

upraised to compensate for the universal waste. It must be admitted, however, that no one had elaborated the subject so fully until it was taken up by the French observer, and that he was the first to discuss the whole phenomena of denudation, apart altogether from theory, as a great domain for accurate and prolonged observation.

I have reserved for mention in the last place the discovery for which chiefly Guettard's name has received such mention as has been accorded to it in English scientific literature. He was the first to ascertain the existence of a group of old volcanoes in the heart of France. This contribution to the geology of the time may seem in itself of comparatively small moment, but it proved to be another important onward step made by the same indefatigable and clear-sighted naturalist, and laid the foundations of another department of the natural history of the earth. It became also the starting-point of one of the great scientific controversies of the latter half of the eighteenth and the first decades of the nineteenth century. There is thus a peculiar interest in watching how the discovery was made and worked out by the original observer.

The story goes back to the early months of 1752, for on the 10th of May of that year Guettard read to the Academy a "Memoir on Certain Mountains in France which have once been Volcanoes."¹ He tells how he had undertaken further journeys for the purpose of obtaining additional information towards the correction and amplification of his map of France,

¹ *Mém. Acad. Roy. Sciences*, vol. for 1756, p. 27.