

BY THE SAME AUTHOR.

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## CHEMICAL AND GEOLOGICAL ESSAYS.

Second Revised Edition, with a New Preface;  
pp. xlv. and 489; 8vo.

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IN PREPARATION:

## MINERALOGY

ACCORDING TO

A NATURAL SYSTEM.

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THE outlines of this system—the result of more than thirty years of study—are given in the author's *MINERAL PHYSIOLOGY AND PHYSIOGRAPHY*, pp. 279–401, 687, 688, where a tabular view of Classes and Orders appears on page 382. The principal points in the new treatise are: (1) Arrangement of all native and artificial species of the mineral kingdom in classes and orders, upon a Chemical basis; (2) Their complex chemical structure and high combining numbers, or so-called molecular weights; (3) Application to them of the principles of polymerism and of homologous or progressive series; (4) Direct relations of the constitution of solids, not only to their specific gravity, but to their hardness and their greater or less chemical indifference, which latter are shown to be connected with the variations in the volume of the chemical unit, or so-called atomic volume; (5) Recognition of the wide distinction between crystalloid and colloid or amorphous species; (6) Division, on the above grounds, of the orders and sub-orders into tribes, which generally correspond with the orders of the Natural-History system; (7) Sub-division of tribes into genera and species, and designation of these by a binomial Latin nomenclature; (8) Systematic descriptions of native, and of some related artificial species; (9) Genetic history of native species, and their artificial production; (10) Their relations to the great groups of rocks in the earth's crust.