Metallic ores and native metals are sometimes disseminated in grains through rocks; and when they are abundant, the whole mass of the rock is worked as a mine; but this is seldom the case. Tinstone, or the oxide of tin, is sometimes disseminated, in grains, in granitic rocks in Cornwall, but it is generally in the vicinity of a vein of tin ore, that disseminated grains of tinstone are found in the rock. At Weal Duchy mine, near Callington, silver ore is obtained, both from a vein which intersects the hill, and from the rock itself, at a considerable distance from the vein. From a section of the mine shown me by the proprietor, it appears that in the rock, which is white killas (a silvery clay slate), the ore is disseminated in various parts, or is collected in bunches. The silver is found native in filaments, or in the state of vitreous silver ore, black silver, and ruby silver. Gold frequently occurs in grains, disseminated through solid rocks, or in the sands of rivers. Considerable masses of metallic ore are sometimes found in rocks, particularly of iron ore; but these masses are generally formed by the meeting of numerous veins, or are parts of metallic beds that are greatly enlarged:—they will be described with beds and veins.

Metallic Beds.—Some metallic ores occur, taking the form of regular strata in the secondary rocks, or of beds in transition and primary rocks. Ironstone in thin strata, alternates with coal, coal-shale, and sandstone, and has been described with the coal strata, in Chap. VIII.

Iron ore often forms beds of considerable thickness, interposed between rocks of gneiss, mica-slate, and slate. Metallic ores, in beds or strata, may be regarded as constituent parts of the rocks in which they occur, and must be cotemporaneous with them; the metallic and the earthy minerals have been deposited at the same time, and have probably, been separated by chemical affinity, during the process of consolidation. Sometimes, the metallic matter is intermixed with a bed of slate, or of other rocks, in such abundance, that the whole bed is worked as a metallic ore. When a bed of metallic matter swells out, irregularly, to a considerable thickness, it forms masses of ore, which, in some instances, attain the magnitude of small mountains;—such are the mountains of iron ore in Sweden and Norway. Metallic beds are, however, of limited extent; they seldom traverse a whole mountain or mountain range, but they gradually or suddenly become narrow and terminate, or in the miners' language *wedge out*. There are few known beds of metallic ores in England; the principal repositories of metallic matter are in veins. I have however ascertained, that the copper mines formerly wrought in the transition rocks of Cumberland, were beds of copper pyrites, interposed between the beds of the mountains in which they were found, and not intersecting them like veins. The beds of rock being highly inclined, the thin metallic beds between them have been mistaken for veins. I believe that several metallic repositories in