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## 1. Plan, Market, and Measurement\*

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I do not intend in the present paper to undertake a systematic consideration of the problem of planning vs. markets and the methods of measurement in a frame of these institutions. Rather I wish in this paper to share with the reader some of my thoughts concerning general and specific aspects of these institutions.

Relative to planning I want to show that even the most crucial command type institution is compatible with the whole variety of methods of attracting people to collective work (in this particular case — to implement plans) which one can see along the history of mankind.

Relative to markets I want to analyze the variety of decentralized kinds of wealth. I will try, in particular, on the basis of my analysis of this problem, to criticize the common view of Marxist literature, according to which the opposition of centralized and decentralized property is reduced to a narrow scheme of opposition of state (socialized) property to private.

Finally, I will try in the third part of this paper to discuss some of the problems with the comparison of planning and market in the larger format of classification of economic mechanisms; they are divided into vertical and horizontal mechanisms. In connection with this analysis I attempt to define the meaning of a *plan* and the position that this institution holds in the variety of other mechanisms of coordination of the activities of participants in an economic system. Secondly, I attempt to show the difficulties which arise in the planning process when a market non-formalized procedure of measurement is replaced by an inconsistent formalized procedure of measurement.<sup>1</sup>

### 1. Vertical and Horizontal Mechanisms in an Economic System

The variety of economic mechanisms can be divided into different classes depending upon what aspect is being analyzed. From the point of view of equality of participants in an economic system, vertical and horizontal mechanisms can be

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\* I am grateful to V. Kantorovich for discussions of some problems analyzed in this paper.

1 Primary development of some of the problems discussed in this paper can be found in several of my previous publications, in particular, in the book *Studies in Soviet Economic Planning* (White Plains: M. E. Sharp 1978); in the articles "Quelques commentaires sur les mécanismes verticaux et horizontaux dans l'économie soviétique," *Revue d'Etudes Comparative Est-Ouest*, 9, No. 4 (1978): 7-20; "A Little Bit on Russia's Awful Past, Hectic Present and Shadowed Future," *The USSR: Internal Contradictions*, No. 7 (1983): 37-74; and in the paper "Some Notes on Vertical and Horizontal Economic Mechanisms," presented at the International Conference of Structural Economic Analysis and Planning in Time and Space, Umea, Sweden, June 21-26, 1981.

distinguished. Vertical mechanisms assume that one participant can, by oppression, cause other participants to follow his directions. Horizontal mechanisms assume the parity of participants. This classification of economic mechanisms is broader than the usually accepted division of economic mechanisms into planning and market.

Planning (in the sense of the widely accepted meaning) is only one version of a vertical mechanism. Vertical mechanisms can exist without planning; e.g., the government can control the economy via taxation, price controls, etc. Horizontal mechanisms can involve non-market mechanisms, e.g., the relationships between scholars and foundations.

The methods of coercion and conditions for parity of participants in an economic system, which bring about vertical and horizontal mechanisms, can be *ideological*, *judicial*, and *economic*. Expanding on this last classification, I distinguish between vertical ideological, judicial and economic mechanisms and horizontal ideological, judicial and economic mechanisms. Religious and political party hierarchies can serve as examples of ideological vertical mechanisms. The judicial coercive methods are expressed by directly appealing to the judicial power. Conditions for economic coercion typically occur either when a person is free to choose a job but does not have the means to exist for a long time and, hence, falls victim to the attempts of the employer to oppress him, or when the trade unions using their power bring an employer to bankruptcy. Horizontal ideological methods are expressed in free dedication to an ideology which is shared by a given group of people; judicial, in contracts; economic, in mutual gain by the exchange of activities.

These six types of mechanisms can be found in any economic system. The differences between economic systems are also expressed by the proportions in which these mechanisms occur. Ideological vertical mechanisms dominate the Soviet economy. This is manifested by the leading role the Communist party plays in the Soviet economy. Meanwhile, I want to note that judicial vertical mechanisms are not completely developed. As I. Koropecskij mentioned in his article,<sup>2</sup> the lack of judicial rules is typical in relations between union ministries and republic ministries subordinated to them; the judicial relations between the Council of Ministries of a union republic and the union republic ministries are not clear. As a result, for example, nineteen of twenty-eight Ukrainian union republic ministries had judicial relations with the agencies which supervise them only on the basis of individual agreements; the last nine ministries had no judicial relations with these agencies.

Judicial horizontal mechanisms do not play an essential role in the Soviet economy. The illegal and semi-legal relationships are more important. One of the paradoxes of the Soviet economic system is that illegal and semi-legal economic mechanisms essentially compensate for failures which appear in the functioning of vertical mechanisms.

One of the interesting problems which arise in the design of vertical mechanisms concerns the possibility of the formation of equal relationships between participants in a situation where one of them has incomparably more power than all of the other

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2 "Economic Prerogatives" in *The Ukraine within the USSR: An Economic Balance Sheet*. ed. by I. S. Koropecskij (New York: Praeger, 1977).

participants together. An example of such a relationship can be seen in the Old Testament. God makes a covenant with every Jewish man. It is reasonable to assume that such relationships are a result of competition between gods, that is, that the possibility exists for a Jew to choose another god if the one does not satisfy him. If such conditions do not exist it is difficult to imagine an equal relationship between a man and a god. Certainly, such conditions are not sufficient, but it seems they are necessary. The above has "terrestrial applications."<sup>3</sup>

It seems to me that such relationships are impossible when the state has a monopoly of power. Let us assume that an enterprise has not fulfilled a plan because a ministry has not obeyed the contract; i.e., either the ministry did not properly supply the enterprise, or it asked it to produce goods which could not be sold. Because the plan has failed, in accordance with the contract, the staff of the ministry has to be punished. But, typically, human beings escape punishment. The manager of the enterprise, who wants to avoid punishment for underfulfillment of the plan by putting the blame on the responsible ministry, risks severe punishment by the ministry. The ministry appoints him and the ministry can fire him. This will definitely be accomplished by people at the ministry but it will be done "delicately" and will not appear to be a "vendetta." As a result of such peculiar contractual relationships, a system of "mutual amnesty" appears. "Mutual amnesty" takes place in the system of contractual relationships between socialized enterprises. The contracts between these enterprises make the supplier responsible for delays in the delivery of the goods and services mentioned in the contract, as well as for contract completeness and merchandise quality. In actuality the contracts are not fulfilled. The manager of the "receiving" enterprise does not claim a fine for the underfulfillment of the contracts. The reason for this phenomenon is very well known: a plan is usually composed in such a way that the demand exceeds the supply.

## 2. The Colors of the Vertical Planning Mechanisms

Planning, if it is ever of a command type, can be accompanied by different methods of attracting workers to the composition and implementation of plans. In this paper I consider only the variety of ways to attract workers to the implementation of a plan. The criteria by which the spectrum of these methods is formed evolve from the degree of freedom a worker has to choose a job combined with the conditions of his "maintenance." If one uses the terminology of the earliest historical materialism, he can make a distinction in this spectrum between the methods of slavery, feudalism, capitalism, communism, and their combinations.

