

British Industry in War-time

By Prof. W. W. SWANSON.

Mr. Rudyard Kipling, if the interview recently granted by him in Paris be authentic, predicts universal ruin after the war, but consoles himself with the reflection that, as riches is only a relative term, Great Britain will be as well-off as before as far as her position in Europe is concerned. The famous author admits, however, that this is but poor consolation, seeing that all the great European Powers will be reduced to ruin. As against the opinion of this writer of picturesque fiction may be placed that of Sir George Paish, editor of the London Statist, who recently stated that Britain is losing her annual savings only, and will be, as strong, financially, at the close of the struggle as when it began. This may be too optimistic a view, and yet, on the whole, it is thoroughly sound. While Germany is living largely upon her capital Great Britain is depending as much as possible upon her income to carry on the war. It is, of course, futile to speak of "business as usual," during this savage struggle, but that must be our policy so far as the exigencies of the military situation will permit.

The simple truth is that, as far as the bulk of Britain's population is concerned, the war has brought great economic prosperity — a prosperity, moreover, that is not entirely artificial as so many economists have maintained. There is, of course, some suffering from unemployment, due to causes that operate in every highly industrialized society to-day. There yet remain many unemployables, many who are ill and incapacitated for work. But in general, wages are high—higher than they have ever been in the history of British trade; and there is an abundance of work. The cost of living has soared to new high levels, but this has been largely offset by steady employment and increased wages. Nevertheless, in Great Britain as in the United States and Canada, the higher cost of living presses cruelly upon the poor. Wheat and flour are dearer than they have been for fifty years, and must remain so until the Russian wheat carriers are released from the Black Sea. Coal has also greatly advanced in price, and many articles of food such as meat, eggs and milk. The cost of living has risen, on the average, twenty per cent, and bears heavily upon those who receive fixed salaries and upon the very poor.

At the outbreak of war in August, 1914, trade and industry was, for the moment, paralyzed, and unemployment threatened to become acute. But with the restoration of credit, and the clearing of the seas of German raiders, almost all industries began to turn out their normal output, or to greatly increase it, with the result that British workmen during the past year and at present are over-employed, and are being subjected to a tremendously great physical test of endurance. In this respect, as in so many others, the winning of the war depends upon the tenacity with which the home population holds to its task.

It is obvious that the better conditions of employment are due as much to the withdrawal of millions of men for active service as to increased productivity of manufacturing industries. This means that there is work for all, even the semi-employables, in the production of boots, clothing, guns, ships and a thousand and one other materials of war. The farmers, in particular, are in need of labor, although loath to offer wages sufficient to secure it. The pages of the London press are filled with "positions vacant" advertisements, and there are thousands of jobs for clerks, packers, tailors, etc., that remain unfilled in the metropolis.

The hour, indeed, is a golden one for labor in England. Employers on every hand are competing for men, and that in itself means higher wages under strikeless conditions. The public will not tolerate any more strikes such as occurred in South Wales; and indeed there is no need of them as far as higher wages are concerned. The well-worn demand-and-supply economic formula holds good for present conditions, and English labor reaps a golden harvest as a result. This is as it should be, taking into consideration the higher cost of living, the tremendous tension under which the work is performed, and the higher rewards going to manufacturers. But above all, it means a prosperous population — one with plenty of work, good wages, better food and clothing, and a larger outlook upon life. Predictions are hazardous, but one is reasonably safe in saying that England's workers will "stick to the job." In the end this will count for much on the final outcome of the war; for German workmen are receiving poor and scanty fare, hard working conditions, and pay-

ment in a paper currency that is steadily decreasing in value. Economic pressure in itself may not win the war, but it will be one of the most effective contributory forces.

It cannot be affirmed that the condition of working women in the Motherland is as sound. In the first place women are not playing as large a role in the economic life of the nation as they are doing in Germany and France, where women of all classes are occupying the positions left vacant by the men called to the colors. Nevertheless, unemployment among women workers has almost disappeared in England, and the relief measures adopted at the outbreak of war are no longer required. Hundreds of women of birth and breeding have entered the ranks of the working class, and are busily engaged as clerks, packers and even as ammunition workers. In many other directions, too, English women have taken up the work hitherto done by men — indeed, to so great an extent, that the problem of what to do with them after war, when millions of men will be looking for their old jobs, must be acute. Moreover, while women's wages have not risen to the same extent as the men's, yet they have risen. In a way, the war has solved this vexed problem in the disparity of wages, and it is safe to say that the wages of women will never sink again to the old low levels.

In another way the economic position of women has been improved through the war. Thousands of married women have withdrawn from the factories. The government allowance to married women and children, in many instances, makes up a greater sum than the entire family income before the war. There has been a considerable amount of carousing and drinking as a result, and it has been estimated that, while the consumption of alcoholic beverages has decreased in the United Kingdom since the outbreak of war, yet drinking among women has somewhat increased. This, however, is not an acute problem, nor a very serious one; for, after the strain and excitement of war are past, there is no reason to believe that excessive drinking among women will continue. In the meanwhile, the withdrawal of so many married women from industry has created places for the spinsters and has helped, in a small degree, to raise women's wages. This is a distinct gain for the race, as it will not only better women's economic position, but give them a fuller spiritual life.

