

of the Main Fuel Administration, which is part of the Commissariat of Heavy Industry existing only as an All-Union commissariat with no corresponding commissariats in the different republics. It is interesting to note that the administration of light industry is a joint union and republic responsibility. The immediate preoccupation of the Main Fuel Administration is not so much with the Five Year Plan as with yearly and quarterly plans within the Five Year Plan, and their fulfilment. The Fuel Administration deals not only with coal but with other types of fuel, including oil and its by-products, peat, wood and other combustibles. Other enterprises inform the Fuel Administration as to their need for coal. Daily telegrams keep the Moscow office informed of actual current needs for different kinds and quantities of coal in different industries; and daily reports from the mines give information as to output and transportation.

The relationship of the Main Fuel Administration to the State Planning Commission for the second Five Year Plan is twofold. First, general directives, showing the relation of the coal industry to other industries, are laid down by the Gosplan. Then the Main Fuel Administration and its trusts and local units work out the specific application of these general directives throughout their own operations. In conference in Moscow, the results of the work of these administrative units are brought together. Then the Gosplan makes the total plan and issues it as instructions, subject, however, to counterplans which are again brought in by the Main Fuel Administration and its trusts and local units and represent discussion all the way down the line to the local shop or mine committee of workmen and technicians. Finally, the Gosplan makes a formulation, "balancing" the industries in their inter-relationships and determining the investment of capital and other aspects of a unified financial plan. The last step is the adoption of the plan by the All-Union Congress of Soviets.

How this has worked with reference to the second Five Year Plan, was more clearly seen in the offices of the State Planning Commission in Moscow, which has a fuel division. Obviously, coal is only a part, though a vital one, of the whole planned economy. Here is illustrated a fundamental difference in concept as between planning as it is administered in the Soviet Union and as it is discussed in the United States. Planning conceived merely as a technique, can be carried out in different branches of industry and in different establishments. This, however, does not constitute a planned economy, which, in the nature of the idea, is a total and integrated whole. All branches of industry in the Soviet Union are planned at the same time.

Considering coal within this framework, the main object of a plan for fuel is the development of the metal industries. When this is adopted as the main objective, all other uses of fuel fall into place in terms of their relative importance. Their importance is determined in the light of the policy as to next steps in the development of the planned economy. The immediate objective is industrialization. Metal occupies the central position in this development. It does not take the major supply of coal, but the plan for coal is made after acceptance of the figures given by the metal industries.

This, then, is the first factor as to how much coal is required for industrialization (namely, how many tons of pig iron are needed and how much coal it takes to make them). The second factor is transportation. The third is development of electric power. These three are looked upon as the primary factors determining the need for coal.

Time does not permit elaboration of the various factors which must be considered in determining the total quantity and the regional distribution of production in an industry like mining. Suffice it so say that it involves, of course, technical

questions, mechanization and productivity of labor on the one hand, and on the other hand housing and community development: It also involves consideration of location of contributing industries, location of consuming industries, and decision as to what is the most economical relationship between all these points of production and distribution and how much transportation is available.

Knowing the main directives which determine the need for coal and the limiting factors in producing it, the question then is, "Who reaches decisions?" We have noted the process of negotiation between the trust and the trade union in the region of the North Caucasus. Having worked out their conclusions as to what the different mines of the North Caucasus could produce, representatives of administration, of trade unions and of workers came to Moscow for an All-Union fuel conference which was held early in July, 1932. The purpose was to accumulate ideas and recommendations from all over the country for the second Five Year Plan. The number participating was 666, of whom 361 were engineers and 113 economists. Women in these two groups numbered seventeen. Fifty of the conferees were workers, all of them so-called shock brigaders or leaders who are stimulating production out of loyalty to the Communist Party and the socialist state. The remaining 142 were from miscellaneous groups. On the basis of this material, a first evaluation of the second Five Year Plan for fuel in general was in process of being made at the time of my interview.

These details, however, represent a balance which is not to be taken as fixed. In the words of the chief of the coal division of the Gosplan: "These balances are not fixed, because we grow, and growing we break the limits. The balance is simply the estimate." Three steps are involved in striking the balance, as already shown. First, a prospective figure reflects average possibilities. In order to increase these possibilities, a second step is taken, in the form of a yearly plan which is always higher than the Five Year Plan; and to increase this yearly plan, a third step is taken, in so-called counterplanning, which began in 1930. These counterplans are made at the workplaces, where possibilities of increase are more clearly seen than at the Gosplan. Thus the maximum production is not ordered from Moscow, but planned by the miners underground and the technicians with whom they are associated. It is they who are eager to accomplish more than the quotas which represent the average figure from the State Planning Commission. It is in this process of administration, involved in the carrying out of an estimated plan, that frequent changes occur which are sometimes misunderstood as indications of errors in advance estimates. To a management engineer, however, they are rather a reflection of the fact that the carrying out of the plan is a living process and not a mere record on paper.

The conference in connection with the coal industry was one of twenty-four held in Moscow during the summer of 1932. It is worth while to quote here decree No. 429 of the Council of People's Commissars, dated March 25, 1932. It begins thus:

The successful fulfillment of the work connected with the preparation of the second Five Year Plan demands the active participation of all state trade unions and social organizations. It is necessary to draw into this work the widest masses of the workers and of the members of collective farms. In the drafting of the second Five Year Plan it is necessary to provide for the widest participation of all eminent scientists and engineers and scientific research organizations of the U. S. S. R., such as the Academy of Sciences, the Communist Academy, the Lenin Agricultural Academy, etc.

