

lavas which have been reduced to detached outliers separated by valleys; while in the fourth, some isolated masses are placed which Desmarest thought had been "melted in place," or erupted where they now appear.

The third part of the memoir, though read with the second part in 1771, was not published until 1777. In this essay the author discussed the basalt of the ancients, and the natural history of the various kinds of stones to which at different times the term basalt had been applied.

It is interesting to follow the slow elaboration of his views through his successive memoirs. We must remember that, during those busy years, his time and thoughts were chiefly taken up with the inquiries into industrial development which the Government of the day had entrusted to him, and which necessitated frequent and prolonged journeys, not only in France, but in other countries of Europe. Being convinced that the great questions in physical geography which specially occupied his attention could best be studied in Auvergne, he returned to that region at every available opportunity, revisiting again and again localities already familiar to him, and testing his deductions by fresh appeals to nature. Four years after his great monograph on the origin of basalt had been read to the Academy of Sciences, he presented another essay, developing still further the ideas of denudation and successive eruptive periods which had been briefly sketched in his first communication. The scope of this new effort may be judged of from its full title: "On the Determination of Three Epochs of Nature from the Products of Volcanoes, and on the Use that