about the main attitude -- man's attitude toward himself. We are speaking about conscience as the foundation of high morals. If it is lacking, the individual

makes greater demands on other people and on the society, and he never seriously analyzes his obligations to people and the society. Sacred slogans and correct requirements, when spouted by a person who has no conscience, are destroyed. The behavior of such people is always amoral, regardless of what they say or what they are discussing.

The strongest weapon that is given to the manager so that he can perform his duties successfully is authority. With it, as with poisons in medicines, one must be extremely careful. Therefore a most important question in the process of improving organization is the question of distribution of authority.

A highly moral manager will always be extremely careful in the way he uses the authority over other people which has been granted to him. I think that a good manager should pass through two stages in his work with a specific organization.

In the first stage he extensively takes advantage of the full range of his authority in order to create a healthy and solid collective with high moral indicators: he purges the collective of trash, promotes the worthy ones, and shares his experience with them.

In the second stage most of his authority should gradually be transferred to the collective, since it can now organize itself and protect itself. Collective authority will not only be wiser, better and more just, but it will also be much stronger than the authority of the manager. I just wish to add that in order for such broad democracy of management to become a reality, it is necessary to teach management not only to the managers, but also to the broad masses. It is necessary to revise the goals and programs of all of our education. Management should even be taught in schools, and there are examples of this.

What problems related to the management of organizations can be solved more successfully by art than by science?

1. Creating models of participants in any processes that take place in society, and doing this in such a way that the models help the society to know itself, and to see all the complexity of man and human relations and how complicated it is to create collectives. On this level of generalization science is not successful, as a rule, and, on the contrary, it frequently oversimplifies the phenomena.

2. Instilling in people a high moral sense and conscience. This can be done more successfully by influencing man's emotions and not just his reason.

3. Only literature has the possibility of regarding the functioning of an organization as a unified living organism, which is not the same as the simple sum of strictly scientific information about it.

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11772

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## IMPORTANCE OF COMMUNICATION WITH COLLECTIVE EMPHASIZED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 157-159

[Article by V. V. Tseber, engineer (Yurmala): "A Particle of the Whole"]

[Text] I have always been revolted by the approach to life which can be called the "Seneca principle," whereby philosophers deliberately remain silent about how they live themselves, but confidently discuss how one should live. Up to this point an ethical system for everyday living has been based on this principle. Perhaps the "Seneca principle" is an objective one and reflects the complexity of dialectical development, but the man at the bottom of the hierarchical ladder is not capable of understanding this. In my opinion, in this "principle" lies the major and the only reason for what in some collectives is defined by the words "everything is fine with us; it is just that business is going badly" ... And the root of the evil here does not lie in the poor preparation of the managers. It is simply necessary to learn to see beyond the society to man! While in no way forgetting about society, its ideals and principles, and our final goal, we should always see the concrete individual before us.

And so I repeat, the "Seneca principle" means obviously poor feedback in the system. I see its improvement primarily in bringing the regulatory agency closer to the object which is being managed and to the conditions in which the system it controls exists. The optimal variant would be when every manager, regardless of his rank, would live within and not outside the object he controls, in its material and moral environment, and in this environment he could plant what is "reasonable, good and eternal" ... I am not figuring out in my head how the manager, ideologist, and source of morality and ethics can demand benefits and privileges for his specific labor or even silently accept them as a token of gratitude.

How else but by a lack of morality can one explain such facts as the discharge of toxic substances into bodies of water, the felling of trees in protected regions, the discarding of uninstalled equipment as scrap metal, and so forth? Of course, it is necessary to figure out each concrete case: perhaps the person wanted to follow instructions as well and as strictly as possible?

That also happens. Then there arises the question of whether or not the instructions are always good. Can the instructions take everything into account? And here is where the manager must appear, that is, a human mind.

I can hear the voice of the opponent: "At any plant one cannot even become a shop chief if one has not gone through probation in public jobs, that is, if one has not dealt with problems of human relations, ethics and morality. And this is correct" (EKO No 6, 1982).

Of course this is correct. But is this really all there is to say?

For any plant has its own current affairs, its own problems. Is the public worker always capable of fully revealing the real opinion of the collective, and does he even always try to do this? Is he ready to place the higher goals of the society and national economic interests above the group and collective interests? And everyone knows that they do not always coincide. I do not think that everything is simple and clear here. There is something for both sociologists and dramatists to work on.

It seems to me that there would be fewer problems if the occupations of the engineer and the second-hand book seller, the miner and the manager, the sportsman and the public activists all had the proper amount of prestige. Where is the Institute of Ethics and the Institute of Man, with the authority of knowledge without the trappings of the bureaucracy, in which there is not the slightest hint of material remuneration or benefits, where there is only one value -- knowledge: knowledge about oneself, about man in general, the family, the school, production and the state -- all to a full and equal degree? People should go to this institute for knowledge and take knowledge there. There the student can surpass the teacher, there people travel only on foot, and not in a company car. People go there only during their free time, and the only people who go there are those for whom human happiness is not an abstract category.

It is the duty of scholars and dramatists to help the manager always to make the correct choice between the happiness of the collective and laurels in life. This is the only kind of hero needed in our art, and to an even greater degree and primarily -- in our life!

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11772

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## SIGNIFICANCE OF DETERMINING RESPONSIBILITY STRESSED

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 159-161

[Article by V. K. Kvartovkin, candidate of economic sciences, Chelyabinsk Polytechnical Institute: "A Theory of Responsibility Needed"]

[Text] Now, since the June (1983) Plenum of the CPSU Central Committee, when recalling the 1982 discussion of the personality of the manager on the pages of EKO, one cannot but see how pressing and important the problems raised at that time are. Lets refresh our memory of the main ones:

- the effect of the manager's moral position on the effectiveness of production;
- the degree and form of the manager's responsibility to the society;
- the limits of the independence of the collective and its manager in decision making;
- stereotypes of behavior and the need to go beyond them in search of optimal economic decisions;
- the danger for the society of positions of blind functionaries who are prepared to follow zealously any instructions "from above" and thus erect a wall of alienation between themselves and their subordinates;
- the manager's orientation toward the human factor

I have named far from all of the problems considered during the course of the discussion, but those listed are sufficient to see how close they are to the ideas and instructions of the June (1983) Plenum of the CPSU Central Committee concerning ideological work.

