

wholly or partially, the transfusion of water from the surrounding rocks, would bring electric forces into play, and give rise to decompositions and new combinations of mineral matter.\*

There appear to be certain associations of metallic substances in the veins; as for instance, iron and copper, lead and zinc, tin and copper; † and those ores which are combined with a similar base, as sulphurets, carbonates, phosphates, arseniates, &c. are commonly found together. ‡ The following is a brief notice of the geological distribution of a few of the chief metals.

*Lead.*—The ores of this metal are very numerous: and the sulphuret, or galena, occurs in primary and secondary rocks.

*Tin*—exists in veins traversing granite and schist; those of Cornwall have been celebrated from the earliest historical period.

*Copper*—is found in primary and secondary rocks, and is often *native*, that is, in a pure metallic state; and crystallized.

*Gold*—exists in granite and quartz rocks. The gold found in the mud and sands of rivers (as these grains from Ovoca in Ireland, collected by the late Earl of Chichester,) is derived from disintegrated rocks.

*Silver.*—This metal is found in transition and primary rocks; sometimes *native* (as in these specimens from Cornwall, from the mines of my friend, John Hawkins, Esq. of Bignor Park); and in ores associated with arsenic, cobalt, &c.

The almost universal presence of the ores of iron, and the infinite variety of its combinations, are well known. The formation of what is termed bog-iron

\* Mining Journal, vol. iv. p. 71.

† Mr. Burr.

‡ Professor Phillips.