

granitic and gneissose masses of rock in the highest chain of the Alps as the chief "centres of elevation" during Alpine upheaval, and applied to them the distinctive name of *Central Massives*.

Some remarks of Buch about the direction of the mountain-systems in Germany were destined to bear greater fruits than that thinker at the time realised. His paper *On the Geognostic Systems of Germany*, published in 1824, noted that four systems of strike had to be distinguished, the Netherlands or North-West system, the North-East system, the Rhine or North-South system, and the Alpine or East-West system. This observation of Buch gave the impulse to the works of a gifted French geologist.

Élie de Beaumont¹ belonged to the most enthusiastic adherents of the Volcanist doctrines. Many years of geological surveying in the Vosges and Ardennes mountains, in the mountains of Provence, in the Dauphiné and at Mont Blanc, had shaped in his mind new ideas about the origin of the mountains, and in 1829 he made these known in the *Annales* of the French Academy. Mountain-structure is discussed in

¹ Léonce Élie de Beaumont, born on the 25th September 1798, at Canon (Dép. Calvados), belonged to a noble family of Normandy. His preparatory studies were conducted in the Henri IV. Seminary in Paris, and after a brilliant course in the Polytechnic School in Paris, he entered the School of Mines in 1819, to devote himself to Mineralogy. Here he attracted the attention of the Professor of Geology, Brochant de Villiers, and together with his fellow-student Dufrenoy accompanied the Professor in 1822 to Great Britain, in order to become acquainted with the mines in that country and to get insight into the British methods of geological surveying. Élie de Beaumont and Dufrenoy then set to work in 1825 to prepare a geological map of France. At first they worked under the direction of Brochant de Villiers, afterwards they continued independently, and in eighteen years the map was completed. Its publication exerted a powerful influence on the whole development of geology in France, and secured for the two authors a distinguished place amongst their scientific contemporaries. In 1827, Élie de Beaumont was elected Professor of Geology in the School of Mines, and in 1835 he succeeded his patron, Brochant de Villiers, as General Inspector of Mines. He held in addition several high governmental offices, and used his influential position invariably for the good of his colleagues. After the conclusion of the general geological survey of France, Élie de Beaumont directed the special geological survey until his death on the 21st September 1874. The geological fame of Élie de Beaumont rests on his admirable field-work and his writings concerning the age and origin of mountain-systems. An account of his life and his contributions to science was published by Sainte-Claire Deville at Paris in 1878.