Several years ago, while analyzing the more accurate horizontal variety of market mechanisms in the Soviet economy, I suggested the use of the spectrum of colors for

3 A discussion concerning the methods of improvement of economic mechanisms, held in the USSR in the early sixties, resulted in the publication of an article by academician V. Nemchinov in *Kommunist*, No. 5 (1964), entitled "Performance of the Socialist Economy and Planning of the Sphere of Productions." Nemchinov offered to establish contractual relationships between the omnipotent state, represented by the ministries, and the enterprises.

their description. In this case I followed the traditions of the famous Russian composer A. Scriabin (1871-1915), who linked music and colors, and the great Russian painter W. Kandinsky (1876-1944), who discussed the linkage of colors, lines, and sounds. I would also like to use the spectrum of colors for the description of the above-mentioned spectrum of vertical mechanisms.

Let me start at the end of the spectrum that allows a person full freedom to choose a job and provides full (or close to it) satisfaction of his needs. This method of attracting workers to implement a plan can be called *state-communistic*, and can be represented by the color *purple*. A scrupulous reader will find that the term *state-communistic* contradicts the Marxist orthodoxy because communism denies the existence of a state. But by creatively developing Marxism and by following and developing in the direction in which Comrade Stalin moved at the XVIII Congress of the Communist Party of the USSR, it is possible to assume that full satisfaction of the needs of the people is compatible with a state, if a sufficient level of development is reached in a surrounding of capitalistic conditions, and if the vestiges of capitalism required for a strong fight exist in the minds of the people. Soviet economists in the forties and sixties seriously discussed the problems of a transition to the Communist principle of distribution. One of the aspects of this discussion concerned these options: either all people would be transferred simultaneously to Communism or more and more people would gradually be integrated into the Communist system of distribution. If one considers the second option, he can recognize in the USSR some groups which can be thought of as living under a Communist system of distribution. These groups include writers who are engaged in the implementation of the plans of production of very popular literature, the chief designers of weapons who implement the plans of increasing military power; some of them may even have "open accounts." These groups are a very small percentage of the whole population. In addition, it is also necessary to take into account that the *state-communistic* method of attracting people to implement plans is difficult to distinguish from the *state-capitalistic* method because it is difficult to enter into the souls of people living "under Communism" in order to recognize to what extent they really work in accordance with their abilities (another important aspect of the Communist system).

The *state-communistic* method of attracting workers to implement plans has to be distinguished from the *quasi-communistic* method, or, in Marxist terminology, from a "primitive communal style of life." Brought about by a shortage of goods and a low standard of living, this life style cannot be associated with the golden age of mankind.

The *quasi-communistic* method of attracting people to implement plans is used in the USSR. It is characterized by voluntary sacrifices by individuals in the interests of the society. Let me represent this method with the color *red*. The idea of volunteers, young people in particular, was widely used by the Soviet authorities in the thirties to attract workers to build factories and cities in remote areas. The same tactic was used to rebuild the economy after the Second World War and in the period of exploration of virgin land. It is still being used in, for

example, the construction of the BAM (Trans-Siberian Railroad). But, as was becoming evident in the thirties, the number of volunteers is minuscule relative to the labor force required. Though in the beginning of the campaigns propaganda succeeded in attracting some young people to work on certain projects in remote areas, when after a while they recognized the actual conditions of life many of them wanted to return to their homes. It is not by accident that special police groups (*zagr-aditel' nye otriady*) have been organized to stop young volunteers from escaping from the BAM construction areas.

In order to increase productivity, the relatively low level of income typical for volunteers had to be supplemented by a higher level of income, and workers had to have the right to choose their professions and job locations. Such relations between a state and a worker can be called *state-capitalistic* and indicated with *yellow* (because of association with money as the yellow devil).

The *state-capitalistic* method has to be separated from the *state-socialistic* method. The distinction between these two methods is revealed in the following. Under *state-socialism* the laborer works in accordance with his abilities and combines the joy he gets from his job with an income that is dependent upon the quantity and quality of his labor. Under *state-capitalism* the laborer disguises his abilities and works only for money. Because it is difficult to conceptualize the difference between these two methods, I will limit my analysis to one of them — *state-capitalism*.

This method was developed in the USSR in the thirties, primarily in the industry and service sectors. In the post-Stalinist era it became prevalent throughout the Soviet economy. As usual, the *state-capitalist* method was not implemented in its pure form. It was combined at different times with other methods which were introduced as provisional; but the time of their expiration, as usual, was not mentioned. For example, from 1940 until 1956 workers were forbidden to leave their jobs; qualified workers could be compulsorily moved to the southern regions. In fact, at present a worker can be compulsorily kept at his job if he is a member of the Communist party. This requires some tricks by the leadership of an enterprising Communist party unit, but it can be done. The fact that about eighteen million people are members of the Communist party makes this method of keeping people on their jobs essential.

Some groups of workers are limited in their choices of jobs because they have graduated from vocational schools in the so-called system of "labor reserves" (*trudovye rezervy*). All graduates of these vocational schools are "distributed" in accordance with the needs of plans. The obligation that these graduates have to work for several years in a place determined by the government is payment for the so-called free vocational training (inclusive of room and board). An analogous situation takes place in the case of graduates of universities, colleges, and secondary professional schools (*tekhnikumy*). These graduates have to work for three years at a place selected by the government ("*po raspredeleniiu*"). The graduates have some options but the committee for "distribution" limits these options to regions where it is difficult to attract specialists by the *state-capitalist* mechanism.

Thus, the *state-capitalist* method of attracting workers can be linked with feudalistic institutions which play a supplementary temporary role. Such mixed methods are marked with the color *brown*.

Now, let me represent *state-feudalistic* methods of attracting workers for the implementation of plans with the color *blue*. This method was completely realized in Soviet agriculture, in Stalin's time in particular. The actual reasons for collectivization do not align with the propagandized advantages that large collective farms have over single farmers. One of the real reasons may be related to the situation at the beginning of industrialization (in the late twenties and early thirties). The fast-growing industrial centers had to be supplied with agricultural goods without any compensation for the peasants. It seems that this problem can be solved by preserving the farmers' obligation to pay taxes. The need for agricultural goods was so high that the peasants were obligated to provide goods to an extent that did not allow them to maintain a modest standard of living. Confiscation of agricultural products can be used under such conditions to take from the peasants the results of their work. The Bolsheviks learned from the experience of the Civil War (the so-called *prodrazverstka*) that such a method of withdrawing products from the peasants is very dangerous and expensive. There is another way to take work products from the peasants: a *corvée* system (*barshchina*). This means that the product and the work of the peasant are separated; the peasant is obligated as a servant to work for the landlord (in our case the landlord is the state) to whom the land belongs. Payment to a servant can be minimal, even zero. The peasant's private plot is the main source of his survival.

Thus, the state freed itself of any obligations to the peasants by organizing the collective farms. The existence in the Soviet economy of two so-called socialistic forms of property (the whole state and the cooperative) is no more than an ideological symbol of the division of the labor force into two groups: those to whom the state has obligations and those to whom it does not.

In the post-Stalinist period, however, the evolution of Soviet agriculture moved in a different direction. A mechanism evolved that, through the conversion of collective farms into state farms, allowed the peasants to be paid for their work. To the best of my knowledge, even in some cases in Azerbaidzhan, the *corvée* system was actually replaced by rent-in-kind (*obrok*), i.e. the peasants were allowed to do what they wanted on the land given to them (officially in the frame of the collective farm) but they had to deliver at the end of the year a certain quantity of agricultural products to the procurement agencies.

