

Industrial Research in the United States

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IN June 1917 and in August and September 1918, the writer visited centres in the United States where there were organizations for industrial research. The effects of the war in stimulating research were in evidence on both occasions. On the former visit these effects were manifested largely in attempts to supply pressing economic needs. When war first broke out the people of the United States were deprived of important articles which they had formerly imported from Europe. The research workers of the country were called on to devise means of producing either the articles themselves or effective substitutes. The results surpassed all expectations.

Synthetic drugs and chemicals, which were formerly derived from Germany, are now prepared in the United States. Certain High grade steel alloys for which America looked to Austria, are now manufactured on this side of the Atlantic. The American dyestuffs industry has been placed in a position where it can cheerfully meet all competition. In 1914 the United States produced less than \$2,500,000 worth of artificial dyes. In 1917 the output was more than \$57,000,000. The total annual production of the world before the war was \$92,150,000 of which Germany's proportion was \$68,300,000.

The potash needs of the country are not as yet satisfied. Nevertheless in 1917 the product from various native sources totalled \$14,000,000. Of this \$8,000,000 worth came from the brine lakes of Nebraska and other States. The kelp of the Pacific coast furnished \$2,000,000 worth and \$1,000,000 worth was provided by the molasses residue from distilleries. Only \$750,000 worth came from the chimneys of cement factories. Dr Van H. Manning, the Director of the Bureau of Mines, to whose kindness I am indebted for these figures, expects that ere long half the needs of the country will be supplied from the last named source. He is hopeful too that a considerable amount will ultimately be recovered from the dust from blast furnaces. Much valuable work has been done by the Bureau of Mines in connection with the two last mentioned sources of supply.

When I visited the United States in 1918 practically all the research laboratories were busied on war problems. The research men were working under pressure and in one laboratory I was told that they were doing in one month what in peace times it would have taken the greater part of a year to accomplish. The laboratories were not as accessible as they were on my visit of the year preceding and where one saw something of what was being done it was understood that much of it was of a confidential character.

When the United States entered the war the research workers in the universities and elsewhere volunteered their services. The scientific forces of the country were mobilized with results which have been far reaching. The achievements of science