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adequate explanation of the universally inclined and plicated condition of the older crystalline strata, and at the same time to discover the laws which have governed the formation and the changing chemical composition of the crystalline rocks through successive geologic ages.

The mineral species which make up the earth's crust next demand attention. A system of classification which should consider their physical characters, in connection with the chemical composition and the mode of formation of mineral species, has hitherto been wanting. The possibility of such a system, and the principles upon which it might be founded, were pointed out by the author in a series of papers more than thirty years since. He has now, in the eighth essay of the present volume, attempted to apply these principles to the study of the natural silicates, which are the most important elements of the crystalline rocks, and to give for these species what he believes to be a natural classification, - followed by an outline of the system as applied to all other native mineral species.

The origin of mineral species, their succession, their associations, and the modes of their occurrence alike in massive and in stratified rocks, in veinstones, and in the chemist's laboratory, — in other words, the physiological history of mineral species and their various aggregates, considered both dynamically and chemically, as set forth in Essays V. to VIII., must form the basis of a rational mineralogy and iithology. In this connection are discussed some fundamental principles long maintained by the author, and believed by him to form the basis of "a correct mineralogical system," and, moreover, to "enlarge and simplify the plan of chemical science."

That, contrary to the teachings of the Huttonian or metamorphic school in geology, there is an order in the succession of the rocks from the ante-gneissic granite, and