The next widely used method of attracting workers to implement plans in the Soviet economy can be called the *state-slavery* method and marked with the color *black*. *State-slavery* is defined as a method under which a worker loses his freedom: he is separated from his family and friends and allowed only limited contact with them; he works long days without vacations; he is maintained under conditions that barely allow him to survive (bad food, clothes, housing conditions, and medical care along with exhaustive labor result in a high mortality rate); his dignity as a person is completely ignored; a severe system of punishment is introduced for minor violations

of rules which govern all aspects of his life in the place of settlement. Such a method allows the state to obtain cheap labor in large quantities. The high mortality of these workers is compensated for by frequent "delivery" of new workers to implement plans.

The *state-slavery* method is used mainly in the construction sector of the Soviet economy. The slaves built many factories and other facilities primarily in the eastern regions of the USSR. The slavery system was highly developed in Stalin's time, in particular.

The slavery system in the Soviet Union is organized via the labor camps. Soviet criminals are sentenced to work in labor camps; the prisons function chiefly as intermediate institutions during trials. I do not call the use of prisoners as a labor force slavery where the work can help them avoid criminal activities and they are treated like human beings. But in the Soviet Union, and in Stalin's time in particular, the number of criminals was artificially increased to get cheap labor. The attitude toward the prisoners in the labor camps was one that equated them with slaves.

I think that Stalin invented (or his assistants invented and he implemented) two new forms of massive slavery which had not existed before. The first was severe punishment in labor camps for relatively small crimes, i.e. inappropriateness of the punishment to the crime. The chief engineer of a sewing factory in Moscow told me many years ago that a young woman from her factory was arrested because the guard found a ball of thread in her robe. The young woman was accused of stealing 200 meters (!) of thread and sentenced to seven (?) years in labor camps. (An analogous case was described by A. Solzhenitsyn in *Arkhipelag Gulag*.) Another huge source of slaves was the Soviet prisoners of war. Historically it is known that slaves were "made" from captured enemy warriors. After the Second World War hundreds of thousands of Soviet soldiers, released from captivity in Hitler's concentration camps, were sent by Stalin to the labor camps. The reasons stipulated for this action were varied. Possibly this was also done as a warning to Soviet citizens not to become captives. Such a warning is consistent with Stalin's desire to become the emperor of the world.

In post-Stalinist times the population of "Arkhipelag Gulag" has been reduced. If at the end of the forties this population was approximately fifteen to eighteen million people, it is now about two million people. This is definitely a guess because the Soviet Union does not publish any statistics concerning the labor camps.

Let me mark with the color *grey* that temporary mixed *state-feudalistic* and *state-slavery* method of attracting workers to implement plans in the economy which is carried out by the military. This method is characterized by a compulsory set of jobs, separation from families, strong discipline, completely scheduled meals, uniforms, etc. and moves the army close to the labor camps. It is not by accident that settlements for soldiers are called "military camps." Meanwhile however, they are different from the labor camps in important ways. The soldiers are not exhausted; they have regular holidays and even short vacations; they are not limited in their correspondence with families and friends.



The army played and is playing a visible role in the Soviet economy: about a quarter of the army is responsible for construction; railroads and communication systems in particular are built by the army; harvesting is done to a certain degree by the army. It is not by accident that Western specialists comparing the Western and Soviet armies adjust the size of the Soviet army to compensate for the fact that Western soldiers are not involved in the economy. Young soldiers from Central Asia in particular are used in the Soviet economy because they are less prepared to serve modern military technology.

This is the spectrum of methods of attracting workers for the implementation of plans in the Soviet economy. This spectrum has a linear form in the same sense that historical materialism in general does. I share the opinion of the historians who analyze the history of one country, as well as the history of mankind, on the basis of combinations of structures. The existing combinations and appropriate terms depend on many factors such as the purpose of a society in a given period, the possibilities for its development, and so on. For example, Rome and other ancient countries used slavery as one of their leading structures. The role of slavery in the United States in the eighteenth century or in the USSR in Stalin's time was comparable to the role of slavery in some ancient countries. A planned economy like any other economy is a combination of different structures. Sometimes new types of structures appear; but the economies are, in fact, often combinations of known structures that have been tested by history. The difference between economies mainly concerns the methods of *synthesis* of structures and the *proportions* in which they occur. It is obvious that the weight of different structures in a combination depends on many factors. This is why it is so difficult to find regularities in economic history.

### 3. Market and Wealth

A person manages his assets from the past as well as present income. Combined they bring *wealth*. One of the crucial problems in an economic system is the amount of wealth which is under the control of an individual. Centralization and decentralization of wealth in a society is part of this problem. In the extreme case of complete centralization one person, the leader, owns all the wealth of the society; the leader can lend some durable goods to his subordinates and by ration coupons distribute nondurable consumer goods and services. The opposite extreme is the case where every individual manages his wealth himself. Because there is a division of labor in an economic system, decentralization of wealth in this case means that an individual has, on the one hand, the right to make his own decisions regarding the distribution of his wealth and, on the other hand, the right to choose the participants from whom he will buy required goods and to whom he will sell his goods. Centralization and decentralization of wealth is an aspect of the description of a market and of a plan.

Discussion of wealth is a minor aspect of the commonly discussed problem of property. The difference is the existence of current income in wealth; this is especially important for people who do not have savings, real estate, etc. It seems to me that a discussion of wealth can be useful in developing an understanding of decentralized economic mechanisms and of the Soviet Union. I will show below that when

economic decentralization includes distribution of current income it can play an essential role in the development of a society.

It is well known that decentralization of wealth has a decisive role in the formation of a pluralistic society. It seems that as stable of a variety of structures as exists in the fields of politics, art, science, engineering, etc. cannot exist without a plurality of financial sources. I want to emphasize that an important condition for a pluralistic society is the existence not only of independent organizations, which can finance new developments, but also of individuals who take risks to support new developments.

Income inequality is manifested in the USSR in different ways. I want to illuminate the group of people whose legal income is based primarily on high money earnings rather than on income in kind and prerequisites. Academicians, chief designers of weapons, leading writers, etc. belong to this group. Among this Soviet nobility one can find people who are willing to spend their own money to support art and science. For example, Lebedev, an academician and the designer of one of the first Soviet computers, provided room and board for about two years to a young non-conformist artist. Moreover, Lebedev helped to sell this artist's pictures to other academicians in spite of the semi-legality of such transactions. I have heard of a case where an academician spent his own money to promote a scholarly piece of work because the routine way takes a long time; he was also involved in semi-legal activities concerning payments for materials and labor. In addition there is a well-known case in which a Soviet family with a high income supported a political dissident. I am talking about M. Rostropovich, who supported A. Solzhenitsyn. When Solzhenitsyn was thrown out of the Union of Soviet writers he could easily have been accused of parasitism: he did not have a formal job. Relying on a Soviet law which allows one man to hire another as a servant, Rostropovich hired Solzhenitsyn as a gardener (or janitor!) for his country house.

Certainly, the number of people with high incomes who spend part of it to support new developments is very small. But it is important that it exists in even the totalitarian Soviet society.

