

## SOME INDUSTRIAL LESSONS OF THE EUROPEAN WAR

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When the war broke out, this country felt keenly a resultant increase of stagnation in industry. One of the most serious results of this was the loss of employment by great numbers of workers, and the placing of enormous armies of others upon short hours. The commonwealth of Pennsylvania, through the Department of Labor and Industry, made a careful canvass, and found that during the fall and winter the loss to individuals and the commonwealth as a unit, through this lack of employment and short hours, was of such an extent as to demand immediate attention and action on the part of the state and city officials and employers.<sup>1</sup> It was found that the governmental and industrial organization of the state was so constituted that immediate measures of relief, which would be to any great extent effective, were largely impossible. Individual manufacturers, in a very large measure, endeavored to relieve the situation by manufacturing materials for stock, to making repairs to their plants, and distributing the available work to as large a number as possible through the medium of reduced hours to each worker. Persons in every walk of life, to some extent, assumed responsibility for procuring work in homes or places of business for as many persons as could be arranged for. A number of towns and cities took up the project of municipal improvements, etc., with the same object in view.

However, the effect of all these activities was not sufficient to prevent serious suffering to the individual worker and enormous loss to the people of the commonwealth. The people of the state, however, were sufficiently impressed by the unusual conditions to have their legislature pass laws at the present session giving the Department of Labor and Industry authority to work out plans for more effectively dealing with conditions of unemployment in the future. These laws properly refer, not only to unemployment

<sup>1</sup>*Report of Pennsylvania Commissioner of Labor and Industry, Part 1, 1913-1914.*

caused by unusual conditions of depression, but also to the very serious losses occurring through seasonal industries and through time lost by employees when changing positions. Even when times are good in this country, the ratio between the days in which an employee who wishes to work is actually employed to the total days of the year—or, in other words, the man-year-power factor—is rather surprisingly low. This represents, therefore, an enormous loss of productiveness, which is as much a waste for present and future generations as the waste of natural resources.

Apparently, there is an inflexibility in business and financial organization in the country similar to that which thwarted the most effective endeavors to improve the labor conditions and cause the wheels of industry to turn. It must be admitted, of course, that the unsatisfactory business and industrial conditions existing before the war began were in some measure responsible for the exceptionally difficult situation later. However, that in no way interferes with the discussion of this problem, but rather makes it more distinctive.

The same tendency existed in Germany to an even larger extent, through the stagnation of industry and business and lack of employment, by reason of the war. (The author was in that country during the early months of the conflict.) Under the military power, however, and the autocratic form of government, Germany handled these conditions as concrete problems, and adapted both her governmental and business machinery to meet the conditions in the most effective manner. In our own country these problems were looked upon, to a very large extent, as being of an immaterial character and impossible to touch. Germany's banks continued to do business without cessation; I cashed travelers' checks payable in London nearly every day during the six weeks I was in the country, and observed no difficulty whatsoever in doing business. Immediately upon the declaration of war, the government, in consultation with the banks, took such steps as would relieve the situation. Germany was equally effective on the project of employment and industry. The industrial leaders were called together into conferences to determine what action each one should continue to pursue, and what workmen he should employ; then with the aid of similar conferences of bankers, the necessary funds were arranged for to enable him to proceed. Of course, the government was directly behind all of these movements, and did not hesitate

to diverge as far as was necessary from ordinary governmental activity to accomplish the desired purposes.

Not only did the German government call the manufacturers and bankers together, but also the labor leaders, the merchants, and all other classes who could join with it in effecting the most efficient solution of the enormous problem facing the nation. Such form of government is not conventional, but it has a flexibility necessary to handle unusual conditions as they arise. It seems that this illustration of what another government has been able to do might well impress upon the American people the need of not permitting the governmental joints to become ossified, but to endeavor at all times to make both business and governmental conditions so flexible that unforeseen conditions can be dealt with to advantage. The new banking system of the country seems to be a move in the proper direction. It seems also possible to arrange municipal, state and national appropriations for material projects and the organizations having to do with them in such a manner that public works can be quickly started when business conditions of the country demand. It seems possible to build up a tradition among our corporations and people that it is not only a duty, but eventually profitable, to make unusual efforts to keep their money working, their wheels turning, and their people employed when hard times appear. In general, the German illustration shows that we as a people should be able to work out many lines of procedure, through the various avenues at our disposal, for controlling unsatisfactory industrial and business conditions, at least to a certain extent, which heretofore have been left largely to take their own course, each individual, as he saw fit, tying his money in the stocking, and in other ways doing his little to promote his own and the general conditions of distress. It is, of course, not intended by this statement to assume for a moment that hard times will not come, or that we can have conditions where we will have a hundred per cent year-man-power factor. When a people is overly extravagant, or when it goes into reckless speculation, or commits other follies, it must, of course, suffer the consequences, as surely as does the man who overeats. But as the good doctor may relieve the pain or even save the life of the latter, so can we as a people, if we properly study our conditions, tend to relieve much of the distress and loss which has been allowed to appear unchecked in the past.