The Council of People's Commissars then decreed the steps

to accomplish this purpose, which may be briefly summarized as follows:

1. The State Planning Commission was to supply outlines and methodological instruction to the All-Union commissariats, to the constituent republics and to the most important regions not later than April 1.

2. The All-Union commissariats were to present preliminary drafts of the control figures of the second Five Year Plan to the State Planning Commission in accordance with the outlines furnished by the Commission, not later than July 10, while constituent republics were to present these materials not later than July 20. On the basis of these materials, and the work of conferences to consider separate problems, the State Planning Commission was to present unified control figures to the Council of People's Commissars not later than August 20.

3. After these control figures had been considered by the Council of People's Commissars, the State Planning Commission was to prepare detailed instructions and quotas concerning the control figures for 1933 and for the second Five Year Plan. These were to be forwarded to the All-Union commissariats, republics and regions not later than September 1. The detailed figures for 1933 were to be prepared by the All-Union commissariats not later than October 20 and by the republics not later than November 1, while the preliminary plan for the development of the national economy was to be presented by these bodies to the State Planning Commission by the latter part of November.

4. Finally, the State Planning Commission was to present the plan for 1933 for the approval of the Council of People's Commissars of the U. S. S. R. by December 1, and the entire second Five Year Plan by January 1, to be formally adopted by the All-Union Congress of Soviets.

The special congresses and conferences referred to in these instructions were twenty-four in number, covering the following subjects:

1. Allocation of productive forces
2. Electrification
3. Fuel
4. Chemistry and its application in the national economy
5. Development of geological and geodetic work during the second five-year period
6. Mechanization of difficult labor processes
7. Water economy
8. Specialization and co-operation in the machine-building industry
9. Organization of repair work and mechanical shops for the major branches of national economy
10. Reconstruction of the lumber industry
11. Technical reconstruction of the food and consumers' goods industries
12. Reconstruction of transport
13. Transport, other than railway
14. Mechanization of agriculture
15. Feed cultivation, vegetable and fruit growing and the utilization of these products
16. Livestock breeding and utilization of products
17. Reorganization of construction work
18. Electrical communication
19. Trade turnover and its material base

In connection with this decree, reference should be made to the resolution adopted at the sixteenth convention of the Communist Party, outlining an industrial standardization program for 1932 and calling for "a maximum of control by standardization of all agricultural and industrial production." The resolutions recognized that provision must be made for training of standardization workers and that in carrying it out co-operation must be secured from groups of workers, production councils, organizations of inventors, "wall-newspaper" staffs (referring to publications which we would call house organs but of which there is only one copy, posted on the bulletin board). These appeared in condensed translation in the ASA Bulletin of January, 1932.

20. Labor and personnel

21. Reorganization of municipal construction, city housing and living conditions

22. Problems of health preservation and proper utilization of leisure

23. Development of scientific research work in connection with the second Five Year Plan and the organization of a network of scientific research centers

24. Cultural work and the creation of the material base for the cultural revolution

Three sections of the decree then describe the procedure for co-operation with the State Planning Commission by the commissariats and by the republic and local planning organizations. For instance, each commissariat was to name one of its vice-commissars to supervise the work. The commissariats would receive outlines and instructions from the State Planning Commission and in turn transmit them to their subsidiary organizations, the industries, trusts, factories, etc., and the suggestion was made that the All-Union commissariats might call special conferences, drawing into these conferences scientific institutions and social organizations. The planning organizations of republics and regions were called upon to plan the economic and cultural development for their geographical areas, and they were charged with laying special stress upon plans "for the development of large cities." Finally, stress was laid upon the importance of labor's participation. The last two paragraphs of the decree are as follows:

1. All State, trade-union and social organizations are urged to start in immediately to draw the wide mass of workers into discussing and proposing solutions for problems connected with the second Five Year Plan.

2. The State Planning Commission, the All-Union commissariats and the Council of People's Commissars of the constituent republics are instructed to assure the wide participation of the All-Union council of trade unions, the central committees of trade unions and local trade-union organizations in all stages of the work in the preparation of the second Five Year Plan.

Thus it becomes clear that the procedure described to us in the North Caucasus as actually under way in the mines, is the standard procedure for all industries. Space does not permit an account of how this applies in agriculture or in factories, but the whole idea may be summed up by saying that management in the U. S. S. R. has for its goal an all-inclusive purpose to establish a new society: that the new society is to be a collective economy; that all who are able are expected to work, and that when the class divisions of the old economy have been eliminated through the process of socialization of industry all who are able to work will be expected to fulfill their function in the economic system, while in turn each will share in the collective goods and services; that the whole process is grounded in the Hegelian philosophy that the rational is the real and that the real is rational, and hence procedure and administration and all decisions connected with organized economic life must be based upon facts and a knowledge of natural law.

To a group of management engineers it hardly needs to be said that decisions, to be effective, must proceed from knowledge. Once the task has been accepted of developing a rational, planned economy, knowledge becomes the master for the reason that no other master could make a plan which would work. This delicate balancing of one industry in relation to another, this constant watching of results, cannot be accomplished by writing down figures representing decisions of one person. As one of the administrators in the State Planning Commission expressed it, all parts of the national economy are interdependent, but not from a single hand. Each decision creates the necessity for the next decision, and each must be in harmony with reality and rational because based upon natural law. Gradually the dictatorship of a revolutionary period gives place, through the