In the Soviet Union citizens cannot transform legal wealth into capital goods. The only decentralized property allowed by official doctrine is capital goods owned by cooperatives. Realistically, however, cooperative property in the Soviet Union is a fiction. The government can do anything at any time. Moreover, in agriculture the use of collective farms is decreasing because the government is replacing them with state farms. Thus, centralized property prevails in the USSR. Under such conditions it is difficult to form a market for capital goods.

It is important to emphasize that there is no rigid link between types of property and markets. One can imagine decentralized property under a rigid economic regime. This could be the result of either a situation where private households were auxiliaries and were not involved in any essential exchanges (as in some feudal societies, especially before cities developed) or of a situation where a strong state forced owners to follow its instructions using coercive administrative methods (as in Hitler's Germany).

Thus, decentralized property alone is not sufficient for a market. Nonetheless, as M. Friedman says, it is necessary. I cannot prove it but there is empirical evidence for such a statement: all existing market systems are based on decentralized property.

I want to add some general comments to the last statement. The greatness of mathematics —the fact that a proven theorem does not allow for even one exception— is manifested in many areas. The inferences drawn from the theorems are correct only in the frame of the axioms. Mathematical economics has made a great contribution to economics because it allows us to verify under which conditions certain economic phenomena occur, or under which conditions a price mechanism reaches equilibrium. Certainly the value of the results depends on the degree to which the mathematical models correspond to economic reality. But in any case the results of the analysis of the model belong to the treasures of economic science.

In dealing with an analysis of social economic institutions, and of property in particular, it is impossible to prove theorems which will provide information on the optimal types of property for particular conditions. Certainly, if such theorems are proved, they will not be able to evade the search for the adequacy of their axioms to economic reality. But in any case by means of this proof an essential step in the development of economic science will be made.

But let us return to the problem of property in the USSR. That theoreticians accept the leading role of state property is implicit in their opinion that planning is necessary. But I have shown that planning can be done in the frame of horizontal mechanisms. As if to counter the assumption that private property is an obstacle to planning there are many types of decentralized property which are not held by wealthy individuals. I am referring to corporations disseminated among many small stockholders, trade union property, cooperative, communal, and nonprofit organizations (like private universities), etc.

Thus, the problem of property in capital goods in Soviet literature is mainly reduced to the dichotomy of private and state property. These two types of property are synonymous with decentralized and centralized property. With regard to Marxist doctrine it seems to me that the key role is played by the liquidation of decentralized property as the basis for anarchic market mechanisms; collective property is introduced as the basis of planning. The discussion of private property in Marxist literature focuses on the crucial role that exploitation and irrational actions based on an owner's private interests play in contradicting the interests of society as a whole. Because Marxists treated private and decentralized property as synonymous instead of as part and whole, they saw a chance to avoid all the evil of a free society — the anarchy of the market and exploitation — with one comprehensive stroke. This stroke was the revolution, which replaced private property with collective — essentially state — property.

Meanwhile a free society, as an integration of a variety of human economic relationships, requires a variety of types of centralized and decentralized property with the leading role being played by the latter. Unification of types of property, even when this is a very attractive alternative, is incompatible with the formation of

the large variety of independent institutions which are a necessary condition for the development of a dynamic social system.

#### 4. Some General Aspects of Plans and Markets

*Anticipation and coordination: contracts and planning.* Planning can be done with both vertical and horizontal mechanisms. If the idea of planning by a vertical mechanism is clear enough, the idea of planning by a horizontal mechanism is not clear at all. (I will briefly remind the reader that Soviet-type command planning is by vertical mechanisms which combine ideological, judicial, and economic coercive methods.) Indicative planning, as it was introduced, for example, in Japan, includes visible aspects of vertical mechanisms: ideological coercion (the consideration of the whole society as an extended family), and privileges granted firms by state banks if the firms follow the plan.

To enhance understanding of planning by horizontal mechanisms, let me briefly discuss the general concept of planning.

First, the problem of anticipation appears in economic systems. With regard to a given participant, anticipation occurs in different ways; one of them is extrapolation of the participant's past experiences. The effectiveness of this method is, however, very limited because it is necessary to take into account the possible actions of those other participants who are connected with the first one. In other words, it appears necessary to combine the activities of a given participant with the "conjugated" ones. This process has many forms. One of them is seen in the coordination of actions by contractual relationships. Because an economy is a network all of whose elements are eventually linked, it is generally possible through contracts between the participants to anticipate the future behavior of all of them and to coordinate their activities.

What then distinguishes a plan from a contract when, like a contract, a plan must also provide for anticipation and coordination? It seems to me that a plan is a unique document which is related to the whole system. It is distinguished from a system of contracts by the method of its composition. Contracts are formed in parts by groups of participants. A plan is composed as a holistic document which covers the whole system. Technically, it is designed by one participant. This participant can be the state, a private agency, or even a corporation which has the means to design it (knowledge of assets of other corporations, forecasts of technological changes, methodology of plan composition, and tools for calculation). The elaboration of planning by horizontal mechanisms is a result of the desire of the participants to have a plan. Meanwhile they do not want to make the plan a tool for compulsory actions. That is why the plan has to be prepared by an independent agency or even by every participant (certainly, it concerns large corporations).

The problem of under what conditions a plan or a system of contracts is composed is a very difficult one. In this paper I want to consider only those conditions which are related to the possibilities of obtaining proper information from planning, methodology of plan composition, and means of implementation.

*Plan, market, and measurement.* One can make a rough distinction between *regular*

and *irregular* methods of anticipation and coordination of the activities of participants. The regular methods assume that certain rules exist but that it will still be necessary for the participants to use intuition in the implementation of these rules. In an extreme case the rules can be developed to such an extent that it becomes possible to completely formalize them and to implement them with computers. (Let me make a passing comment: such methods of composition of plans are the dreams of leaders of autocratic systems.) The irregular methods assume chaotic actions.

Like horizontal mechanisms, vertical mechanisms can be based on either regular or irregular methods. If we now combine the dichotomy of types of economic mechanisms (vertical and horizontal) and the dichotomy of methods on which they are based (regular and irregular) we are left with a foursquare combination of the above aspects of planning.

I will use a very simple example to illustrate the four combinations given in the matrix. This example concerns the process whereby a bottle of wine is divided evenly between two people who do not have identical glasses. This simple model, as the reader will see later, allows for the illustration of some significant ideas concerning fears of distribution where exact methods of measurement are lacking.

**Table 1-1** Four Economic Systems

Methods	Mechanisms	
	Vertical	Horizontal
Irregular	11	12
Regular	21	22

The first combination (11) is that of a vertical mechanism with an irregular method of sharing. It can be implemented by leader who has the power to pour wine into glasses in accordance with his own judgment and to force each participant to take the glass which he offers. The second combination (21) can be implemented in the following way. The leader invites a mathematician and asks him to design an algorithm to precisely measure the volume of wine in a glass. In accordance with this algorithm the leader divides the bottle of wine between the participants.

