

THE TEMPLE PRIMERS

MODERN CHEMISTRY
Systematic

By
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JOHN DALTON

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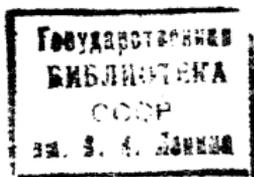
**ALPINE HOUSE
J. M. DENT & CO.**

1903 & 29 & 30 · BEDFORD · STREET · LONDON

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First Edition, October 1900

Second Edition, May 1903



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MODERN CHEMISTRY

SECOND PART

SYSTEMATIC CHEMISTRY

CHAPTER I

Methods of Preparing Elements—Their Physical Properties.

Mixtures and Compounds.—In the olden days, no distinction was drawn between a compound and a mixture. Indeed, all “impure” substances artificially prepared were termed “mixts.” It was only after the true idea of elements had been arrived at, and indeed not until Dalton had formulated the laws which go by his name, that the distinction was drawn. The ultimate criterion for combination is definiteness of proportion, and this is generally connected with uniformity in properties, or homogeneity. A substance is said to be homogeneous when no one part of it differs from any other part in composition. But this may be predicated of glass, or of air, which are mixtures, and not compounds. A mixture *may* be homogeneous; a compound *must*.

Again, it is usually accepted that the separation of the constituents of a mixture may be effected by mechanical, or at least by physical means; whereas the separation of the elements from a compound require chemical treatment. Here it is difficult to draw a sharp distinction. The