There is not the shadow of a doubt that England is prosperous, and will continue so during the course of the war. Industry on every side is booming; few are idle; labor and capital alike are employed. The situation is, indeed, similar to that which obtained in the United States during the Civil War, except that England remains on a gold basis. Many are predicting a collapse of trade and industry, and the paralysis of financial undertakings, after the war. If historical precedents are worth anything, however, it may be affirmed that not all wars have been followed by trade depressions. Instances on both sides may be given. Europe was prostrated after the Napoleonic struggle; but in both the United States, after 1865, and in France and Germany after 1871, there was an extraordinary acceleration in the productive output of industry. It was not, indeed, until 1873—and during a world-wide crisis — that the United States was faced with industrial depression. It may be argued, too,—and fairly well established—that the crisis of 1873 in Germany was caused rather by over-speculation than by the effects of the war.

It is perfectly evident, of course, that the material resources of the world are being enormously diminished as a result of the war; and that the waste of war will not provide employment for labor and capital any more than a great conflagration will do so. The fire at Chicago and the earthquake at San Francisco undoubtedly provided work in those places for thousands of men, but to just the same extent it prevented the employment of labor and capital elsewhere. Yet certain industries were stimulated thereby. And so it will be in England and the United States after the war — the great basic industries will be worked to full capacity to repair the damage wrought in Europe, and these countries may well escape industrial depression.

We may, also, emphasize here another point that is often overlooked. It is true that wealth will be greatly diminished because of the war; but it does not necessarily follow that capital, in the sense of the loan fund, will. Liquid capital depends, in last analysis, for its growth as much upon the banking organization of a country, and the extent to which its credit economy has been developed, as it does

upon material and wealth. A country may have vast resources in natural wealth, and yet have little or no liquid capital; while, on the contrary, a nation may be comparatively poor in resources, and yet have huge reservoirs of capital. After the war, therefore, England and France will be able to furnish all the capital necessary to rebuild Europe, even leaving out of consideration the United States. The United Kingdom, therefore, need not necessarily go through a period of depression at the close of hostilities. Indeed, her economic position will be stronger than ever, as she will undoubtedly capture most of Germany's former trade in Russia and South America; and if Germany can buy less it by no means follows that England, in her new markets, will not be able to sell more.

The real problem that the United Kingdom must inevitably face is that of labor. No doubt there will be enormously great difficulties of readjustment in the labor world. Millions of men must be returned to their old jobs, or new ones found for them. Tens of thousands of women, who have come to the support of the country during war, must be protected in their new economic position. Wages will be higher; cost of production will be higher; but the nation as a whole will move forward to a higher level of prosperity. Difficult as these problems are we may have every confidence that the practical British people will solve them when the time comes.

German Substitutes for Copper

A writer in the New York Journal of Commerce dealing with "How Germany is meeting shortage of supplies," has the following to say in regard to the copper and metal shortage and substitutes:

"There has been a great deal of talk that Germany is running short of copper. Germany was indeed a large user of copper, mainly for dynamos, motors, cables and wires. In the three months January-March 1914, 42,000 tons of copper were imported into Germany. There cannot be the slightest doubt that the melting of copper articles such as roofs, kitchen utensils would supply the government with sufficient quantities to carry on the production of war materials for many years to come. The question is how industry is faring without the accustomed supply. German industry had recourse to different substitutes, zinc, aluminum, iron and steel. For cables and other isolated conductors Germany is now chiefly using zinc, the properties of which had already been tested in peace time. As a conducting medium for electricity the proportionate value of copper and zinc is 3.7:1. There are vast deposits of zinc in Germany, and, moreover, the big zinc smelting factories of Belgium are in German hands. It is asserted that zinc will to a large extent take the place of copper even after the war is over. Alloys of zinc and copper show particularly good results: they are compact, hard, ductible, and malleable.

"Another good conductor of electricity is aluminum. Its capacity proportion to copper is 1:1.17, a little less than the real metal. A great advantage of aluminum is its lightness compared to copper. Consequently isolators, poles, etc., need not be so heavy as for bearing copper wires. The same qualities attend aluminum-alloys, chiefly the so-called "duraluminum." It is almost as light as pure aluminum, at the same time compact and hard as iron. It shows very little susceptibility to the influence of acids or corrosive vapors, and can easily be fashioned into any form desired. Aluminum will in future probably be used for many purposes that have hitherto required copper. Aluminum is not found in the form of ore, but is contained in clay and loam, from which it is extracted by means of electricity. Switzerland is the largest producer of aluminum in Europe, and the German production is steadily increasing.

"I mentioned also iron and steel as substitutes for copper. Though iron is not a good conductor of electricity it can be used for innumerable things which have hitherto been made of copper or bronze. As to iron ore Germany has not only her own resources and the mines of Belgium and Northern France at her disposal, but also the inexhaustible supply of Sweden.

"Household articles which have hitherto been made of copper, nickel or aluminum are now made of iron, possibly slightly coated with one of these metals, whereas many kitchen utensils are as in grandmother's time made of glass, china or earthenware. The German and Austrian china industry has thereby received a powerful impulse.

"England being the principal producer of tin, Germany was of course cut off from the supply of this metal. Lead was at once substituted for English tin, and the results have been very satisfactory. Germany's lead mines in Silesia, the Hartz mountains and the Erzgebirge have proved sufficient for her industrial needs."