Let us briefly discuss the second group of combinations where the participants themselves pour the wine and then choose their own glasses. In the simplest case (12) the participants pour and choose arbitrarily. Such a method does not rule out fights between the participants. The last combination (22) can be implemented in a very effective way. The participants can ask a consultant to help them devise a procedure for distributing the wine which allows for their participation. The consultant can suggest, for example, the following procedure: one of you pours the wine into the glasses; the other chooses.<sup>4</sup>

This description of a set of ways to distribute a bottle of wine was made in order to point out how different the last method is. This method illustrates to a

4 The solution to this problem for the case of  $n$  participants is available in a book by E. Dynkin, S. Molchanov, and A. Rosental', *Mathematical Competitions, Arithmetic and Algebra* (Moscow: Nauka, 1970).

great extent the philosophy of modern anarchism, as I understand it. Typically the term "anarchism" is associated in our minds with chaotic voluntary actions of individuals. However, the development of anarchism by Proudhon and those after him is based on searching for rules of interrelations between participants which bring prosperity without the intervention of organizations with coercive might.

The discovery of methods of anticipation and coordination of the activities of participants in an economy in a frame of horizontal mechanisms requires no less sharp-mindedness than does the previous example of sharing a bottle of wine. I am especially sensitive to the elaboration of such methods because there are difficulties with creating formalized procedures for planning in the frame of vertical mechanisms. These difficulties are linked, on the one hand, to the methods of plan composition and, on the other hand, to the ability and desire of the participants to compliment the plan with reliable information, to ask for a higher plan, and to implement it in the best way. As one can see from the Soviet experience, the absence of a methodology of composition of effective plans and of their implementation brings about in particular a schizophrenic economic mechanism. This schizophrenia is a result of the inconsistency of decisions made by leaders in accordance with their common sense and of decisions made by employees in the lower layers of the hierarchy in accordance with the present price mechanism.<sup>5</sup>

I do not want with the above to strike out the positive aspects of planning in the Soviet economy. I only want to emphasize the role of horizontal mechanisms based on regular methods. By involving participants in the performance of the economic system, and by using their intuition, it is possible under certain conditions to achieve high efficiency. The introduction of planning — especially in formalized ways — requires a great deal of preliminary work. We have also to take into account that the composition of a plan requires information which is difficult to formalize, and that people are unwilling to make higher plans if their status is dependent mainly on the fulfillment of lower ones.<sup>6</sup>

All the above leads me to the conclusion that we have to be very cautious when we attempt to substitute plans for contracts, especially in the frame of vertical mechanisms.

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5 The reader will find an illustration of this last statement in the first chapter of my book, *Studies in Soviet Economic Planning*.

6 See also R. Ackoff, *Creating the Corporate Future* (Chicago: John Willey, 1981), pp. 44-45.

## Comment

Masaaki Kuboniwa

In one of his previous papers Katsenelinboigen clarified the diverse horizontal interactions in the Soviet economy, using a color painting method. In this symposium he focused attention on the diverse vertical interactions in the economy, employing a similar method. There is no doubt that some of the richness and complexity of the plan-market issue was brought to light by Katsenelinboigen. Further, employing the "one bottle of wine" problem, he suggested the possibility of a horizontal, regularized type of allocation mechanism. This type of mechanism may be classified as a *voluntary, regularized mechanism*, which has been followed up by welfare economics. It may be worth making a few comments on this mechanism.

Katsenelinboigen's example is equivalent to the well-known "cake division problem," which is often used to explain a means of fair distribution. Let there be a fixed amount of a homogeneous cake and a fixed number of individuals. The "cake division problem" has an equitable and efficient answer: division into equal pieces. Further we can present a well-defined procedure for fair division. This procedure consists of two steps. First, let us order individuals in an arbitrary manner. Next, let each individual cut out a piece in the order subject to the condition that he should receive the piece himself if no succeeding individual *voluntarily* accepts it.

An essentially similar method can be applied to the problem of allocating several divisible commodities in fixed supply among several individuals. Let us call an allocation equitable if and only if no individual would feel better off with the commodity bundle that any other individual receives than with what he himself receives. Then there exists an equitable and efficient allocation. An equitable and efficient allocation can be attained by dividing the aggregate commodity bundle equally among individuals and then letting them exchange their initial allotments in the competitive markets.

Further we know of the Nash bargaining process and Smorodinsky arbitration method and so on. These public goods provision schemes, however, perform poorly if our performance criteria are Pareto-efficiency and no-envy equity.

We have up to now focused on voluntary, horizontal mechanisms. Here I would like to take into consideration another possibility for improving poor performance of voluntary mechanisms in a public-goods economy. We have to consider whether the improvement can be attained by a combination of horizontal and vertical mechanisms. This problem may constitute a new aspect of the plan-market issue.

If Katsenelinboigen bases his research on contemporary welfare economics, he will be able to develop his theory and to draw more fruitful conclusions from it.

I would like to make a few general remarks on the voluntary mechanisms.

1. Both Katsenelinboigen's example and the "cake division problem" assume that man is utilitarian. Generally speaking, I think this assumption is realistic for the analysis of socialist economies. But there is more to this problem which will

be brought to light by Iwata.

2. Katsenelinboigen's and other voluntary mechanisms also usually assume that goods are divisible. We have to consider other possibilities.

3. We have paid attention only to a price-guided horizontal mechanism. We can also formulate a quantity-guided horizontal mechanism. As Weitzman made clear, a quantity-guided mechanism may be more appropriate in the presense of uncertainty.

4. In conducting research on income distribution we have to consider the socialist principle that incomes should be distributed according to one's contribution to output. But we have not dealt with this aspect.

### Comment

Masayuki Iwata

First, according to Katsenelinboigen's theory, six complexes, or six combined pairs of mechanisms and realization methods, can be observed in the contemporary world, as the following Table 1-2 shows.

Table 1-2 Constellation of Mechanism-Method Combinations

method mechanism	ideological	judicial	economic
Vertical	1	2	3
Horizontal	4	5	6

This constellation of mechanism-method combinations is useful and effective in theoretical and experimental studies of socio-economic systems. However, a net with meshes that are too small might be an inconvenience when we want to sort out things which have a normal size, namely, social phenomena of a normal scale like socio-economic systems.

I would not say that his meshes are too tiny. But in my opinion a little rougher or coarser methodological net would be more adequate for analytical purposes in this field. For instance, roughly speaking, his pairs No.1 and No.2 could be integrated into one socio-economic entity which is usually called a planned economic system.

We could compose a consultation, agreement and conference system from his pairs No.4 and No.5. As one could guess easily, the remaining pairs No.3 and No.6 could be transformed into a market mechanism. These three systems should be understood as economic systems, meaning that they carry out a social role of coordination of man to man relations with respect to economic goods and services.

