

agencies of nature,—of water, atmosphere, and of ice and heat. Last came the study of the fossil remains of organic life as the means of fixing the age and the order of succession of various geological formations. Werner<sup>1</sup> in Germany, Cuvier<sup>2</sup> in France, Hutton<sup>3</sup> in Scotland, William Smith<sup>4</sup> in England, led the way, from different points of view, towards an actual knowledge and a possible theory of the existing forms and structures in and on the crust of our globe. The study of these subjects, morphology on the largest scale, necessitated distant travels, the examination of formations *in situ* and under diametrically opposite conditions. Its greatest and unequalled representative was Alexander von Humboldt,<sup>5</sup> who also brought the observations of geographical, geological, and mineralogical facts and details into connection with the study of climate, of the weather, of the distribution of plants and animals.<sup>6</sup>

23.  
Humboldt.

<sup>1</sup> See *supra*, vol. i. p. 283.

<sup>2</sup> *Ibid.*, p. 125.

<sup>3</sup> *Ibid.*, p. 283.

<sup>4</sup> *Ibid.*, p. 291.

<sup>5</sup> A good account of the gradual development of the plan of "Cosmos" will be found in Bruhns's 'Life of A. von Humboldt' (transl. by Lassell, 1873), vol. ii., *passim*. It is clear that two great influences co-operated to ripen in Humboldt's mind the conception of unrolling a great tableau of the physical world in its purely material and in its ideal or poetical aspects: the influence of the great scientific movement then emanating from Paris, and the not less important influence of the ideal movement represented by the names of Herder, Goethe, and Schelling, which emanated from the centre of Germany.

"But, however greatly Humboldt may be indebted to the inspiring influence of his contemporaries, the great merit of the work lies in what he alone has accomplished—the attempt by means of a comprehensive collation of details, and the institution of the most searching comparisons, to give a scientific foundation to the ideal cosmology of Herder, Goethe, Schelling, and their disciples . . . In him may be said to be united the two schools of philosophy, so brilliantly represented during the closing years of the former century. On this account he was at the same time exposed to the censure of the representatives of either system" (vol. ii. p. 312).

<sup>6</sup> The third volume of the 'Life of Humboldt,' in the original German edition, gives an account