

in the present volume, to give a more clear and concise account of M. Elie de Beaumont's views, than by quoting Professor Sedgwick's summary, in his able and truly eloquent address to the Geological Society in 1831; after which, I shall notice some corrections which M. Elie de Beaumont has since found necessary to introduce.

"By an incredible number of well-conducted observations of his own, combined with the best attested facts recorded by other observers, M. Elie de Beaumont has proved, that whole mountain chains have been elevated at one geological period,—that great physical regions have partaken of the same movement at the same time,—and that these paroxysms of elevatory force, have come into action at many successive periods.

"Step by step, we have been advancing towards the conclusion,—that different mountain chains had been elevated at several distinct geological periods; and by a long series of independent observations, Humboldt, Von Buch, and other great physical geographers, had proved,—that the mountain chains of Europe might be separated into three or four distinct systems; distinguished from each other (if I may so express myself) by a particular physiognomy, and above all, by the different angles made by the bearings of their component formations, with any assumed meridian. All the subordinate parts of any one system were shown to be parallel; while the different systems (*mountain ranges*) were inclined at various angles to each other.

"By an unlooked for and most felicitous generalization, M. Elie de Beaumont has now proved, that these two great classes of facts are commensurate to each other; and that each of these great systems of mountain chains, marked on the map of Europe by given parallel lines of direction, has also a given period of elevation, limited and defined by direct geological observations."

Professor Sedgwick then describes four of these systems of mountain chains. "The first includes the higher elevations in eastern France, of the Côte d'Or, and Mount Pilas, and a portion of the Jura chain; it may also be traced in the chain of the Erzgebirge, between Bohemia and Saxony. This system or mountain chain never rises into mountains of the first order, but is marked, throughout, by many longitudinal ridges and furrows, ranging nearly parallel to each other, in a direction about north-east and south-west. It will appear that this chain has been elevated, after the deposition of the oolitic series, but before that of the chalk formation, for the lower secondary formations, comprising the oolites, wherever they appear, are elevated in broken or contorted strata, yet they preserve a parallelism in the general direction of the ridges. On the contrary, wherever beds analogous to chalk or green sand occur, they are found at a dead level, and expand in horizontal planes into the neighbouring mountains, like the sea at the base of a lofty cliff; or if they have undergone any movement, it is shown to have no relation to the bear-