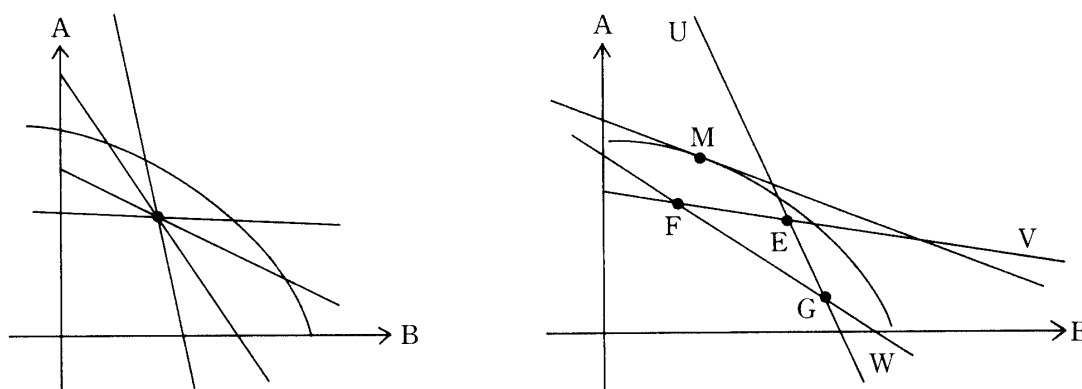
Theoretically, these three economic systems can have clearly defined conditions of equilibrium. After the nature of equilibriums we can name them a point-adjustment



mechanism (market), a line-adjustment system (planning), and an area-adjustment system. There are behavioral rules, or behavioral patterns, which are harmonious, respectively, with these three socio-economic systems: maximizing patterns of behavior, normalist patterns and adaptationist patterns. Historically, famous modern ideals — liberty, equality, and fraternity — could be interpreted as beautiful brands of these three economic systems. Three types of death — suicide, homicide, and fratricide — are their respective dirty names. Three types of ownership — private, state, and social ownership — also correspond to our three economic systems. Later I will define these three types of ownership.

Second, Katsenelinboigen's discussion of the possibility of equality between top and bottom echelons in the hierarchy is interesting. I do not disagree with his reasoning, but I want to present my solutions to the problem. Two solutions are possible, and they are not mutually exclusive.

Figure 1-1 Multi-head System

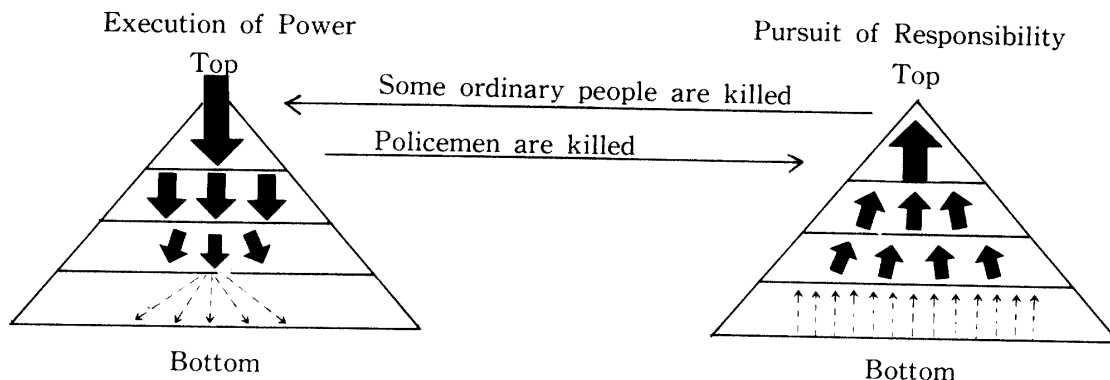


The first is of a technical nature, and is connected with the concept of multi-headedness, or pantheism, observed in the pyramidal system. Let us assume that enterprises in a planned economy are commanded by three directorates or three ministries U, V, and W. Please look at Figure 1-1, on which straight lines U, V, and W represent the ordered production targets of the ministries. If these lines could cross each other at one point, then enterprises could not enjoy any freedom of choice. However, as experience tells us, such completely consistent directives have not been given to enterprises in the history of planned economies. Usually three lines have three crosspoints as shown in the figure. Therefore the bottom echelon enjoys a certain degree of freedom of choice within or in the neighborhood of the triangle EFG.

On the other hand, in the case of free enterprises, they must choose the point M which maximizes profit if they wish to avoid defeat in the competition with other enterprises. This is a very paradoxical situation: enterprises working in a command economy are able to enjoy a kind of freedom, while enterprises functioning in a market economy are exposed to an iron law of necessity. Of course, this proposition degenerates into a kind of joke if we forget the most important fact that free enterprises have the freedom to determine axes A and B, but enterprises in a planned economy cannot choose axes A and B from among many possible candidates.

My second explanation of this problem involves the introduction of a new category: centralization of responsibility or liability. In principle a centralized economy has two aspects of centralization, that is, power and authority centralization, and responsibility and liability centralization. Let us refer to Figure 1-2. Vertical thin and thick arrows show the execution of power or the pursuit of responsibility. Horizontal arrows suggest homicide, symbolizing the functioning of a centralized system.

Figure 1-2 Function of Hierarchical System



The centralization of power could not exist for long without the centralization of responsibility. They are the two sides of that medal which is called a command economy. Because power and responsibility are concentrated at the top, the mass of people, the lowest echelon, can feel free from power and responsibility. They are powerless and non-labile.

Third, he discusses multiple methods of plan realization and mass-mobilization, namely, (1) state-communism, (2) quasi-communism, (3) state-capitalism, (4) state-socialism, (5) feudalism, (6) state-feudalism, and (7) state-slavery.

We can find almost the same methods in the historical development of capitalism. Capitalism has exhibited the ability to use for its own sake multiple forms of socioeconomic management of production and distribution, some of which are completely different from the essence of capitalism — market-relations between labor and capital. For instance, capitalism has rebuilt serfdom, private slavery, forced labor in the plantation system, primitive village systems, and so on.

Of course, this kind of utilization of traditional systems, deformed by capitalism — for instance, the Indian villages which were used by the English for capital accumulation — have caused such big tragedies as famines. Gen'ichiro Tsuda, a Japanese specialist on the Indian economy, tells us that 32.4 million people were killed in thirty-one large scale famines in the nineteenth century and 30.05 million Indian people died because of dearth from 1901 through 1944. He adds that since independence India has not experienced famines as large as those she suffered from under the colonial reign of the British.

What is the significance of these facts in the analytical consideration of capitalism and state-socialism? State-socialism, or state-communism, has been such a flexible and dynamic system that it has been able to utilize for its own sake differ-

ent forms of labor mobilization. I think that this kind of capacity might be one of the most important reasons for the successful survival of socialism alongside world capitalism.

Fourth, considering the concept of ownership, he makes use of an ordinal dichotomizing way of thinking; here too he speaks of decentralized and centralized ownership. I think that it would be more productive in the explanation of ownership as a social institution to adopt a new way of thinking — a trichotomy.

In order that we may understand the social nature of ownership, we have to imagine as a reference point a situation in which ownership does not exist as an institution for social actions. Here I can use a very dexterous model of private ownership, which was devised by Andrew Schotter.

Imagine that there are two ranchmen A and B faced with two pastures where they can graze their herds. In a society where no property relation exists between ranchers A and B, they can graze their herds in either of the pastures as they like. If they graze simultaneously on the same pasture, their benefits are 2 to 2 because of overpopulation (excessive grazing). If rancher A uses a good pasture for his own herd, and rancher B uses a bad pasture, then their benefits are 8 and 4 respectively. In the ownershipless society four situations, which are shown in Table 1-3, have equal probability of occurring; therefore the expected value of benefit must be four. When they succeed in the establishment of private ownership relations, that is, when rancher A is socially recognized as the owner of the good pasture and rancher B as the owner of the bad pasture, then the situation in which both of them graze their herds simultaneously on the same pasture cannot occur. Therefore only two possibilities (8,4) and (4,8) exist. This means that the social average benefit of private ownership must be six. The introduction of the social institution known as private ownership has brought the society into a state which is better than its original social state.