The interrelations between economic science, on the one hand, and literature and art, on the other, were formulated well in the discussion of the corresponding member of the USSR Academy of Sciences, S. S. Shatalin. "Taking place in the society now," he said, "are not only economic, but also profound

social changes. It is our task to influence the economy, but to shape social views is yours. This is the path along which we must proceed hand in hand."

Not only the materials from the discussions of economists, film makers and movie critics, but also other articles published in EKO show the extremely weak development of the problems which could be joined together under the concept of a "theory of responsibility." The fairness of political formulas -- "responsible to the party, responsible to the state, responsible to the people" -- does not preclude the need to refine their content -- both legal-procedural and moral-social.

The lack of a theory and corresponding practical procedures frequently leads to "innocence of the guilty and guiltiness of the innocent," as this phenomenon was called by the movie maker Aleksandr Gel'man, to an all-embracing, depressing confusion: whom, for what, who, when and how can and should a person be called to answer, and what comes after this.

I think that everyone who is familiar with the section entitled "Responsibility" of the job instructions for management personnel will agree with what has been said. It is strange, but the situation that has been created is acceptable to many workers. And such a position is also a condition for indifference, something which encourages passivity in people.

Cliches in art and "emergency heroism" in literature are nothing compared to cliches in the activity of the managers and the "heroism" of making the plan at any price.

Such a situation is not only possible; it is even provoked by the lack of responsibility for concrete actions and inaction, the sea of responsibilities and the islands of rights.

One must agree with A. Gel'man when he says that "a feeling of guilt in our pragmatic time is simply a catastrophe!" I would just like to interpret guilt on the broad moral plane, and not just as punishment or fear for one's position in the society.

I should like to draw the attention of the artists to one more problem: why has consultation on matters of management not become an established practice? Our own experience convinces us: enterprises are willing to pay large amounts of money for material on economic agreements, they are glad to accept recommendations that are bound in a heavy volume, and they sign the document concerning work that has been performed (and they can also sign a document concerning introduction with an economic effect), but frequently nothing changes.

Having entered into an argument, it is difficult to keep from being too emotional. But our own experience and many years of communication with managers and also with colleagues in scientific work as well as students pushes us toward the idea: there are already too many dispassionate business realists who are sheltered by objectivity and who cover up routine work, cliches and indifference. The immense nervous exertion of the managers does not compensate for this situation: the nerves are spent for nothing.

I am convinced that scientists and executives should respond to the disturbed candor of the artists with equal candor, although it might also be somehow impartial. And to the demands for improving management which are contained in party and state documents they should respond with a search for effective new solutions.

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11772

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## INDUSTRIAL MANAGEMENT IN JAPAN DISCUSSED

[Introduction to article that follows: "Industrial Management in Japan"]

[Text] The creation of the latest industrial and scientific-technical potential and rates of development which are high in comparison to those of other capitalist countries are largely related to the forms, methods and style of management. Despite the reduction of these rates recently, the importance of studying Japanese practice and the interest in it throughout the world are not abating.

The differences in the historically conditioned forms of development and the social systems in the USSR and Japan are too great to select from the daily life of Japanese industry anything that is suitable to be used directly. But Soviet specialists are interested in this country and this interest is being satisfied fairly extensively. Since 1972 the main editorial board for eastern literature has been publishing an annual entitled "Japan" (Moscow, "Nauka"). Serious monographs have been published: V. A. Vlasov, "Yaponskaya promyshlennost: nauchno-tekhnicheskii progress i ego posledstviya" [Japanese Industry: Scientific and Technical Progress and its Consequences], Moscow, 1979; "Yaponiya" [Japan], ed. by Ya. N. Pevzner et al, Moscow, 1981; the reference work "Yaponiya. Ekonomika i vneshneekonomicheskiye svyazi" [Japan. Economy and Foreign Economic Ties] -- BIKI, 1983, appendix No 8 and others.

The EKO editors hope that familiarity with the specific Japanese style of management and the diverse forms of organization of labor and production will be useful to the readers both for understanding foreign practice in the development of industry and for expanding their horizons in their own work.

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11772

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## JAPANESE USE VARIOUS FORMS, METHODS OF MANAGEMENT

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 163-178

[Article by B. Z. Mil'ner, doctor of economic sciences, deputy director of the All-Union Scientific Research Institute of System Research of the USSR Academy of Sciences and State Committee for Science and Technology (Moscow): "A Diversity of Forms and Methods"]

[Text] The dual nature of capitalist management has been manifested especially clearly in the postwar period in Japan. On the one hand the historically conditioned methods of management in combination with the latest state-monopolistic forms of running the economy are being used in the interests of maximizing profit for the ruling class with growing exploitation of the workers. On the other hand, they are developing forms and methods of management which reflect the objective demands and tendencies in the development of large-scale industrial production, accumulating experience in efficient utilization of resources and creating tools for substantiating, adopting and implementing effective decisions in the business sphere.

A fairly well developed mechanism of state-monopolistic regulation of the economy has taken form in the country. In Japan, the growth of the state apparatus and the largest monopolies has gone further than in any other country, fully subordinating state interests to the tasks of extracting profit and making a small group of monopolists rich at the expense of the workers.

The dictatorship of the largest firms -- "dzaybatsu" -- over the state is manifested externally through measures taken by the state apparatus: indicative (recommendatory) planning, inter-business cooperation under the control and with the assistance of the state, and so forth.

Table 1. Growth Rates of Labor Productivity in Japan, 1960 = 100 Percent

| Growth Rates, Percent | 1960 | 1965 | 1970 | 1975 | 1982 |
|-----------------------|------|------|------|------|------|
| Japan                 | 100  | 149  | 280  | 365  | 598  |

## Recommendatory Planning

This kind of state planning in combination with intra-corporate development of planning assignments has passed through three stages of development in Japan. By the 1950's there were planning in large companies, five-year plans and centralized planning services. It was typical of the 1960's to have planning of the general directions at all large enterprises, the transfer of operational planning functions to divisions and production subdivisions, and the utilization of economic and mathematical models and the latest technical equipment for gathering and processing information. The 1970's saw the spread of preventive systems which make it possible to react promptly to changes in the external situation, to observe the realization of the earmarked parameters on the spot, and to foresee changes in various kinds of factors.

