

tremors and by other disturbances of the earth's surface. Great cavities formed in the earth's crust and filled with sea-water; or, sometimes, portions of the continents were devastated by floods. In illustration of this, Pallas said that at the outbreak of volcanic action in the Indian Ocean and South Seas, "*which two seas seem to occupy a position above one common volcanic arc,*" the waters of the Equator were forced towards the Poles, and carried northward from India the plants and animals that now lie buried in the loose gravels of the Siberian plains. This was the explanation he gave of the occurrence in such remarkable number of bones of mammoths, rhinoceroses, and buffaloes in Siberia.

Although this explanation and many of his opinions about volcanoes were erroneous, there can be no doubt that Pallas was an accurate observer, and that his broadly conceived delineation of the surface conformation, general sculpture, and physical characters of a huge and hitherto untravelled territory, conferred an inestimable boon on the struggling natural sciences. The works of Pallas have been the basis of all later geological investigations in eastern and southern Russia, in the Ural and Altaï mountains, and in Siberia.

A life-long student of the French-Swiss Alps, Horace Benedicte de Saussure must always be given the place of honour amongst the early founders of the science of the mountains. Born in Geneva in 1740, the scion of a noble and rich patrician family which had already won high scientific repute in the previous century, De Saussure enjoyed in his early years and education every advantage of wealth, culture, and influence. As a boy he rambled in the country around Geneva, diligently collecting plants and minerals. But the mountains near Geneva failed to satisfy the enterprise of the youthful student. At the age of twenty he made his first walking tour to Chamonix, and from that time resolved to devote his life to the study of the Western Alps. Two years later he was appointed Professor of Philosophy at the Academy of Geneva.

In 1787, at the head of a well-equipped party, he carried out the first ascent of Mont Blanc. In the following year he spent eighteen days in the Col du Géant, at a height of over 10,000 feet; and between 1789 and 1792, he climbed the summits of Monte Rosa, the Breithorn and Rothhorn. In