The logic used by Schotter can be applied to the explanation of other ownership patterns, such as state and social ownership. If a third actor different from ranchers A and B has managed to establish so-called state ownership, then he, that is, the state, permits each rancher to graze in a different pasture. As you notice easily, the social average benefit of state ownership is six, larger than that of the original social state.

I want to point out also an important difference between the private ownership of the third actor as an individual and the state ownership of the third actor as a state

Table 1-3 Payoff Matrix of Ownership Game

		B	
		Good Pasture	Bad Pasture
A	Good Pasture	2, 2	8, 4
	Bad Pasture	4, 8	2, 2

power. The former could utilize his property for his own sake, if he wished, but the latter cannot be a user of his own property. He can decide which members of the society other than himself should use which parts of the state property, but he is not in the position to use it. In this way private monopolist ownership is theoretically different from state ownership.

The third pattern of ownership is usually called social ownership. If ranchers A and B have succeeded in establishing common ownership of both pastures, they can conclude an agreement on the alternate grazing of their herds in both pastures. For instance, rancher A can graze his herd in the good pasture this year while rancher B goes with his herd to the bad pasture; next year rancher B will use the good pasture and rancher A the bad one. In the third type of ownership, too, the social average benefit has improved over the original situation. In my opinion the above-mentioned patterns of ownership are fundamental ones. Of course, the first and the third could be combined to make a single category — decentralized ownership. However, this classification would make the meshes of the methodological net too coarse and rough. Finally, I want to stress that these three types of ownership correspond to the trichotomies of social systems — economic mechanisms, social behavior patterns, modern social values, symbolic deaths, and so on.

Fifth, I am going to consider his combinations of economic mechanisms and coordination-prediction methods, which are shown in Table 1-4. His four pairs (See Table 1-1) can be reformulated as my three economic systems. Case 21 can be interpreted as an ideal type of planning system, but case 11 represents actual planned economies. Therefore 11 and 21 should be integrated into a single category — planned economy.

It is natural to interpret case 12 as a typical market mechanism. Participants in a market mechanism have no reason to pattern their relations after certain formulated rules of behavior. By way of theoretical precaution I must emphasize that it is another matter that the composite results of non-formulated behavior of participants in a market mechanism can be formulated mathematically.

Case 22 can be viewed as a representation of my consultation economy, because participants in the third economy have enough incentive to pursue formulations, according to which their mutual relations may be coordinated harmoniously. Now we should not forget that case 22 can sometimes degenerate into case 12, but case 12 cannot transform itself automatically and spontaneously into case 22.

Finally, it is well known that human sense organs are able to accurately perceive

**Table 1-4 Three Economic Systems**

mechanism methods	Vertical	Horizontal
non formulated	11	12
formulated	21	22

objects in up to three dimensions. When he is discussing social issues using “vertical” and “horizontal” categories, he is *a priori* inclined to think in terms of a planar space. Therefore his dichotomy of “vertical” and “horizontal” grows very naturally out of his planar image of the world.

However, human beings have been given the ability to envision a cubic space. Thus we are led rationally to the use of a methodological trichotomy. As far as his method is concerned, his vertical axis should be kept, but his horizontal axis is an incomplete indicator of two-dimensional space. Thus his horizontal axis should be divided into two separate axes — market mechanism and consultation mechanism. (See Figures 1-3 and 1-4)

Figure 1-3 Dichotomy

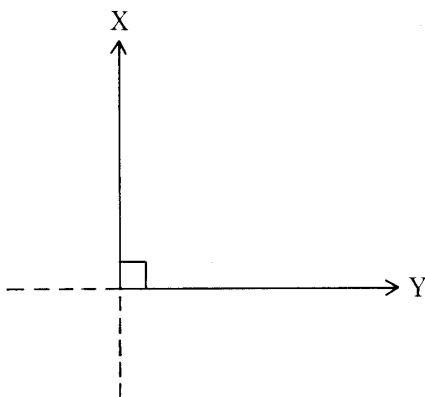
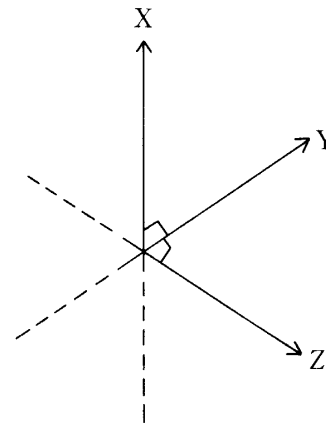


Figure 1-4 Trichotomy



## Discussion

Katsenelinboigen introduced a new category, “deconcentration,” which is usually confused with the concept of “decentralization.” Although he did not explain in his paper, he believes that the difference between the two concepts is important for understanding the *modus operandi* of Soviet-type systems.

To clarify the difference between decentralization and deconcentration, Katsenelinboigen began by saying that where a government and enterprises exist, the question must be asked: who makes the appointments, the people themselves or the government? If the government appoints the directors of enterprises, it is a typical case of centralization. But the Soviet Union has a double centralized system, a double hierarchy — government and party. Consequently, in the process of appointing an enterprise director two signatures are needed. Once the appointment has been made, the question becomes to what extent indicators are set for the director. He said that after the economic reforms of 1965, there had been five major indicators by which to judge the efficiency of enterprises. After that, step by step, the Soviet Union had returned to a set of twelve indicators which were actually about twenty in disguise. He said that the economic reforms which had been announced a month before the symposium had again emphasized experiments like the reforms of

1965. Again the number of indicators by which to judge the efficiency of enterprises had been reduced. Katsenelinboigen considered this to be a type of deconcentration which he termed "deconcentration of broadness." It could be made broader or more compressed.

The second problem Katsenelinboigen discussed concerned the depth of concentration. He stated that deconcentration could be carried to a point where there is no involvement in internal activities. The situation in the Soviet Union now is that the minister appoints not only the director, but the chief engineer and the chief accountant as well. Moreover, if the manager has to make a decision concerning the appointment of the shop foreman, he has to receive approval from the regional committee of the Communist party. Katsenelinboigen felt that only if the director of the enterprise had the right to make all the inside appointments would there be deconcentration in depth. Now, the manager has to follow instructions from the government even on how to pay employees. He is not able to increase their salaries himself. Katsenelinboigen used as an example a case in which a certain engineer is doing a better job than others. If a department chief could be told that of his ten engineers who are getting paid 100,000 roubles each a year he could keep eight engineers and would be given 90,000 roubles, this would be deconcentration in depth. Now 10,000 roubles could go into the budget and 10,000 more could be given to each of the remaining eight engineers.

Katsenelinboigen next dealt with the question of Hungary. He said that care must be taken with all problems of socialist countries because there is always more than one dimension. He emphasized that the two sides, the legal and the official, have to be clearly distinguished. Something can be legalized without being made official. He used as an illustration the system of payment of income in kind and token. It is legal, but not official. Except for some informal relations, little is known about what the system is.

