

to shoulder the war burdens, other than working upon the European orders which certain American manufacturing plants had received, not as a matter of government policy, but generally almost contrary to the government policy. It was, therefore, found necessary at the beginning of our participation to start from the very ground in organizing the nation for war production. Government arsenals could supply but a small fraction of the war materials which were immediately needed.

22. Those who were in control of government supply bureaus very quickly found it to advantage to employ for the organization of war-time industry men who had made a business of organizing peace-time industry. It was, therefore, usual to find in Washington that the men who were taking active charge of the expansion of those bureaus were emergency men, brought in for that specific purpose, and the regular government officials were contenting themselves to the lending of these men advice on governmental procedure, or the execution of such procedures as might be developed. This was even more true in the organization of industry to aid the government than it was in the reorganization of the bureaus themselves. The men who were brought in to do this work were proven executives, and there was a scramble among the supply bureaus for those men who had proven themselves competent in the distinct field of management. Practically every man who had ever written an article on management was to be found connected with one or the other of the government bureaus before the war was two months old. In this attempt to secure the management talent of the country it was unfortunately true that some of the bureaus were not in a position to select the capable men from the incapable, but nevertheless there was built up quickly a corps of management experts, such as had never before been gathered together. These men, accustomed to the freer ways of the business world, frequently chafed under the binding restrictions of governmental red tape, and therefore, kept constantly in mind the performance of old tasks in new ways.

23. Brought into contact with these men at this time were hundreds of other industrial men, called also into government service, who as yet had not come directly into contact with the management movement. These men became the aides to or cooperators with those of wider modern management experience and soon came to have first-hand knowledge of their methods. Although it is true that some of these men returned to

industry with rather a horror of attempting the newer methods, the usual reaction was otherwise. To most of these executives the war became an apprenticeship in the ways of modern management, the knowledge gained being directly utilized after their return to industry.

24. The effect of the war in changing operating methods in American industry and causing a rapid growth in the management movement can hardly be overestimated. Reference was made in the previous chapter to the effect on plants forced out of time-worn ruts by the war. The same effect was experienced by executives as individuals. As the production forces of the government were demobilized, executives returned to their peace-time tasks with new ideas and new concepts, and, above all, jarred out of the habit of doing the same thing in the same way day after day for years.

25. The war served the management movement in another way. It broadened the very men who had been the leaders in the movement in prior years. Particularly is this true of the attitude of the manager of the worker. Whereas much of the opposition to scientific management had been from the worker, because he felt that it was but a further attempt to deprive him of some of his traditional skill, previous to the war, management men had a tendency to regard this as merely one more barrier to be overcome, and not to deal with the fundamentals of the situation. The broadening powers of the war seemed to aid this situation somewhat. Management men seemed now to possess a more fundamental concept of their position towards labor, and with rather a feeling of trusteeship of the rights of labor as well as a trusteeship of the rights of the owners of a business, which they had long felt. This has developed side by side with the growing feeling of the importance of the human factor in industry, previously referred to.

26. There has also developed an appreciation of the difference in reaction likely to be experienced from the workers as various phases of management work are undertaken. For instance, one management problem to which much attention has been given in recent years is the lighting of the workplace. If the manager is seeking to improve the lighting of the workplace, he will find no opposition from any worker or body of workers. He may receive requests for better lighting from the workers, but there will most certainly be no permanent objection imposed to the changing of light conditions in the shop for the better. This is representative of the type of change where the manager is sure

of the full cooperation of the worker, and the type where he will expect no marked opposition.

27. On the other hand, another of the problems of the modern manager is to ascertain just how much production should be attained by an average worker in a given space of time. This knowledge is fundamental in a large number of the decisions of the manager. To secure this information there has been devised the taking of time-studies usually by means of the stop-watch. Large numbers of laboring men, and particularly labor organizations, have expressed their disapproval of the taking of time-studies. It would be foolish to think of the taking of time-studies without the full cooperation of the worker, and yet the manager here is likely to find himself bitterly opposed by the worker. So his management problem in this case takes on an entirely different aspect from the one of improving the lighting of the work-place. In both the human factor must be regarded, but from entirely different angles.

28. Since the war the spread of the management movement has been extremely rapid and the development has been along what seem to be comparatively sound lines. "Efficiency" has passed on and in its stead has come soundly developed management work that considers the fundamentals of all problems, that is based on long perspective, that takes into account the necessities of both booms and depressions. Management has become the profession of the plant executive, not merely the profession of a few who specialize in it. Those who do specialize in management fit into the scheme as specialist cooperators with the managing executives of industry. The consultant in management has become firmly entrenched as one of these specialist cooperators. He fills a very real, although a new niche in the halls of industry. He is a combined product of the age of management and the age of specialization in industry. He specializes in management and sells his services, either along general or specific management lines, to the executive who is in charge of the enterprise. He brings to one plant the knowledge of many, and he serves to rehabilitate run-down concerns by bringing in the refreshing stimulus of an outside viewpoint. He serves the same purpose as does the blood-transfusion operation at a hospital, and at the same time his greatest work is carried on before the patient-concern gets to the point of weakness such as characterizes the hospital patient who undergoes the blood-transfusion.

29. The specialist, or consultant, in management is

not the only expert who is a product of recent development in industry. He has come in after the certified public accountant, who occupies practically the same position in the accounting field that the consultant in management does in the managerial, and his advent is not so recent as that of the income-tax expert, whose duties frequently partake more of the legal nature than they do of the accounting. But some of the more recent developments in the field of industrial consulting have become rather specialized. For instance, there is the type of industrial consultant who advises only with regard to the construction of a new building or the remodeling of an old one, specializing in such matters as the type of building construction, fire hazard, and the routing of the product through the factory. Or there is the still more recent development, the outgrowth of the labor conditions just referred to, of the consultant who deals only with labor matters. There have been mushroom consultants spring up who are but remnants of the efficiency man, but in the main the consulting field is developing along far sounder lines than did the efficiency movement.

30. Together with the growth of the consultant in management, has come the growth of the idea of having an "inside man" in management. This inside man is a specialist in management who is continuously on the payroll of the employing concern, and who performs the same type of tasks as the consultant. He has no particular duties connected with the actual administrative work of the concern, but acts entirely as a specialist in management, advising and installing new ideas. This development seems in some respects to many to have more possibilities than the development of the consultant, as the latter frequently has to spend so much time in the plant in order to be familiar with local conditions, as to become himself almost an inside man for the time being. If he does not devote that great an amount of time, he is apt to have a high percentage of error in his decisions.

31. In the business depression which began in the late months of 1920, the management movement found a blessing, though at the time it did seem as a blessing to be considerably in disguise. Soon after the beginning of this depression, factory managers being forced to reduce operating costs to the very minimum in order to be able to survive, frequently eliminated production, personnel, or other similar staff departments which have been usually looked upon as part and parcel of the management movement. These departments were usually eliminated with regard for only one factor, imme-