structure of the Alps and Jura, and he provided valuable data for those who followed him. He did not pretend to deduce any general system from his numerous and interesting observations; and the few theoretical opinions which escaped from him, seem, like those of Pallas, to have been chiefly derived from the cosmological speculations of preceding writers.

CHAPTER IV.

HISTORY OF THE PROGRESS OF GEOLOGY — *continued.*

Werner's application of geology to the art of mining — Excursive character of his lectures — Enthusiasm of his pupils — His authority — His theoretical errors — Desmarest's Map and Description of Auvergne — Controversy between the Vulcanists and Neptunists — Intemperance of the rival sects — Hutton's Theory of the earth — His discovery of granite veins — Originality of his views — Why opposed — Playfair's illustrations — Influence of Voltaire's writings on geology — Imputations cast on the Huttonians by Williams, Kirwan, and De Luc — Smith's Map of England — Geological Society of London — Progress of the science in France — Growing importance of the study of organic remains.

Werner. — THE art of mining has long been taught in France, Germany, and Hungary, in scientific institutions established for that purpose, where mineralogy has always been a principal branch of instruction.

Werner was named, in 1775, professor of that science in the "School of Mines," at Freyberg, in Saxony. He directed his attention not merely to the composition and external characters of minerals, but also to what he termed "geognosy," or the natural position of minerals in particular rocks, together with the grouping of those rocks, their geographical distribution, and various relations. The phenomena observed in the structure of the globe had hitherto served for little else than to furnish interesting topics for philosophical discussion: but when Werner pointed out their application to the practical purposes of mining, they were instantly regarded by a large class of men as an essential part of their professional education, and from that time the science was cultivated in Europe more ardently and systematically. Werner's mind was at once imaginative and richly stored with miscellaneous knowledge. He associated every thing with his favourite science, and in his excursive lectures he pointed out all the economical uses of minerals, and their application to medicine: the influence of the mineral composition of rocks upon the soil, and of the soil upon the resources, wealth, and civilization of man. The vast sandy plains of Tartary and Africa, he would say, retained their inhabitants in the shape of wandering shepherds; the granitic mountains and the low calcareous and alluvial plains gave rise to different manners, degrees of wealth, and intelligence. The