In Japan, state programming includes three levels: long-range, the so-called quality programs (15-20 years), medium-range (5 years) and annual budget plan-programs. Despite their recommendatory nature, state programs are a means of conducting a structural policy in the interests of strengthening the capitalist system and concentrating forces and resources in the key spheres of the economy -- technical re-equipment of existing branches and accelerated formation of new ones, the introduction of promising scientific and technical achievements, and the development of the infrastructure. Including measures and means of the economic policy, including budget and financial levers, directly in each medium-range plan contributes to this.

## Inter-Business Cooperation

Special attention should be devoted to the forms and methods of management of economic integration and cooperation (with the development, on the basis of this, of specialization and concentration of production). The forms of cooperation include:

- associations in industry according to the principle of vertical combination, that is, the combination of enterprises that technologically augment one another and encompass all the sequential stages of production and circulation. This increases production specialization and the reliability of deliveries, it eliminates certain intermediate operations, and it reduces transportation and warehouse expenditures;

- temporary associations which, on the basis of economic agreements, include both large corporations and small, narrowly specialized enterprises. The discipline in them is strict, and the consumers have an active influence on the suppliers (for instance they can include in the agreements requirements for reducing production outlays by 5-10 percent);

- multilevel contracts which provide for close cooperation between large corporations and small and medium-sized enterprises;

- functional interbranch coordination not only with the higher, but also with the middle and lower levels through various councils and committees;

- joint utilization of information systems.

Table 2. Level of Labor Productivity in Japanese Industry  
(in terms of added value), United States = 100 Percent

|                                                         |      |     |
|---------------------------------------------------------|------|-----|
| Processing Industry<br>(excluding Military and Tobacco) | 1967 | 39  |
|                                                         | 1973 | 69  |
|                                                         | 1979 | 83  |
| Ferrous Metallurgy                                      | 1967 | 62  |
|                                                         | 1973 | 130 |
|                                                         | 1979 | 208 |
| Nonferrous Metallurgy                                   | 1967 | 42  |
|                                                         | 1973 | 66  |
|                                                         | 1979 | 82  |
| Metal Processing Industry                               | 1967 | 36  |
|                                                         | 1973 | 67  |
|                                                         | 1979 | 86  |
| General Machine Building                                | 1967 | 42  |
|                                                         | 1973 | 63  |
|                                                         | 1979 | 111 |
| Electrotechnical Machine Building                       | 1967 | 44  |
|                                                         | 1973 | 82  |
|                                                         | 1979 | 119 |
| Transportation Machine Building                         | 1967 | 42  |
|                                                         | 1973 | 85  |
|                                                         | 1979 | 124 |
| Precision Machine Building                              | 1967 | 26  |
|                                                         | 1973 | 55  |
|                                                         | 1979 | 134 |

Both on the statewide scale and in individual branches, target-program methods are used, primarily large-scale scientific and technical target programs, which join together the forces of many organizations and concentrate material resources and scientific potential. Because of the immense capital investments, the long-term nature of these programs, and the integration of many specialized areas of knowledge, productions and kinds of activity, one company or institute is not capable of solving a large-scale scientific and technical problem. Therefore all kinds of forms for their joint activity on a cooperative basis have appeared. This tendency clearly reflects the processes of further concentration of capital and the creation of various super-associations of monopolists which are advantageous for providing for immense profits.

On the eve of the 1970-1980's, for example, in order to create super-large integrated circuits and assimilate them into production, a special institute was created which was financed by the Japanese government and the companies Fujitsu, Mitsubishi Denki, Nippon Denki and Toshiba. This kind of joint target work had already been done with the creation of computer programs, new methods of refining oil, basic technology for the production of optico-electronic integrated circuits, biotechnologies, new materials, and so forth.

Japanese specialists think that it is precisely because of the goal-directed unification of the forces of the firms that the country caught up with the United States in technical equipment and the technology for creating computers, and is now trying to bridge the gap in software. Japan was able to win leading positions in the world in a number of areas of development of large computers while retaining her previous technical superiority in small computers. This enabled her to occupy a dominant position on the electronic computer market.

The Japanese do not try to conceal their satisfaction with the fact that Washington has had to turn to them for technical assistance in the development of improved electronic military equipment, and IBM and other American companies have suggested an exchange of licenses.

The production of computers and equipment intended for these purposes increased more than 3-fold from 1973 through 1980, and reached almost 1,300 billion yen (about 5.5 billion dollars). Recently the Japanese have been trying to achieve superiority in the creation of absolutely new "thinking" computers as well. The plan for the development of the new generation of computers was presented in 1981. According to it, computers of the fifth generation will be able to make intelligent decisions in many situations, taking advantage of the special, extremely large storehouses of knowledge. As distinct from existing machines, they will be able to process non-digital information (photographs, graphics) and understand speech. It is predicted that by 1990 they will be able to "remember" 20,000 rules and 100,000 facts from real life. This will make it possible to present information in accessible and nonprofessional form.

Machines of the fifth generation will "learn" to translate texts from one language into another (the computer's vocabulary will exceed 10,000 words), to print from voice and ... to play the national Japanese game as well as highly skilled players do (current computers cannot even compete with players of the lowest class). The area of application of fifth-generation machines is broad: from factories to offices to the household. The first model of such computers, according to the Japanese plan, will appear by 1990.

They are now developing an automated system for accumulating and utilizing knowledge which will be able to give advice, "communicate" with people with the help of a voice and sketches, translate texts, and so forth. Such systems, in the opinion of the eminent Japanese science manager of the Institute of System Research, Sawaragi, are extremely promising both for medicine, where they will automate diagnosis, and for management, bookkeeping, economic calculations, the search for bugs in technical systems, and so forth.

They will apparently play an essential role in the transfer of knowledge from one generation to another. And we are speaking not only about knowledge that is contained in printed sources, but also about that which is stored in human memory.

### State-Monopolistic Regulation

In solving large-scale problems, a great deal of significance is attached to methods of state-monopolistic regulation: a change in the discount rate of the Japanese bank, direct distribution of credit, operations with securities, subsidies and stipends from the state budget, tax and amortization benefits, cartels for limiting production, and also predictions, recommendations, control figures and information for private business and means for implementing the foreign trade and social policy. An appreciable role in solving these problems is played by special state institutions. Along with long-range and medium-range planning, the state also engages in regional planning, anticyclical regulation, the foreign economic, investment, structural, agrarian and scientific-technical policies, and also the policy for dealing with small business.

