

obtained types of folding and deformation which coincided with many of those represented in nature. The first account of Daubrée's results appeared in 1878, and in the same year Professor Favre of Geneva published his illustrations of clay strata which had been placed upon a stretched band of caoutchouc, and thrown into folds on the contraction of the elastic basis. In 1888, Mr. Cadell carried out a series of pressure experiments and attained excellent imitations of the tectonical disturbances in mountain-systems. An attractive experimental elucidation of the Appalachian mountains was given by Mr. Bailey Willis in his work entitled *The Mechanics of Appalachian Structure*.

All those experimentalists have demonstrated that under strong lateral pressure the material is not only plicated but is fissured and faulted in many different ways, and geologists generally are inclined to think that Professor Heim has not allowed sufficiently for the complicating effects of crust-dislocations.

The geological significance of fissures and faults was fully realised by the Wernerian School; this was only to be expected, since the foundation of Werner's doctrines was his intimate knowledge of the vein-rock that occurred in the crevices and fissures of the crust, and his careful observation of the relative displacements of the rock on the opposite sides of fault-fissures. From time to time special works on faults have appeared in mining literature. One of the best known earlier works is Carnall's description of the fissures in the Carboniferous district of Silesia, published in 1836; numerous special papers on the British mining districts are included in the Reports of the Geological Survey; and Köhler in 1886 published a valuable monograph, entitled *Die Störungen der Gänge, Flötze und Lager*.

The faults in mountain-regions were examined by De la Beche, Sedgwick, Thurmann, Harkness, and many others, and their origin commonly ascribed to contraction and mechanical strain; William King explained them as due to processes of crystallisation. The mechanical strains in the crust during mountain-making are undoubtedly the most important factor, and Professor Daubrée imitated the effects of strain in a series of experiments. He subjected plates of glass, pieces of rock, and wax prisms to torsion and to vertical and lateral pressures, and produced fissures and displacements which could bear