

had been adopted by his predecessors. Instead of confining himself to a description of the superficial aspect of the volcanic mountains and the characteristic phenomena of eruption, Dolomieu studied the lavas, loose ejecta, sublimations, etc., and compared these volcanic products with other rocks. He thus arrived at the result that all transitional stages exist between the coarsely crystalline lavas and the glassy rocks (obsidian, pitchstone), the latter being merely particular structural varieties of the crystalline lavas.

In order to explain the possibility of so many grades of structure, Dolomieu supposed that volcanic heat, unlike any kind of artificial heat that could be produced in the laboratory, did not reduce the original rock-material to a completely melted mass, but merely to a viscous state, in which the individual mineral constituents could move relatively to one another while still retaining their characteristic form.

He further supposed the lavas contained a combustible substance (perhaps sulphur), which held the rock in this viscous state until it was completely consumed; and that this combustible substance, by its expansive force, produced the scoriaceous, slaggy, and irregular surfaces of lava streams, and caused the upward pressure of molten magma to the orifice of escape.

Dolomieu confirmed the igneous origin of basalt rock, regarding it as a variety of lava for the most part associated with submarine eruptions. He compared the alternating lava streams and sedimentary strata at Etna with the stratigraphical relations of the so-called trap-rocks in the Vicentine district, and concluded that the latter gave evidence of volcanic activity.

The name of Dolomieu is perpetuated in the name of the "Dolomites," given to the beautiful district in South Tyrol south of the Puster Valley. Dolomieu called attention in 1791 to the unusual mineralogical character of the "Alpine limestone" in that district. His chemical investigations proved the rock to contain, in addition to lime carbonate, a very high percentage of magnesium carbonate; so that the rock could by no means be regarded as a true limestone. Afterwards, any highly magnesian limestone came to be called "Dolomite" rock.

In 1797 Dolomieu confirmed the statement of Giraud Soulavie, that the volcanoes of Auvergne and Vivarais are intruded into the granite, and partially rest upon it. Thus Dolomieu extended our knowledge of the mineralogical com-