The same, he said, is true of appointments. Katsenelinboigen explained that when he had visited Yugoslavia, he had talked to people who had praised the self-management system, which seems to be a decentralized system because people make their own appointments. Katsenelinboigen said he had asked them only one question: What happened to the party apparatus? If a system is truly decentralized, not merely deconcentrated, people make the selections and have the responsibility. But what, he had asked, was the size of the Communist party apparatus? The Yugoslavians had answered that it was not reduced. Then what do they do all day, he had wondered. Do they drink "sljivovica?" Do they play dominoes? Katsenelinboigen added that the situation seems similar to that in the Soviet Union, where in the villages and countryside there also appears to be a self-managerial system, because the collective farms select their chairmen. However, for all practical purposes it is actually the chairman of the regional committee who makes appointments. He comes on the eve of their meetings, gathers the Communists of these collective farms, and says: "We made a decision that this person must be appointed. You as Communists have to follow the party discipline. You have to do your best to elect this person." This is legal, but not official. No one could claim that this secretary had vio-

lated the law and should be brought to trial; it is not illegal. Katsenelinboigen maintained that he had heard that in the late 60s and early 70s the party apparatus had grown, and to the best of his knowledge it had not been reduced in the late 70s and the beginning of the 80s. He would be suspicious about any claims of decentralization. He felt that what is going on in Hungary is more complicated. The government allows very deep deconcentration, but there may be legal, though not official, ways of maintaining centralization. He then added that whether there is decentralization or a more sophisticated type of deconcentration is an important question. It is the dream of the future for socialist economies to find more sophisticated ways for deconcentration and in this way to solve the problem.

Another of Katsenelinboigen's concerns was that some very good Western students of the Soviet economy seem to be confusing the roles of prices, profit, and money with that of market. By this he meant that people very often think that all of them are synonymous with a market economy. This seemed to Katsenelinboigen to be a very big confusion because such institutions as price and money are all invariables. They can be used in both centralized and decentralized economies. The problem is not whether prices are used or not, but how they are set. Either the government sets them or the people set them via horizontal mechanisms and local interactions. That is the crucial point. Prices per se are an invariable part of any economic system.

Katsenelinboigen continued that this is why some people are confused about the significance of the system proposed by the Central Mathematical Economic Institute (CEMI). Pointing to prices and profit they claim that this system represents a move toward a market economy. This is a big confusion. Why, he asked, would the most conservative member of the Politburo have supported CEMI for so many years; isn't it paradoxical? He submitted that Kirilenko had been the major supporter of CEMI because he had understood as a politician that the system offered by CEMI is a centralized system which does not interfere in the system of appointments, in political activities, and that it only gives some hope of improving the planning mechanism. Katsenelinboigen claimed that this is why the more liberal people in the Politburo criticize and dislike CEMI. They dislike it because they know it is an institution which supports the present centralized political system. Katsenelinboigen believes that this is why a theoretical understanding of deconcentration and decentralization could help explain the paradoxes seen in politics. For the politicians the crucial point is centralization. He feels that they might agree to partially give up concentration if they think they can keep central power, because a deconcentrated system is more flexible and efficient and even they are looking for ways of improving the present system.

For this reason Katsenelinboigen believes that this approach could help scholars to understand better and predict what will happen in the Soviet Union. He expects that there will be deconcentration. In support of this view he cited a letter which had appeared a week before in the Soviet newspaper, *Sovetskaia Rossiia*, first pointing out that it is well known in the field how letters are organized. He said that the person who had written had asked why the Soviet Union could not imitate

Hungary and allow people who own cars to be taxi drivers in a private way. This is decentralization.

That is why the economic reform which is taking place in Hungary and which may be receiving consideration in the Soviet Union might be a peculiar combination including decentralization in the sector of services and maybe partly in agriculture. In any case this had been a subject of discussion in the late 60s. A serious fight had taken place between two members of the Politburo, Voronov and Polianskii, both of whom had eventually been fired. Katsenelinboigen noted that this fight could be followed in reports they had published only in local newspapers, not in the central *Pravda*. In the *Moskovskaia Pravda* a speech by Voronov had been published, in which he had supported decentralization of agriculture. A rumor had been circulated that Polianskii was quoted as having said: "It is easy to start, but it is difficult to end." That is why it is easy to start decentralization in agriculture and to give up the party apparatus. Katsenelinboigen added another example from Soviet newspapers. Around the time when Ivan Khudenko's experiment with a decentralized system of agriculture had been stopped in 1972, *Pravda* had published an article on the second page concerning a day in the life of a first secretary of the regional committee of the Communist party in the Orenburg province, which is not far from Kazakhstan where Khudenko had worked. Katsenelinboigen remarked that the whole picture is brought to light if one reads between the lines. He related that the correspondent had described how he had visited the regional first secretary of the Communist party one morning. The first secretary had awakened, had washed his hands and had immediately called the chairman of the collective farm asking, "Do you remember that you have on the corner a piece of land, and did you prepare it for the winter plants?" The chairman had replied, "I am sorry, but I forgot. Thank you for reminding me." The whole day he had called and organized meetings. He had been the real boss, the one who knew everything about everything.

Katsenelinboigen raised the question of whether this had been decentralization or a severe case of centralization with deconcentration. In his opinion it seemed to be the second. He continued that today the Soviet Union is again on the eve of some changes. The leaders want to do something, and are again plagued by the same major problem which they had in the 60s. What will they do with centralization? He contended that if they keep it the same, everything will worsen. What can be expected is decentralization in services and probably in agriculture. He added that it is not clear what will happen in agriculture because any reduction in the power of the party is a terribly sensitive problem. For if there is decentralization, what will the party do in the rural areas?

Yoshino had asked earlier about Katsenelinboigen's understanding of the concepts of property in an economic sense and property in a legal sense. Katsenelinboigen remarked that he is concerned with who really uses the property, not to whom it belongs formally. The real questions are who pays for it, and who has the discretion to use it.

Mochizuki asked Katsenelinboigen his opinion of the role and significance of the two basic methods of management of controlled economies: normative and con-



trolled prices. Katsenelinboigen replied that he felt this question was better approached as normative versus non-normative. The normative system could work through a system of mutual indicators either in physical terms or in money terms — prices. Non-normative means decentralization. In this way, he felt that “normative” and “centralized” are synonymous. It does not matter whether they are represented in monetary or in physical terms. They are simply different ways of organizing a centralized system.

Yoshino had also asked whether Katsenelinboigen’s “deconcentration” was different from the concept of decentralization of information. Katsenelinboigen responded that deconcentration as it relates to decisionmaking is a situation in which the appointée is sent information to direct him to make a decision in a certain way. If he is not sent information and makes the decision himself, then the process is decentralized.

Ocić commented critically that it was misleading for Katsenelinboigen to so directly apply his experience in the Soviet Union to Yugoslavia. He said that Yugoslavia has systems which are quite different from those of the Soviet Union. In connection, Iwata mentioned that Yugoslavia does not have the *nomenklatura* system, which plays an important role in Soviet society.

Otsu was curious why concepts which in Katsenelinboigen’s paper had been discussed in economic terms had been applied to political decision-making in the discussion. Katsenelinboigen responded that politics and economics are inseparable. Where there are appointments, there is responsibility. A managerial system immediately raises the economic problem of the responsibility of the manager for his activities. How will he be rewarded both positively and negatively? This question is intimately related to the extent to which the manager is responsible for his failures, and this cannot be separated from the system of appointments.