

Italy in the year 1785, visiting Vesuvius, Etna, and the Lipari Isles, and having for part of the time the advantage of the company of Dolomieu. He could not help being much struck with the resemblance between the lavas of these volcanic regions and the familiar "whinstones" of his own country. So close was this resemblance in every respect that he felt "confident that there was not a lava in Mount Etna to which a counterpart might not be produced from the whinstones of Scotland." At Monte Somma he noted the abundant "vertical lavas" which, in bands from two to twelve feet broad, run up the old crater-wall. These bands seemed to him at the time "to present only an amusing variety in the history of volcanic eruptions," and, like Dolomieu and Breislak, he looked on them as marking the positions of rents which, formed in the mountain during former volcanic explosions, had been filled in from above by the outflow of lava down the outer fissured surface of the cone. Subsequent reflection, however, led him to reconsider this opinion, and to realise that these "vertical lavas" were "of the utmost consequence in geology, by supplying an intermediate link between the external and subterraneous productions of heat. I now think," he remarks, "that though we judged rightly in believing those lavas to have flowed in crevices, we were mistaken as to their direction; for instead of flowing downwards, I am convinced they have flowed upwards, and that the crevices have performed the office of pipes, through which lateral explosions have found a vent." He had observed, also, that the outer margins of some of these dykes,