The bank system occupies an important place in the state economic policy. It can be imagined in the form of a pyramid with the Japanese bank at the peak; below it -- 13 large commercial banks; and at the base -- local banks. Instead of using the discount rate as a market regulator, they have direct state-monopolistic distribution of credit. Specialized state credit institutions finance programs and objects in keeping with the goals of the state structural policy: making the monopolies richer, creating conditions for competing on the world market which are better than those of the United States and West European countries, and dominating poorly developed countries.

What are the specific features in the construction of the state apparatus in Japan that is related to this system of regulation? The number of administrative and management personnel is severely limited (annual increase of about 0.5 percent). They make extensive use of mandatory movement of personnel "according to seniority." They apply a detailed gradation of the job structure and a flexible, periodically changing organization chart. In addition to the line and functional structure, they form permanent committees and councils which coordinate the activity of the management staff. A system for increasing qualifications and evaluating management personnel is used actively.

### Production Management

The Japanese system of management of production itself is evoking increased interest in many countries. In order to understand the characteristics of the forms of activity that have become established here, it is necessary to turn not only to the general principles of administration and the patterns in the development of large-scale production and scientific and technical progress, but also to the historico-cultural and ethnic sources.

It is generally thought that the Japanese place group values above individual ones, that they strive for self-improvement, that they have a developed sense of duty and respect for their elders, and that they work with a maximum exertion of effort and capabilities. Specialists think that it is precisely these characteristics that lie at the basis of Japanese paternalism, the system of "lifetime employment," collective decision making and so forth. The capitalists try to take advantage of these characteristics of the workers when introducing new and more refined forms of exploitation of the workers.

Among the purely specific principles which are based on historical, social and ethnographic factors in the country's development, the Japanese economist S. Tsutsumi includes the following: "everyone must work," "the worker must observe the unwritten rules of the firm," "Japanese cannot but belong to some group or organization,"<sup>1</sup>, and also the dual position of the manager -- he must combine high professionalism and the ability to gain favor with people. Of course this grouping should not be considered to be exhaustive. Later we shall try to expand it.

The following levels are distinguished in the organizational structure of a Japanese firm:

- the high strategic level -- the chairman and members of the board of directors, the president, the vice president and the managers of the staff services;

- the middle executive level -- division managers, directors of enterprises, division chiefs;

- the operational level -- group leaders, section chiefs, foremen and brigade leaders.

The basic organizational and operational unit in large companies, as a rule, is the sector. Several sectors are combined into a division. Despite the fact that the majority in Japanese firms have the same names as in other industrially developed countries, in terms of their concrete functions they differ essentially, especially divisions for general problems and personnel divisions. Divisions for general problems, which are considered to be the key ones in Japanese corporations, have no analogs, for example, in West European companies. They maintain ties among the subdivisions of the firm and with the clients, they keep documentation, they respond to incoming correspondence, they provide for the operation of telephone switch boards and so forth. Divisions for personnel problems are more numerous and have a considerably larger share of the work than they do in companies of Western Europe. They make practically all decisions regarding hiring, advancement and production training of personnel.

Since it is thought that personnel of all management levels are capable of skillfully performing the functions assigned to them, the companies actually refrain from using additional control mechanisms. As a result, additional management levels have been eliminated (especially middle ones). For instance, in a Japanese automotive company the foreman is directly under the jurisdiction of the manager of the enterprise, while in an American company

there are three additional levels of middle management between them. For example, in the American Ford firm there are 11 levels between the primary work station and the board of directors, while in the Japanese Toyota company there are only six. This is one of the reasons why automobiles manufactured in Japan and delivered to the United States cost 1,500 dollars less than the similar American models do.

The "ringi system" is widespread in enterprises and institutions of Japan. The essence of this is that the draft of a solution to a particular problem is presented to all workers who are involved in it in one way or another. The draft is presented in a special document in which all participants in the discussion state their agreement or disagreement and present remarks, corrections or additions. This document is sent from one level of management to another until it reaches the manager who makes the final decision, taking the remarks into account. The entire procedure is based on the idea that enlisting in the preparation of the decision the largest possible number of people who are involved in the given problem and who have the necessary information makes it possible to make better substantiated decisions and to implement them efficiently. In parallel, the corresponding workers are informed about the problems that arise and the means of solving them under the given circumstances.

One should not be deceived: consultations with workers and their participation in streamlining production change the form of exploitation without undermining its basis. It creates the illusion of collective creativity in decision making since it takes advantage of a fairly rigid, strictly hierarchical management structure which is thought out down to the last detail. In it the unconditional power of the manager is adorned with various forms of participation and an artificially formed social climate of "group actions." But the fundamental, radical contradictions between labor and capital remain.

The state and intrafirm programs and mechanisms which have been specially created during the past 20 years have essentially improved the quality and the ability of Japanese products to compete. At the basis of the quality control system lie strict state standards, a well-developed metrological service, a system of product certification with the awarding of an emblem of quality, a developed mechanism of export control, state programs for training in modern methods of quality control and management, and "quality circles."

The problem of improving the quality of goods is considered in Japan to be one of the most important nationwide tasks. An essential role here has been played by the state system of standards for industrial products which is the same for the entire country. The state committee for industrial standards was instituted in 1949. It is a coordination center which develops and revises standards. At the same time a system was created for certifying items and awarding the emblem of quality. State programs for training in modern methods of quality control have been actively in operation since the 1950's. About 300,000 people were trained from 1949 through 1981.

This does not mean, of course, that the state apparatus of Japan opposes entrepreneurs and protects the interests of the consumers. The system of quality control, which has been developed on the scale of the entire country, serves as an additional means of withdrawing super-profits, which are then redistributed among the Japanese capitalists.

From the standpoint of the capitalist and the manager, it is therefore important to keep the competitiveness of Japanese items on a high level. Since 1948, the quality of some of the export items has been controlled in Japan (in the 1970's -- more than 40 percent). Violations of legislative acts can lead to fines and legal prosecution.

In the United States and countries of Western Europe quality control reveals defective parts and items, as a rule, in the final stages of production. But Japanese companies are extensively introducing "universal quality control," subjecting all stages to the task of producing high-quality products: from design to the shipment of the prepared products to the consumer.

