some miles apart; and some of these falls have receded further than others, because there are three kinds of rock crossed, which are worn away with different degrees of rapidity. South of Rochester we find a gorge worn 14 miles long, from Mount Morris to Portage, sometimes 350 feet deep, with three distinct falls, originating in the same cause as that above mentioned, and which proves beyond question that the river has done the work.

3. On the Potomac, ten miles west of Washington, the Great Falls have worn out a gorge from 60 to 70 feet deep, and four miles long, in hard mica schist.

4. *Cañons.*—In our southwestern States, New Mexico, Arkansas, etc., where for days the traveler finds no trees, the rivers have cut long and deep gulfs into the horizontal strata. Their existence is not suspected till a person finds himself arrested on the brink of a precipice, often hundreds of feet high, at the foot of which, and bounded by an opposite wall, the stream runs. These gulfs are called *Cañons*, and often they are so long that for days the traveler can find no place to cross, nor to water his animals. They extend also up the tributaries; a conclusive proof that the streams themselves, and not convulsions have produced them. The Grand Cañon on the Canadian river is 250 feet deep, and 50 miles long. The Cañon of Chelly, in New Mexico, has walls from 100 to 800 feet high, and 25 miles long. Captain Marcy describes a Cañon on Red River, in Texas, 70 miles long, and from 500 to 800 feet deep. The annexed sketch of a *Cañon*, on *Psuc-see-que Creek*, in Oregon, will give a good idea of this class of phenomena. (Fig. 86.)

Lieut. Ives statements in his Report of 1858, respecting the gorges upon the Colorado river, in California, are almost incredible, and are certainly without a parallel. At the head of navigation, the deep and narrow current of the river flows between massive walls of rock which rise sheer from the water for over a thousand feet, seeming almost to meet in the dizzy height above. The sun rarely penetrates the depths of this "Black Cañon," 25 miles in length. Above this there is a vast table land, 8000 feet above the ocean, and hundreds of miles in breadth, extending eastward to the mountains of the Sierra Madre, and stretching far north into Utah. The Colorado and its tributaries, flowing to the south-west, have cut their way through this immense plateau, making cañons which are in some places *more than a mile in depth.* The streams form a labyrinth of yawning abysses, generally inaccessible.

So numerous and so closely interlaced are the cañons, that often they leave only scattered remnants of the original plateau—narrow walls, isolated ridges, and slender, seemingly tottering spires, shooting up to an enormous height from the vaults below.

5. Upon the eastern continent we would refer to the *Wadys* of Syria and Palestine; to the Via Mala, on the upper part of the Rhine, 1600 feet deep, 4 miles long, and only 20 feet wide; to the Defile of Karzan, on the Danube, 200 yards wide, and 2000 feet deep; a gorge on the Sutlej river, among the Himalayahs, 1500 feet deep, and a mile long; to a gorge in Australia, on Cox river, 800 feet high, and 2200 yards wide; and to a multitude of other examples.

Rivers accumulate materials in parts of their channels, or along their banks. *Terraced valleys* and *levees* are the results of this agency. The terraces are objects of great importance in our reasonings; the levees are akin to, and connected with deltas. The large rivers do not carry all their detritus to the delta, but deposit some of it along their sides. In times of freshets these deposits