

the Mono Valley in East California. The magnificent basalt plateau in Oregon and Washington, through which the Columbia River has channeled its course, was made known to the scientific world by Hayden, and the same geologist described for the first time in 1871 the wonderful lava plateau in North-Western Wyoming, on the banks of the Yellowstone River, with geysers, hot springs, mud volcanoes, and extinct volcanic hills. Since the Yellowstone Park became in 1872 the national property of the United States, the Geological Survey Department has carried on without intermission the work of scientific exploration and detailed research in this region. Professor Iddings has described the volcanic rocks of the National Park in two memorable reports of the United States Survey (1888 and 1889).

Farther south, the high table-lands of Colorado, Arizona, and New Mexico display a number of extinct volcanoes which have broken through horizontal strata of Palæozoic age and repose upon them as widespread sheets or conical hills. The volcanoes in Southern Colorado and in Arizona were described by Powell, Wheeler, King, Gilbert, and others, and in 1882 the United States Survey published Dutton's admirable monograph of the Grand Cañon district.

The Henry mountains, in the greatly denuded region west of the Colorado River, will always be memorable in geology as the locality of Gilbert's epoch-making researches on volcanic rocks. Gilbert demonstrated there the true nature of certain deep-seated intrusions which had made their way mainly along the bedding-planes of sedimentary strata, had solidified there in cistern-like form, and displaced the surrounding beds by their pressure. Such intrusions were termed "laccolites" by Gilbert, and in so far as they exert uplifting forces on the strata above them, Gilbert's laccolitic intrusions are reminiscent of Von Buch's Elevation-Craters. The term of "laccolite," together with Gilbert's explanation, is almost universally accepted by geologists. Peale, Holmes, and Endlich (1877) have shown how, in virtue of denudation and removal of the stratified rock-material, individual laccolites have been exposed superficially as dome shaped bosses of igneous rock.

Alexander von Humboldt was the first to explore the Mexican volcanoes, and the German geologists Felix and Lenk published, during the years 1888-91, valuable contributions to the geology and palæontology of Mexico. The volcanoes