Table 3. Level of Officially Registered Unemployment in Developed Capitalist Countries, in Percent

| Level of Unemployment | 1965 | 1970 | 1975 | 1982 |
|-----------------------|------|------|------|------|
| Great Britain         | 1.5  | 2.6  | 3.9  | 12.0 |
| United States         | 4.5  | 4.9  | 8.5  | 9.5  |
| FRG [West Germany]    | 0.7  | 0.7  | 4.7  | 7.5  |
| Japan                 | 1.2  | 1.2  | 1.9  | 2.3  |

Japanese quality control systems include an evaluation of the similar items that are on the market, long-term prediction of the quality indicators for a particular product, planning of its quality level, the development of standards, planning quality when designing and developing technology, quality control of the initial raw and processed materials, operation-by-operation control, quality control during operation, analysis of the responses and complaints from consumers, and warranty service. Here special attention is devoted to enlisting all personnel of the firm -- from the highest managers to production workers -- in improving product quality through various, committees, councils and "quality circles." The totality of these elements of the quality control system makes it possible to achieve good results in many cases. It is known that the average percentage of rejects of Japanese products is approximately one-tenth of that in the majority of Western European countries.

Japanese managers and management specialists assure us that the theoretical concepts of management of enterprises are based on a certain ratio between "humanism" and "authoritarianism" and arranged after the image of the ideal Confucian family, according to the five following principles: children's respect for their parents, fidelity, obedience, kindness and devotion to the master. They assert that when the Japanese borrowed Confucianism from China, they changed the order of these principles, putting devotion to the master in first place, so that it would fit well into the authoritarian system that was already in existence in Japan. Constant suppression of one's opinions and feelings along with automatic subordination to the master are publicized as indispensable natural qualities of the Japanese.

But the aggravation of the employment problem and the growth of unemployment are increasing the desire of the Japanese workers to win a stable place in production and to reduce as much as possible the risk of being left without work. "The companies have tried to increase their spirit of competition and reach a point where all workers understand the need to reduce production outlays. The workers are discovering that they are competing not only with their rivals in other companies, but also with their own comrades at work," as was written in October 1982 in the newspaper JAPAN TIMES. The way they use part-time workers, for example, is extremely indicative: they receive only one-third of the earnings of someone who works a full day, although in reality they work only about 2 hours less (6 hours instead of 8). In 1980 there were 2.6 million women employed in temporary work, and their numbers are increasing.

The traditional "spring offensives" which have been held regularly since the middle of the 1950's have become an effective means by which the Japanese workers can fight to improve their material position and their vital rights. During the course of these offensives, along with demands for higher wages, a great deal of attention is devoted to questions of social security, easing the tax burden, and also restoring to workers in state enterprises and institutions the right to strike, and so forth. Just according to official data, during 1974-1980 there were 46,700 labor conflicts registered in Japan, and 16,800 large strikes lasting more than 12 hours were held, in which more than 10.1 million people participated.

#### Foreign Specialists on the Japanese System of Management

The American commentator, Boyd De Mont, thinks that in a Japanese company special significance is attached not to the work or even to the results of it, but to the interrelations among workers in the primary production group. The manager is obliged not so much to guide the activity of his subordinates as to establish a friendly climate and mutual understanding and to maintain harmonious mutual relations in the group. The Japanese themselves think that it is necessary for the manager to know how to regulate human relations in his subdivision and not necessarily to be an expert in those operations which his subdivision or company performs. In Japan the ideal manager should be "somewhat incompetent" from the professional standpoint and very competent in questions of easing friction among workers, and he should also have one other quality -- he must be willing to share the responsibility for the mistakes or

failures of his subordinates.<sup>2</sup> In our opinion, here correct observations are mixed in with deliberate exaggeration and a clear under-estimation of socio-psychological and management factors.

The French scientist, J. Horovitz, singles out those elements of the management of Japanese enterprises which can be transferred to French soil: the plan as a means of management; a flexible management structure which contributes to innovations; less analysis and more decisions and anticipated events; reliance on the qualitative and not the quantitative aspect of the matter; active participation of higher management in the affairs of the firm; and increased responsibility on the part of those who accept the plans.<sup>3</sup>

The dean of the department of industrial organization of the University of Oregon, J. L. Riggs, and a professor of Hawaii State University, K. K. Seo, when responding to the question of what can be borrowed from Japanese experience, recall the close ties between industry and government, the group forms of decision making, and the effective ties among the performers of the work, which make it possible to remove the harsh restrictions on labor activity and take a more creative approach to solving production problems.<sup>4</sup>

R. T. Pascale and A. J. Athos think that the Japanese use management devices, methods and levers which are on a level which American managers have not reached yet. "The Japanese have successfully borrowed all that is best from us and still have not become the least bit Americanized. Nor will we be threatened if we borrow some things from them. We are obliged to take the best from the Japanese management style and adapt it in such a way as to enrich our own management traditions. It will be necessary to cast doubt upon certain Western 'truths' and revise our views of our own past experience."<sup>5</sup>

Eminent Western specialists are speaking out against excessive exaggeration of the merits of the Japanese management system, and are objecting to the idea that it is "harmonious" and ensures high effectiveness in all cases. For example, the well-known American scientist, P. Drucker, emphasizes that in daily life the Japanese "come up against tension, pressure, conflicts and the fierce struggle which is being waged among the ministries, parties, corporations and universities ... Labor relations in industry are far from harmonious, especially in the state sector where the trade unions hold a strong position."<sup>6</sup> But today there is no doubt among representatives of many large companies of the United States and Western Europe about the need to take advantage of a number of rational elements in the Japanese system of management. Moreover, many leading American and West European firms in recent years have been actively trying to introduce into economic practice those elements of this system which reflect the requirements of modern machine production and can operate independently of the unique socio-cultural conditions that are typical of Japan.

The capitalist system has diverse ways of placing in the service of its goals the immense potential of new technical equipment and technology, the achievements of fundamental and applied research, and efficient organization of labor, production and management. The monopolies try to recruit for their

goals the man's mental and physical capabilities, his creative capabilities and moral foundations, his character and personal inclinations, which always have been and will be the main sources of progress.

