

He was greatly more exact, however, in his appreciation of the mechanical peculiarities of the deposit; and his description of those strange convolutions of the strata which give to the south of Scotland its series of axial lines, and its repetitions of beds and bands that come ever and anon to the surface, and continue to render the place of at least its nether groups of rock so obscure, is still approvingly referred to by our higher geologists. To account for these strange foldings, Sir James, in his paper in the "Transactions of the Royal Society of Edinburgh," on the Vertical Position and Convulsions of certain Strata, and their relations with Granite, broached that theory of lateral pressure applied by some unknown force outside the area of the foldings themselves, which is still regarded as the best yet originated on this subject; and illustrated it by his famous experiments of the bands of variously-tinted clays, and the layers of differently-colored cloths, which he succeeded in pressing, by the application of lateral force, from a horizontal into a convoluted position. His paper did not appear in its completed form until the year 1812; but as his theory had been originated more than twenty years previously, when, on visiting, in the company of Dr. Hutton and Professor Playfair, a portion of the east coast of Berwickshire, he found no fewer than "sixteen distinct bendings of the strata in the course of about six miles," and as, long ere the publication of his view and experiments, they were well known to his scientific friends, I refer to them at this early stage in my brief sketch of the history of geological discovery in our Scottish Grauwacke.

Dr. Hutton had described the "Alphine Schistus" of the South of Scotland as belonging to the Primary class of rocks, and founded an argument for his theory on the fact that, in direct opposition to the belief of geologists regarding the deposits of this special division, they yet do contain fossils. In