

of the mines of Derbyshire ; whilst the same mineral rarely assumes that form in the mines of Northumberland and Durham, but is crystallized in other forms, which are equally rare in the Derbyshire mines. Fluor spar, and sulphate of barytes, have appropriate forms in different districts, from which any deviations may be considered as varieties. The causes which occasioned this diversity of secondary forms in minerals, whose constituent parts appear by chemical analysis to be precisely the same are unknown ; nor are we able to explain in what manner the crystals before mentioned have disappeared ; but these facts prove, that the powers of nature extend beyond the present limits of science ; and it is more consonant with the true spirit of philosophy, frankly to acknowledge our ignorance, than to form systems from imperfect data, which can serve only to perpetuate error.

Metallic ores in rounded fragments, and grains of native metals, are frequently found in the sands of rivers ; they have been carried there by torrents or inundations ; the rocks in which they were originally formed, having been disintegrated or decomposed. The metals gold, and platina, being indestructible by the action of air, water, or the mineral acids, remain for ages unchanged, in the form of minute grains. The oxide of tin is a very heavy and hard mineral ; and it is owing to its weight and indestructibility, that it is found in the sands of rivers, or on the sea shore, where it sometimes occurs in considerable quantities, and is separated from the sand or alluvial soil by directing streams of water over it : hence such works are in Cornwall called Stream Works. With the pebbles of tinstone, there are fragments of granite and other rocks, which serve to indicate from what mountains in the vicinity the stream tin has been washed out. Particles and small pieces of gold are sometimes found with stream tin, in the sands of Cornwall.

Gold being, as before stated, less subject to chemical change than the other metals, is found in the sands of rivers in various parts of the world, particularly in Africa and South America. A considerable part of the gold obtained from Africa is procured by washing the sand of rivers ; it is found in small grains called gold dust. It has been remarked, that in certain parts of rivers, the sands were rich in gold, which seemed to be renewed after heavy rains, and yet but little gold was found in the sands higher up the river. No satisfactory explanation has been offered, respecting the limitation of the auriferous sands to certain localities. Facts have, recently, been stated to the author, by a gentleman connected with the gold mine companies in North Carolina, which appear to elucidate the periodical renewal of gold in the African rivers. About the year 1810, gold was found in the beds of several rivers in North Carolina : one mass was obtained weighing 25lbs. Afterwards grains of gold were discovered in the beds of several of the rivers and brooks both of North and South Carolina, and of Georgia. For some years