

several steps in generalization and classification, before it could take place. Still such attempts were made. In 1743, was published, *A new Philosophico-chorographical Chart of East Kent, invented and delineated* by Christopher Packe, M.D.; in which, however, the main object is rather to express the course of the valleys than the materials of the country. Guettard formed the project of a mineralogical map of France, and Monnet carried this scheme into effect in 1780,⁸ "by order of the king." In these maps, however, the country is not considered as divided into soils, still less strata; but each part is marked with its predominant mineral only. The spirit of generalization which constitutes the main value of such a work is wanting.

Geological maps belong strictly to Descriptive Geology; they are free from those wide and doubtful speculations which form so large a portion of the earlier geological books. Yet even geological maps cannot be usefully or consistently constructed without considerable steps of classification and generalization. When, in our own time, geologists were become weary of controversies respecting theory, they applied themselves with extraordinary zeal to the construction of stratigraphical maps of various countries; flattering themselves that in this way they were merely recording incontestable facts and differences. Nor do I mean to intimate that their facts were doubtful, or their distinctions arbitrary. But still they were facts interpreted, associated, and represented, by means of the classifications and general laws which earlier geologists had established; and thus even Descriptive Geology has been brought into existence as a science by the formation of systems and the discovery of principles. At this we cannot be surprized, when we recollect the many steps which the formation of Classificatory Botany required. We must now notice some of the principal discoveries which tended to the formation of Systematic Descriptive Geology.

⁸ *Atlas et Description Minéralogique de la France, entrepris par ordre du Roi; par MM. Guettard et Monnet, Paris, 1780, pp. 212, with 31 maps.*