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THE TRAINING OF TECHNICAL CHEMISTS.*

THE world's growth in manufacturing industries has increased enormously during the last century. This marked progress has resulted from a greater and more widely diffused knowledge of the sciences and their application. In this great advance the United States, aided by her wonderful and vast natural resources, has taken a very important part. In 1850 the value of manufactured products in the United States was \$1,000,000,000. This has increased to the astonishing figure of \$13,000,000,000 in 1900, while the value of unmanufactured agricultural products was estimated at \$4,000,000,000.

In bringing about this increase, chemistry, assisted by engineering, has played a most important part. Our iron and steel industries, our whole field of metallurgy and, indeed, the majority of the great industries, would have remained in a crude, dormant state had it not been for the important work of the chemist and his more practical brother, the technical chemist. When we realize that the value of our manufactured products is three times as

* Paper read at the meeting of the New York Section of the American Chemical Society, February 5, 1904.

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