

# SCIENCE

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## CHEMISTRY IN THE UNITED STATES.\*

IN the history of science, from whatever point of view we may consider it, the several branches develop according to a natural order. The more obvious things attract attention first; the less obvious are recognized later. Plants, animals, stones and stars are studied even by savages; but the hidden forces of nature, governed by laws which can be utilized for man's benefit, escape discovery until civilization is far advanced, and even then are revealed but slowly. At first each department of knowledge is purely empirical, a mass of facts without philosophical connection; but sooner or later speculation begins, the scattered evidence is generalized, and an organized science is born. The study of concrete facts, the recognition of our surroundings, precedes the study of relations.

Among the sciences, chemistry is one of the youngest. As an organized branch of systematic knowledge it has little more than completed its first century. Before the time of Robert Boyle it was hardly better than empiricism. At first a few scattered facts were recognized, involving transformations of matter. Some of these were applied in the arts, as in metallurgy and in medicine; and their generalization led simply and naturally into alchemy, with its search for the philosopher's stone, the uni-

\* Presidential address, Philosophical Society, Washington, December 12, 1896.

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