

excellently printed detail-maps of fifteen counties. These maps were on such a large scale, and so full of details, that they had a limited circulation. Smith therefore conceived a plan to publish a geological map of England and Wales on a small scale, that should show accurately the course of the surface outcrop of each stratigraphical horizon, and should be accompanied by geological sections to the true scale of the map. The preliminary sketch of this plan was drawn up in 1801, and may be seen in the Archives of the Geological Society; but it was 1812 before Smith found a publisher to undertake the map. In 1815, the famous map of England and Wales appeared, consisting of fifteen sheets in the scale of 1 inch to 5 miles. The complete map is 8 ft. 9 in. high and 6 ft. 2 in. broad. The individual strata are indicated by different colours, and sometimes the basis of a stratum is marked by a darker line of the ground colour.

Smith's map is the first attempt to represent on a large scale the geological relations of any extensive tract of ground in Europe. It was a magnificent achievement, and was the model of all subsequent geological maps. For English geology, the publication of the map was the starting-point of a new *régime*. Smith gave an explanatory text of fifty pages, in which he introduced a stratigraphical terminology adopted from the local names in practical use (Lias, Forest-Marble, Cornbrash, Coralrag, Portland Rock, London Clay, etc.), and these names of horizons have for the most part been retained in geology to the present day.

Between 1816 and 1819, Smith began a work entitled *Strata identified by Organised Fossils, containing prints of the most characteristic specimens in each stratum*. Four volumes appeared containing the description of sixteen strata and their characteristic fossils, from the horizon of Fuller's Earth to London Clay, but the work was never completed. In 1817 he prepared an ideal geological section across England from London to Snowdon, and the section was afterwards introduced into most text-books. A contemporaneous account of Smith's results and his terminology was published in 1818 in a small book written by William Phillips.

William Smith was a self-taught genius of rare originality and with exceptionally keen powers of observation. Without much intellectual cultivation, without any introductory teaching, without any means at his disposal, and at first even