

petrography, the geologists of Great Britain were not to the front in continuing and advancing the new line of research. It was not until Zirkel and Rosenbusch in Germany, and Fouqué, Michel-Lévy, and Lacroix in France, had elaborated the new system of research, and spread its teaching in the universities by their text-books, that Great Britain took a more animated part in the pursuit of petrography.

In 1888, Mr. Frank Rutley published a book on *Rock-forming Minerals*, in which he described the optical and chemical properties displayed by the different minerals on microscopic investigation. In the same year a book on *British Petrography* was published by Mr. J. J. Harris Teall. The chief purpose of the handbook was to bring the newest methods and results of petrological research within the reach of a large circle of British students and geologists. The work deals with the eruptive rocks that occur in Great Britain; it begins with a lucid discussion of ground-mass and the rock elements that cannot be mineralogically identified. Frequent reference is made to the investigations of Sorby and Vogelsang. The chemical composition of the eruptive rocks is fully treated, having respect to the researches of Bunsen. In discussing rock-texture, Mr. Teall attributes great importance to the size and development of the individual mineral components. The features enumerated as valuable for the systematic arrangement of the rocks are (1) the chemical composition, (2) the mineralogical composition, (3) the texture, (4) the occurrence, (5) the origin, (6) the geological age, (7) the locality. As, however, the chemical composition cannot be judged from a hand-specimen, Mr. Teall applies the mineralogical composition as the primary means of classification, and uses texture for the differentiation of sub-groups. The work concludes with very valuable remarks on the origin and the metamorphoses of the crystalline massive rocks.

During the same year Rosenbusch published a second edition of his *Mikroskopische Physiographie der massigen Gesteine*. In this edition he entirely withdrew his former principle of classifying the rocks primarily on the basis of their mineralogical composition. Laying down as a fundamental principle that a natural classification of the rocks ought to reflect the genetic relations, Rosenbusch contended that rock-structure offered the most reliable basis for the construction of a natural system of the massive rocks. He pointed out that the struc-