One of the distinct lessons of the war to Americans is with reference to our dependence upon other countries for many prepared materials, which we might make for ourselves to as good, or even better, advantage. One of the most striking and most advertised of these was our lack of dye-stuffs. The handicap to American industry through lack of many materials at this time was not due to the fact that Americans are short in brains. It was rather a lack of systematic study of American needs. Here again Germany offers an excellent illustration of the proper way to proceed. She had with great detail and care arranged so that scientists would not only be developed in her fine technical schools and universities, but that they would find it to their material advantage to investigate the needs of German industry and work out, by scientific experiment, processes necessary to their advancement. She had also taught her youths, through the medium of practical part-time or continuation schools, a quality of skill and intelligence of an exceptionally desirable character. In the United States much valuable experimental work has been carried on, particularly by corporations, for their private benefit, and by individuals. But the development of scientists for the purpose of supplying the needs of our industries has not been dealt with in a broad-minded, logical manner.

When the United States government created agricultural experiment stations, one in each state, it took a step of much importance in improving the efficiency and prosperity of our people through the great advance in agricultural knowledge. One great mistake, however, was made. Had Congress, when establishing these agricultural experiment stations, which have already done so much to enrich our land, added to their duties that of carrying on scientific, practical, and technical investigations for increasing the prosperity of all industries, instead of only one, this country would today stand in a far more desirable industrial position than is now the case. The government should not delay in making such additions to the scope of these magnificent experimental centers. They are at present, as a rule, well equipped, and manned by men who have learned the art of scientific investigation, and have developed organizations and methods of procedure suitable to the purposes intended. It would be very easy to add the necessary functions to these stations, or, if thought more desirable, to erect coördinate divisions therewith. It is not meant, of course, that a locomotive-

builder, for instance, should find out, for his own personal use, through the medium of such stations, the best material to use in a connecting-rod; but rather that the whole industry or country should be given information whereby the products of manufacture could be improved, and whereby economies could be obtained. The government has given this kind of help, not only to agriculture, but to mining, and though the latter work has been begun within a comparatively few years, material improvements have been accomplished thereby. If in both agriculture and mining this kind of systematic, nation-wide search for scientific knowledge has been productive of such valuable results, can there be any doubt of the advisability of its extension to the numerous other fields of industry, which are just as necessary and important to our prosperity and welfare?

It is probable that in the near future the purchase of materials by the countries at war may bring us a temporary prosperity. I say temporary, because prosperity founded upon passing conditions cannot be otherwise. Further, we cannot count upon continued prosperity through the opening up of vast new natural resources, for we have already reached the point where it is necessary to make the most careful calculations in our business and adopt methods of the utmost economy. The old profligate waste occasioned by our early munificence of natural advantages has largely passed away. It is necessary that both materials and labor be used more carefully in order that waste be eliminated, and that by-products be utilized. Particularly, however, we must cut out the greatest waste now existing in our industrial organization, namely, that of human labor. This must be done by the development of machines and processes which will produce economy in that field, and by handling labor in a way which will not uselessly waste itself through lack of opportunity for its application. Such a condition as this must not continue: Here is a man who wants to work, can work, and should work. He does not work today. Why? The manufacturer did not need the man today, so he doesn't lose anything. Such a sentiment may be satisfactory to the manufacturer in question; but nevertheless the people of the United States have lost a one-day-man-power. This man's day, when multiplied by a billion or so, represents a material item of wealth. Not only can more flexible methods of government and business tend to reduce this loss, but also a study of scientific and

natural problems as I have indicated. By the latter means not only can methods be produced whereby the man will be employed more regularly, but the loss of his labor will be required to obtain a given result.

The war has shown the weaknesses of the nation as a business unit of the world to a marked degree. Our lack of ships to carry our produce to other countries has been impressed upon all who take any interest in public affairs. This lack is undoubtedly due to our inability or unwillingness as a government to deal with new problems as they arise, irrespective of past practices and traditions. Here again we have hurt ourselves through the same inflexibility of our ways and practices as in the cases spoken of above. Our lack of organization for doing business economically and suitably with our neighbors is becoming equally apparent. Our consular and similar service in the various countries of the world has not been such as would be established by a successful business man who desired to obtain a maximum of profitable trade throughout the world. As a matter of fact, our industrial interests have also not gone into the project of tying up our business with that of other countries with the same thoroughness and to the same extent as have many of our individual manufacturers organized to deal with their clients at home. Here again Germany has surpassed us and has taken hold of the project of dealing with her neighbors as a good, practical, systematic business man should do. As a result, we who have neglected this field, and have depended upon the initiative of an individual or corporation to build up his foreign connections alone, have relatively suffered.

In fine, the war has taught us, among other lessons: (1) that the nation should have a more systematic and effective means of developing scientific, technical knowledge for our industries; (2) a better direction for the study and proper application of methods of preventing our present enormous labor waste; (3) the necessity for developing new methods of increasing the efficiency and economy of labor and materials; (4) the need for a more business-like national organization for doing business with our neighbor nations; (5) the necessity for creating transportation systems for carrying our own wares; and (6) the need of avoiding governmental ruts and ossification, in order that we may maintain our governmental, business, and industrial fabric sufficiently flexible to meet conditions effectively as they arise.