

administrative process, to the authority of knowledge which is the fruit of science.

Thus far, no analysis has been given of the political institutions within which planning and administration of socialized industry are carried on. This also is a very interesting aspect of the new economic system in the Soviet Union. As the primary purpose of the Communist state is the organization of economic life, the political forms must be adapted to the administration of socialized industry. The nucleus of the new political organization is the Soviet or council or shop committee. In the smallest local unit the workers elect delegates to the Soviet, and thus step by step is built up the central authority, the All-Union Congress of Soviets, which is directly composed of the workers' representatives in the different branches of industry. Out of the Soviet grow the institutions for planning and administration.

Of course it is known that the Soviet Union is made up of constituent republics, just as the United States consists of states, with relationships to be worked out between federal and state governments. In the U. S. S. R., the administrative organization is centered in the Council of People's Commissars, under which function commissariats of three main kinds: the People's Commissariats of the Union, with no corresponding bodies in the constituent republics, such as the Commissariat of Heavy Industry; the republic commissariats with no corresponding All-Union bodies, such as Education and Health; and the Joint Commissariats, such as Agriculture and Light Industry. In these plans of administration and in the distinction between what is regional and what is of All-Union importance, is another field of study of great interest in management research.

Of course a planned economy must be a record-keeping economy. Reference has already been made to the Central Board of National Economic Accounting. It centralizes control and planning of statistics, but much of the actual task of collection is in the different administrative agencies in the trusts or the republics or the regions. Moreover, in factories and mines everywhere one finds records of accomplishment, many of which are individualized, showing not only the output of a given department and its relation to the quota, but also the progress record of individuals.

These progress records of individuals are of course part of the whole subject of incentives. Naturally the purpose of building a new society which is to be a workers' republic is in itself an incentive for the workers. Added to this general motive, however, is the reward given to individuals who make notable contributions. For example, we visited the agricultural machine factory in Rostov just after it had completed a heavy task of building the required number of combines or reaper-threshers machines. After a tremendous spurt of energy which finished the task, the workers took their vacations. All workers in Russia have vacations with pay. The plant newspaper, of which we received a copy, when I took it home and had it translated was found to contain a decree signed by Joseph Stalin as Secretary of the Communist Party, naming, out of the mass of 17,000 workers, individuals who deserved rewards and describing their particular achievements. Sometimes the reward may be a scholarship for study, and sometimes it is a group reward, such as the building of a workers' club. On the other hand, slackers may be held up to derision. One finds, for example, in the Park for Culture and Rest in Moscow bronze busts commemorating the contributions of individual workers to economic progress, while also there are caricatures of those who have obstructed progress. Thus humor is included among the incentives.

It would of course be pertinent in observations of manage-

ment in the Soviet Union to analyze the actual figures of output under the first Five Year Plan. Among the many illustrative figures which are available, probably the most significant is the fact that 81.5 per cent of the national income in 1931 was derived from the socialized sector of industry, as compared with 52.7 per cent in 1928, and that 1932, when finished, will probably be found to have 91 per cent of the national income from socialized industry. During that period there has been an increase in the national income. Measured in billions of rubles at 1926-27 prices, the national income in 1931 was 38.1 as compared with 26.8 in 1928, with an estimated figure of 49.7 for 1932-33.

First, these figures reflect the fact that the Soviet Union is accomplishing its industrialization by the accumulation of its own capital for production. Naturally this is achieved by self-denial. Attention has had to be concentrated upon production goods. The people have had to do without many consumption goods. There is not enough food. The peasants have more money than ever before to spend, but goods which they wish to buy are not in the market. The difficulties are great, but the important point is that all of these are problems to which the institutions of administration and planning are giving attention. The second Five Year Plan will aim to increase consumers' goods and to eliminate inefficiencies in distribution, while continuing emphasis upon industrialization.

The second fact of great significance, the fact that so large a proportion of the national income is derived from the socialized sector, is important in any study of management. Management in the Soviet Union has the responsibility and the power to control this proportion of the national income and to direct it as an instrument of the economic plan. This power to distribute the national income enables the Soviet Union to determine what the standards of living of its people shall be, and to raise them as productive capacity increases.

The universality of the principles of Scientific Management emerges as one observes their applicability in the new economic system of the Soviet Union. The outstanding difference is that in the United States limits are set to the application of knowledge because the area of control through ownership is not comprehensive enough to plan and control the relationships of factors which are essentially inter-related. The extent of the socialized control of the Soviet Union has given to Scientific Management in that country a scope which is new in the history of modern industry. It will take time to perfect its application in the Soviet Union to the lowest industrial unit with the completeness and precision already attained in the best managed shops in the United States. But meanwhile the range of problems which is being presented in the U. S. S. R. by this large-scale integration of industries reaches far beyond the widest stretch of the imagination of the management engineer in America. Here Scientific Management is tied to a hitchingpost, when it should be free to follow as far as electricity can carry it.

Returning to the United States, I found among my books a pamphlet which I had previously overlooked. It was a speech made by Lenin in Moscow in 1918, entitled "The Soviets at Work," in which he said: "We, the Bolshevik party, have convinced Russia. We have won Russia from the rich for the poor, from the exploiters for the toilers. And now it is up to us to manage Russia."