The bourgeoisie turn to various methods in order to utilize this inexhaustible reserve for further development -- from economic incentives to psychological influence, from the threat of firing to a life of servitude. If it is advantageous, they tread upon age-old traditions, socio-cultural peculiarities, the specific features of esthetic development, the traits of the national character and the postulates of religious faith. Capitalism of the 1980's is bursting into the family, the innermost thoughts and the personal right of those whom it is mercilessly exploiting. Here it is looking for new reserves for increasing the additional output and further maximization of profit. The Japanese methods of management, despite their apparent desire to enlist workers in management and create a specific social microclimate, have not changed the basis of the capitalist system of management, in whose interior the objective antagonistic contradictions are inherent.

#### FOOTNOTES

1. Tsutsumi, S., "Puti peremen" [Paths of Change], Moscow, "Progress", 1982, pp 70-71.
2. De Mont, B., "The Japanese Way of Doing Business," N. Y., Prentice-Hall, 1982, pp 79-80.
3. Horovits, J. "Systemes de planification et de decision," REV. FRANC. DE GESTION, Paris, 1980, No 27/28, pp 41-48.
4. Riggs, J. L., Seo, K. K., "Personnel factor of Japanese Productivity," INDUSTRIAL ENGINEERING, N. Y., 1979, Vol 11, W. 4, p 35.
5. Drucker, P., "Behind Japan's Success," HARVARD BUSINESS REVIEW, Boston, 1981, Vol 59, No 1, p 83.

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## QUESTIONS FOR QUIZ ON SCIENTIFIC, TECHNICAL PROGRESS

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 179-180

[Quiz: "Measures for Accelerating Scientific and Technical Progress"]

[Text] An important landmark on the path to fuller utilization of the achievements of the scientific and technical revolution was the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Measures for Accelerating Scientific and Technical Progress in the National Economy," of 18 August 1983. Our questions and answers have been formulated from the materials of this decree.

### Questions

1. For more flexible and efficient satisfaction of the current and future demands of the national economy, it has been recognized as expedient to create special subdivisions within the associations and enterprises. What kinds of subdivisions are these?
2. A number of branches under Union jurisdiction and also the councils of ministers of three Union republics have been permitted to change individual scientific production associations over to planning of activity in terms of the section of the state plan entitled "Science and Scientific Support." Who is permitted to do this?
3. In certain large associations, enterprises and organizations it has been recognized as expedient to introduce a new position for ensuring that the technical level of the main kinds of products rises. What kind of position is this?
4. It is necessary to expand the application of target-program planning for the development of science and technology. What scientific and technical programs will be developed beginning with the 12th Five-Year Plan?
5. One of the main areas for the work for accelerating scientific and technical progress is improvement of technological processes. On what basis should this be done?

6. A necessary condition for the beginning of the development of machines, equipment and instruments which have national economic priority is the existence of a document which is approved by the developer and consumer. What is this document?

7. Beginning in 1986 in the state five-year and annual plans, assignments for the creation and assimilation of the production of new and the modernization of existing kinds of machines, equipment and instruments, and also assignments for the removal of outdated machine building products from production will be determined according to differentiated normatives. Who establishes these normatives?

8. Beginning in 1984, industrial products will be certified in two quality categories -- high and first. What happens to products that are not certified in one of these categories?

9. The fulfillment of plans and assignments for the development of science and technology is included among the most important indicators with which one mainly evaluates the results of the economic activity of associations (enterprises) and sums up the results of socialist competition. What is done when they are not fulfilled?

10. The USSR State Committee for Prices is granted the right to establish incentive increments to wholesale prices for highly effective new products and rebates from wholesale prices for industrial products that are subject to removal from production. What are the amounts of these?

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11772

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#### GERMAN BOOK ON SCIENTIFIC, TECHNICAL PROGRESS REVIEWED

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[Review by S. V. Pirogov, doctor of economic sciences, Academy of Social Sciences under the CPSU Central Committee (Moscow) of the book "Ekonomika promyshlennykh issledovaniy i razrabotok" [Economics of Industrial Research and Development], translated from German, ed. by (V. Hayde), Moscow, Progress, 1983]

[Text] Transforming the advantages of planned development of science into an economic reality is a long and complicated process. It requires reinforcement and development of the entire totality of the production relations of socialism, and above all organizational and economic ones. The socialist countries are conducting active research in this area. They are utilizing various forms and methods of planned management of science. The experience that has been accumulated should become common property and the best application should be found for it under the specific conditions of each country.

The book under review has systematized the interesting experience of the German Democratic Republic, which occupies one of the leading positions among socialist countries in terms of the rates and scale of utilization of the scientific potential for practical needs. The example of one GDR chemical combine, which just during 1982 received 150 patents and introduced half of them in its own production, is typical. Behind all this stands mainly efficient organization of research and development in industry and the application of effective forms and methods of practical utilization of their results.

The book is unusual in its form and style of presentation. It is difficult to assign it to a simple genre. In the annotation it is called a reference book. But its content can hardly be reduced to simply a selection of information. It is a work with a unified design, strict logic of presentation and integrity of the scientific framework.

With the consistency and completeness of technological charts, stage by stage, it presents all the management operations and organizational measures in the cycle "research - production" in combines. In the GDR the enterprises that

are included in industrial ministries are joined into 133 combines which account for 90 percent of all the industrial output. As a rule, a combine includes more than 10 enterprises and 20,000-50,000 people work in it. About 90 percent of the scientific and technical potential of industry (or more than 60 percent of the country's scientific and technical potential) is concentrated in combines. All branch scientific research institutes and planning-design and testing organizations are directly under their jurisdiction. Powerful scientific, scientific-technical and technological centers and special planning and introduction subdivisions have been created at many large combines. If one takes into account also the fact that the combines conduct on a fairly high level fundamental research that is specific of individual branches and have well-arranged ties for cooperation with academic institutes, universities and VUZes, it becomes clear that the object under consideration in the book that is being reviewed is essentially the processes of integration of science and production. Its main content consists in a description of the forms of organization and methods of management that make it possible to utilize more fully and effectively the possibilities of science and technology for the needs of economic and social development.

In the preface to the book it says that it is intended for those who are actively searching for the new, are studying the findings and discoveries of innovators and will not put up with the customary, already outdated views and work methods. To this it should be added that such a reader will be interested both in the general principles and peculiarities of the system of management of scientific and technical progress and in the particular forms and methods from which the former are shaped.

