

staff and labor) involved, at a price to cover the whole output; such price to include upkeep of plant, stocks, etc. Efficiency in operation would then result in shorter hours, and would itself be cumulative.

If such a policy can be combined with a large decentralization of initiative, high rates of production would follow naturally, and the individual, for the first time, would begin to reap the solid benefits of the use of mechanism. On this basis it would be possible to attack the second urgent necessity, the reduction of money in any form whatever to the status of an absolute medium of exchange.

These are not light tasks, but the alternative to their assumption is a weary pilgrimage which may have some very lurid passages. And in the end it may be found that the chief crime of the capitalist was that he was such a very bad capitalist; in that he neither recognized his assets, nor met his liabilities.

The English Review

## THE FUTURE OF GERMAN CHEMICALS

GERMAN chemical and dye works are being rapidly readapted for the manufacture of peaceable products, and the future is regarded as by no means unpromising. Manufacturers realize that they will not be able for some time to come, to export 70 to 75 percent of their total output, but they are already resuming the production of dyes from coal tar, and the manufacture of pharmaceutical products has been carried on at full pressure throughout the war. The *Frankfurter Zeitung* points out that there is an imperative demand everywhere for German pharmaceutical products which can quickly be met, while the stocks of dyes are greatly

reduced both in Germany and the rest of the world. Manufacturers intend, according to the *Frankfurter Zeitung*, to direct all their efforts towards supplying this demand and then towards accumulating stocks, and they hope that soon the excellence of German products will open doors now closed to them. Also they rely on the fact that foreign competitors will be unable to satisfy all the needs of foreign markets, so that recourse must be had to German products.

The efforts of nations which hitherto have been our adversaries [the *Frankfurter Zeitung* continues], especially of the United States and England, to create a chemical industry of their own on a large scale, particularly for the manufacture of dyes, are by no means underestimated in Germany, and it is known that considerable success has attended them, more in the United States than in England and France. It is nevertheless believed that there is no reason at present, to attach serious importance to these foreign efforts, because German industry has the benefit of long experience which, especially in the production of dyes, places it at a great advantage. It is true that Germany may feel the competition in the simpler dye products, which are manufactured in bulk, but she will not feel it in the more complicated products that are the specialty of German industry. The circumstance may be noted, however, that during the war the Swiss chemical industry has made great advances in the manufacture of these complicated products, and has succeeded in obtaining an entry into markets where German industry hitherto held uncontested sway.

The Morning Post

## POTASH AND FOOD

It is a favorite dirge with certain of our Jeremiahs to bewail the approaching extinction of the human race by starvation. Malthus, with his dismal visions of starving millions, has probably been misunderstood, but one of our greatest scientists has not hesitated

definitely to inform us that 'the years of plenty are passing: civilized nations will soon be in deadly peril of not having enough to eat'; and this without any reference whatever to war-time conditions, but merely owing to the inevitable encroachment of population on the means of subsistence. Between the starvation alarmists, on the one hand, and the declining birth-rate alarmists on the other, the man in the street is a little bewildered. But why 'civilized' nations? One would have thought that the uncivilized and improvident races of the earth would have been the first to feel the pinch. One can conjure up some horrible pictures, ending with the hungry populace eating the food controller.

In the great days of her pride and prosperity Germany arrogantly informed the world, through Professor Ostwald, that, owing to her monopoly of potash supplies, it rested entirely with her to decide whether or not mankind should starve. At this moment Germany herself is crying to the United States for bread. The vain rodomontade of the professor has changed into the wailing of the politician. And even if she were not going to lose Alsace-Lorraine, Germany would in any case lose her potash monopoly.

Many years before the war Americans had an interest in the Stassfurt potash deposits, but they were harshly treated by the Germans,\* and compelled to join the monopolists, with the result that America then and there determined to seek her own home supplies of potash. The United States Geological Survey and the Bureau of Soils were granted funds, and their investigations, even up to 1914, had proved of considerable value, and were the embryonic beginnings of what will probably

\* The German Kali Syndicate indeed sticks at nothing. When the extensive potash deposits were discovered near Barcelona, it did everything possible to acquire control, and endeavored to block the French and Belgian interests in every way.

prove to be a great American potash industry. Wonderful progress has been made since 1914, and now we have Senator Lane declaring, with perhaps not unjustifiable optimism, that within two years America will be independent of outside sources of potash. What this means may be gathered from the fact that her pre-war requirements amounted to over 1,000,000 tons, nearly all of which was imported. The question of an adequate potash supply, especially in America, is, of course, a vital one, and of far-reaching economic importance, for we shall have to look to that country, at all events in the immediate future, for large supplies of food and raw material; and these in turn will largely depend on sufficient supplies of fertilizer, especially potash, for the American wheat and cotton fields.

One of the first sources of potash to be investigated in America was the vast deposit of kelp along the Pacific coast from Mexico to Alaska. Kelp was burnt along the coasts of Scotland hundreds of years ago for the sake of the manurial value of the ash. In America the kelp, after being collected by large power-driven harvesters, was at first merely dried or incinerated and ground to powder; but subsequently it was decided to attempt the production of other valuable chemicals, with potash relegated to the position of a by-product. For instance, the Hercules Powder Company at San Diego, California, has erected a large plant where the kelp is not dried, but fermented, yielding not only potash, but acetone, iodine, and other products, including algin, which it is hoped may also ultimately become commercially valuable.

Another source of potash in the United States of America is found in the flue gases of blast furnaces and the dust of cement kilns. This involves a highly