Lenin considered the political organization of a workers' republic insufficient. The workers must learn to manage and must base their management on "universal accounting and control of production and distribution." And he declared: "We should try out every scientific and progressive suggestion of the Taylor system. Successful management depends on the ability for practical organization."

## Applied Scientific Management

### IV. Periodic Financial Reports and Their Uses

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THE REPORTS on plant operations and other major functions of the business are also used by the men at the head of these activities, a point I neglected to mention in my last article. This is also true of all the other reports or portions of reports. In this article I propose to deal principally with the reports which, under a system of Scientific Management, are a product of the accounting system.

It may not be amiss to emphasize again at this point the fact that accounting should be regarded chiefly as a tool of management. Few managers fully appreciate its possibilities in this respect. Most of them accept accounting reports as they are presented by accountants, whether they present facts in a practical and usable fashion or not. They feel that accounting is something shrouded in mystery and that it would be presumptuous and impious to question the figures presented. It was the apparent lack of common sense in accounting, together with the effort on the part of accountants to shroud their art in mystery, that led to Taylor's decision to get to the bottom of the whole affair and develop a system which even a benighted engineer and manager could understand.

In discussing the periodic reports which the accounting system should provide as a matter of routine, may I again stress the great value of a well worked out classification along the lines described in my article in the December issue of the BULLETIN OF THE TAYLOR SOCIETY.

These reports or statements would include the following:

1. An analysis of expenses.
  2. A statement of the cost of products completed during the period.
  3. An income or profit-and-loss statement which analyzes revenue, from sales and other sources, and gives the resultant profit or loss both quantitatively and qualitatively.
  4. A balance sheet for the business which shows the increases or decreases in the various classes of assets and liabilities and gives a sufficient analysis to enable one, through what Taylor called the "exception principle," to place one's finger on those items which manifestly call for further analysis and investigation. The exception principle and its uses in connection with these reports will, I hope, be made clear as we go on with the discussion.
- These periodic statements should be made up monthly as a part of the routine operation of the company's accounting system. Not only should they serve the general manager and other major executives as tools of management, but, with the exception of the general-ledger balance sheet, they should serve in the accounting system as the media for the monthly closing of the books. They should be so set up as to assist the management, without wasting time on confusing masses of detail, in obtaining a true and complete picture of every activity of the business. By comparison with previous periods, as well as with "budget" or other established standards, they should provide an accurate measure of performance. As Taylor expressed it in an early description of his accounting system, the object should be "to classify and record accurately and systematically all of the assets and liabilities of the company; to record all transactions of the company and classify them in such a manner as to

enable those engaged in the business to obtain frequent and exact information as to the financial side of all departments of their business. . . . At the end of the month statements should be made out showing a balance sheet of the books . . . and such other reports as may be necessary to indicate either an improvement . . . or the reverse, and to enable the managers to locate and indicate the cause of the improvement or the reverse."

As a background for discussion of the monthly financial statements and their use I believe it will be helpful to have in mind a few very simple rules which I have found to be invaluable in managing a business. If they are adhered to rigorously, the desired result must follow as inevitably as "the night the day." They are:

1. Determine a proper rate of profit for the business, and secure a governing figure for expense by deducting this amount from the sales value of orders received.
2. In detail, see that the company's expenditures, as represented by obligations incurred, including payrolls, and by the registered accounts payable, also including payrolls, are not in excess of the governing figure mentioned, i.e., the sales value of orders received less the rate of profit. With the exception of more or less fixed items, these things are easy to keep track of and control if the management has the fortitude to decide and act. In too many cases, however, managers procrastinate and temporize.
3. Have all profits show up in cash or its equivalent rather than in the form of increased inventories or new equipment. In other words, have your money before you allow it to be spent.
4. Still another rule is to keep out of debt.

In applying these rules, it is only necessary to know: (1) the proportion of both direct and indirect hourly wages to the sales value of the company's product as a whole; (2) the same thing for all purchased materials used either in the manufactured product or as supplies; (3) the same for all salaries; (4) the same for all controllable items of expense which have been referred to as "miscellaneous" in their nature. With knowledge of what these components of cost should be and what they actually are, it is only necessary for the general manager, if he finds they are not in accord, to issue the required orders to bring them in line and see that these orders are carried out. Too often such action is deferred in the hope that conditions will improve; too often the general manager permits himself to be persuaded by his subordinates that nothing can be done or that it would be disastrous to take the action indicated. Wage payrolls can be controlled either by reductions in force or by shortening hours and thus made to bear the proper proportion to the prevailing sales volume. This form of curtailment is usually the first to be considered and frequently the only one. It is often neglected, however, until conditions become so bad that sudden and drastic action becomes necessary. In a company having the reports I have described in this and my preceding article the need for such action is foreseen and brought about in a more gradual, and consequently less shocking, manner.

In the matter of material purchases, instructions may be issued to the Purchasing Department to limit the placing of orders in proportion to the material cost of the products sold. Salaries