Since the beginning of the 1980's, the GDR has had a system of planning scientific and technical progress at the level of the national economy as a whole and the level of the combines. The GDR Gosplan in conjunction with the Ministry of Science and Technology is developing a national economic concept of intensification which also includes the concept of the development of science and technology. The majority of state assignments are fulfilled at the level of the combines. The state plan for socialist streamlining is called upon to contribute to extensive application in the national economy of the achievements of science and technology, and therefore it includes assignments for the introduction of new technical equipment. Planning at all levels is based on economic requirements which are conditioned by concrete national economic needs. The demand, substantiated by national economic needs, is a compulsory (qualitative and quantitative) planning indicator. Scientific research and development are oriented toward a systematic study of the dynamics of the need and demand.

When planning scientific and technical progress, it is mandatory to conduct a developed and detailed economic analysis of the parameters of the items, technologies, preparation for production and the activity of individual workers, collectives and managers, and also to determine the contribution of research and development to the increased effectiveness of the work of the enterprise and the satisfaction of the needs, which are evaluated in terms of the results of the work of the enterprise.

The main form of planning scientific and technical progress in combines of the GDR is the five-year plan. Science and technology are given assignments for increasing the production of products, reducing expenditures of working time and economizing on work positions, raw materials and processed materials, reducing outlays and increasing profit. The basis for planning the consolidated economic effect is the savings on resources obtained as a result of scientific and technical measures. When defending the draft of the plan before the higher organizations, the enterprises and combines are obligated to prove that the economic assignments are feasible.

One of the principal characteristics in the system of management is manifested in the organization of the integration of science and production. The essence of it is that the scientific and technical potential of industry is concentrated in the combines and is brought as close as possible to the concrete needs of production. Since practically all the main phases of reproduction are concentrated in them (from research and development to the sale of the final product, both within the country and abroad), the forces and means are not dispersed, departmental barriers are removed, and there is unified responsibility for scientific and technical policy in the branches and industries.

In the GDR, the prevalent point of view is that any combine (or enterprise) should be a scientific production complex under modern conditions. Therefore it is inexpedient to form special scientific production associations as distinct from production-economic associations. This position is embodied in practice. For instance, a micro-electronics combine (52,000 employees, 18 production associations) has its own planning enterprise and large centers (for research, technology and introducing micro-electronics into production) which are of the nature of enterprises. The electric power equipment combine (28,000 workers) includes a scientific research institute for high-voltage electrical equipment, a planning enterprise for producing means of streamlining the work of the combine and an installation enterprise which serves the consumers. The machine tool building combine (26,000 employees) includes a research center for machine tool building and a large planning enterprise which, in addition to planning, engages in delivery and installation of sets of equipment, service and training of skilled personnel.

The reader will find that the book discusses interesting innovations in the area of incentives for labor collectives, individual creators of innovations, and incentives for inventors and efficiency experts. Perhaps the main feature of the incentives consists in that the combines have the opportunity not only to create their own strong and stably developing financial base, but also to acquire great independence in maneuvering resources. The general director of the enterprise has great authority in the formation, utilization and distribution of capital investments among the enterprises. He has at this disposal a special purpose fund for encouraging the best workers for outstanding achievements. Innovation work is conducted under agreements between the administration and creative groups. The incentives for inventors and efficiency experts are fairly significant. Thus when a license is sold abroad, up to 30 percent of its value is deducted as an incentive for the authors. Maximum limits have been established for the payment of a bonus to an individual worker: when achievements are realized within the country -- two

months' salary (but not more than 2,000 marks) and when a license is sold abroad -- three months' salary (but not more than 3,000 marks). When a patent is received for an invention, the overall sum of the payments can reach 200,000 marks. If the invention is especially significant for the national economy, the amount of the remuneration is increased 3-fold, regardless of the maximum amounts.

For a more clear-cut evaluation of the activity of the worker who is participating in scientific and technical progress and effective control over it, an official document has been introduced in the combines -- the "Notebook of Commitments." Noted in it are the assignments and deadlines for performing the corresponding work, the normatives of effectiveness and the parameters of the quality of new items, the parties responsible, the sources of financing and the amounts of material incentives for successful completion of the established assignments.

The book is also useful because it describes various methods of economic analysis, development of normatives and determination of expenditures of resources. A separate chapter is devoted to methods of evaluating the effectiveness of scientific and technical work.

Of course, not everything in the monograph is of equal value, and it has omissions and debatable judgments. But it is hardly necessary to focus on these now, since the purpose of the work is not to develop theoretical tenets or to refine methodological approaches, but rather to be an aid in practical matters for workers who are implementing and organizing technical progress in industry. And it will be of great service in this capacity.

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11772

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## ANSWERS TO QUESTIONS ON SCIENTIFIC, TECHNICAL PROGRESS

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 p 186

[Answers to questions on quiz: "Measures for Accelerating Scientific and Technical Progress"]

[Text] Answers

1. It has been recognized as expedient to use more extensively temporary scientific production groups which are intended for solving specific scientific and economic problems, including problems of an interbranch nature.
2. This kind of transfer is permitted for the USSR Minelektrotekhprom [Ministry of Electrical Equipment Industry], Minpribor [Ministry of Instrument Making, Automatic Equipment, and Control Systems], and Mintyazhmash [Ministry of Heavy and Transport Machine Building] and the UkSSR, BSSR and LaSSR councils of ministers.
3. They are introducing the position of general designer for the main kinds and systems of machines, equipment and instruments.
4. Beginning with the 12th Five-Year Plan, unionwide and republic (inter-republic) scientific and technical programs will be developed, and also scientific and technical programs for the regions and territorial production complexes, whose main assignments should be included in five-year and annual plans.
5. The improvement should take place on the basis of the use of automated machine tools, machines and mechanisms, unified modules of equipment, robot complexes and computer equipment. We have been instructed to develop a program of work for the creation and utilization of flexible automated production lines and automated planning systems.
6. According to the assignment of the consumer enterprise, the developer organization develops technical proposals (advanced plan).

7. Differentiated normatives of time periods for updating (modernizing) various kinds machine building products are to be developed by the head ministries and departments for the various kinds of products in conjunction with the client ministries.

8. Items which have not been certified in the high or first quality category are subject to be removed from production.

9. When there is a failure to fulfill the plan for science and technology and also when products are produced after the expiration of the normative deadlines for updating (modernizing) them, the bonuses to the management of the associations (enterprises) for the main results of their economic activity are reduced by no less than 25 percent.

10. Increments and rebates can be established in amounts of up to 30 percent.

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## EKO READERS MEET IN TASHKENT

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 187-188

[Article by V. I. Bronshteyn, senior scientific associate of the NIEI under the UzSSR Gosplan, and N.P. Kovynev, honored cultural worker of the UzSSR: "Readers' Conference in Tashkent"]

[Text] EKO is well known in Uzbekistan. The readers look to it for advice on the theory and practice of industrial production and an analysis of the large national economic problems that are associated with improving planning and perfecting the economic mechanism. They were glad to see the magazine's new rubric, "Lenin's Lessons in Management." There is a steady interest in the rubrics "We Raise The Problem," Economics of Scientific and Technical Progress," "Practice of the Leading Enterprises" and "Briefly About What Is Important." The magazine's articles about the work experience of associations and ways of further developing them have not gone unnoticed.

Not all of the materials offered to the reader can go without question. But we are attracted by the fact that the authors of the articles seem to invite the reader to delve along with them into the essence of various economic phenomena, to see unsolved problems, and to engage in the search for ways of solving them.

All this was discussed interestingly and in detail at the conference of EKO readers. Participating in its preparation were the economic section of the Union of Journalists of Uzbekistan, the Scientific Research Economic Institute under the UzSSR Gosplan, the republic order of "Emblem of Honor," the magazine EKONOMIKA I ZHIZN', and the planning design-technological bureau for automated control systems [PKTB ASU] of the USSR Minpribor [Ministry of Instrument Making, Automation Equipment and Control Systems] ("SpetsAvtomatika").

The speakers at the conference expressed a number of remarks and requests to the collective of the editorial staff.

The director of the PKTB ASU of the USSR Ministry of Instrument Building, Doctor of Economic Sciences S.A. Salimov, supported the magazine's desire to develop active economic thinking in the readers. He expressed the wish that the magazine would continue in the future to raise economic problems just as

pointedly and with reference to principle, and that it would help in the search for ways of overcoming the difficulties that arise. "I should like to request that the magazine," noted S.A. Salimov, "more frequently publish materials on the work style of executives and present scientific generalizations of the material that has been accumulated regarding this."

A senior scientific associate of the Kibernetika NPO [Scientific Production Organization], Candidate of Economic Sciences S. M. Kasymov, suggested that more attention be devoted to regional problems, particularly the prospects for economic ties with Siberia and Central Asia. In his opinion, on the pages of the magazine there should be a deeper analysis of the problem of diverting the current of Siberian rivers into Central Asia.

The deputy editor-in-chief of the magazine EKONOMIKA I ZHIZN', Candidate of Economic Sciences I. M. Perlov, emphasized that today when we address economics and organization of industry we cannot bypass the most important problems of the agro-industrial complex and the nonindustrial sphere. All this is closely interwoven with industrial production, has a direct influence on its effectiveness, and therefore it requires scientific, theoretical development and generalization.

The chief of the sector for organizational and legal problems of territorial planning of the NIEI [Scientific Research Economics Institute] under the UzSSR Gosplan, Candidate of Economic Sciences Ya.N. Kovalerchuk, discussed in his speech the EKO articles on questions of an economic and legal nature. Having given a positive evaluation to the magazine's attention to problems that lie at the juncture between economics and law, he noted that the work in this area should be developed in all ways. It would probably be worthwhile to publish the results of the joint research of economists and legal experts. A certain amount of experience in this kind of research has already been accumulated by the economics and legal division of the Institute of Economics of Industry of the UzSSR Academy of Sciences and the sector for organizational and legal problems of territorial planning of the Scientific Research Institute under the UzSSR Gosplan.

The deputy editor-in-chief of EKO, Prof B. P. Orlov, discussed the plans of the editorial staff and thanked the speakers for their useful advice.

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## RUSSIAN FOLKLORE AS SOURCE OF MANAGEMENT PRINCIPLES

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 7, Jul 84 pp 189-190

[Article by L. G. Mel'nik: "Management Principles -- In Russian Folklore ..."]

[Text] While scientists are discovering economic laws and developing the principles of organization of production, the people have discovered and developed them long ago. All one has to do is listen to them more attentively...

| Folk Wisdom                                                         | Administrative Principle at Basis                                                                                  |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Too many cooks spoil the broth.                                     | Principle of one-man management.                                                                                   |
| A dry spoon irritates the mouth.                                    | The need for material incentives.                                                                                  |
| A hut is not beautiful because of corners, but because of its pies. | The esthetic value of new technical equipment is important too, but the decisive factor is still its productivity. |
| In for a penny, in for a pound.                                     | Fulfillment of commitments.                                                                                        |
| You call yourself a mushroom so crawl in the back.                  | Managers' responsibility for matters entrusted to them.                                                            |
| One man in the field is not a war.                                  | Brigade form of organization.                                                                                      |
| One head is good, but two heads are better.                         | Group decision making.                                                                                             |
| Don't count your chickens before they hatch.                        | Orientation toward final results.                                                                                  |
| What you sow, so shall you reap.                                    | The role of technical preparation.                                                                                 |

| Folk Wisdom                                                 | Administrative Principle at Basis                                        |
|-------------------------------------------------------------|--------------------------------------------------------------------------|
| Do not kick a man who is down.                              | The need to assist unprofitable enterprises.                             |
| Get to the bottom of things.                                | Functional cost analysis.                                                |
| A bird in the hand is worth two in the bush.                | The principle of the basic unit.                                         |
| Do not say "jump" until you have made it across.            | Early release of construction projects does not justify incomplete work. |
| Taking coals to Newcastle.                                  | Correct choice of site for construction of industrial facilities.        |
| One for all, all for one.                                   | Combination of one-man management and collective decision making.        |
| Like master, like man.                                      | The role of the manager in production.                                   |
| No use crying over spilt milk.                              | Efficient organization of protection of cargo enroute.                   |
| One good turn deserves another.                             | Control through the ruble.                                               |
| Do not spit in the well -- you may have to drink the water. | The need to combine industrial and ecological activity.                  |
| One's own shirt is closer to the body.                      | Local favoritism.                                                        |

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