## THE CONTEMPLATIVE PHILOSOPHER.

## QN THE MINERAL PRODUCTIONS OF THE EARTH.

Et fimul argenti pondus plumbique-

LUCRET.

Then brafs, and gold, and iron ore, were found, And pond'rous lead and filver prefs'd the ground.

IN my laft paper, I have conducted my readers into the interior regions, of our globe : I have treated of its wonderful natural fiftures and caverns, the difpolition of the different kinds of earths, and the nature and origin of that part of folil productions, which we denominate extraneous. I have been hitherto, accompanied by the philofopher, not the poet : in treating, however, of mines, and their productions, which I have already noticed as notive foffils, I find more than one poetical invitation ;

- Through dark retreats purfue the winding ore,
- Search Nature's depths, and view her boundlefs flore;
- The fecret caufe in tuneful numbers fing,
- How metals first were fram'd and whence they (pring :
- Whether the active fun, with chemicflames,
- Through porous earth transmits his genial beams ;
- With heat impregnating the womb of night,
- The offspring fhines with its paternal light:--.

Or whether, urg'd by fubterraneous flames,

The earth ferments, and flows in liquid flows;

- Purg'd from their drofs, the nobler parts: refine,
- Receive new forms, and with fresh beauties shine :----

Or whether by creation first they sprung, :

- When yet unpoised the world's great fabric hung :
- Metals, the bafis of the earth were made,

The bars on which its fix'd foundation's laid :

All fecond caufes they difdain to own, And from th' Almighty's flat fprung alone, YALDEN.

plore, And now the regions deep ex-

Where metals ripen in vaft cakes of ore. Flere, fullen to the fight, at large is fpread the duit unwieldy mass of lumpish lead. There, glimm'ring in their dawning beds,

are seen,

The light afpiring feeds of fprightly tin. The copper fparkles next in ruddy freaks; The filver then, with bright and burnish'd grace,

Youth and a blooming luftre in its face, To th' arms of those more yielding metals

flics, And in the folds of their embraces lies. GARTH.

In treating this fubject philosophically, it is requisite first to mention mines, those artificial excavations, in which metals, minerals, or even precious stones, are dug up. These mines obtain various denominations, because the matter, or fubstances, dug out of them, is various. Thus, there are gold-mines, filver-mines, copper mines, tin mines, iron-mines, diamond mines, mines of antimony, of alum, &c.

The richeft and moft celebrated gold and filver-mines are those of Peru and Chili, in South America. Iron mines are more abundant in Europe than elsewhere. Copper mines are chiefly found in Sweden, Denmark, and England; and lead and tin mines in England; the latter, more particularly in the county of Cornwall. Quickfilver mines abound principally in Hungary, Spain, Friuli in the Venetian territories, and Peru; Diamond mines, in the East Indies, and in the Bratils; and Salt mines in Poland.

The word Mineral is fometimes used in the general for Fossil, and is applied to anyfubftance, fimple or compound, dug outof a subterraneous place, or mine; from which it takes the denomination. In this fense, metal, support, fossil falts, femimetals, &c. are minerals. On this principle, minerals are divided into two classes; the one fusible, and malleable, that is, which melt with fire, and firetch on the anvil; which are what we properly call metals. The other class want the two properties, and are what in the stricteft fense we call minerals.

According to fome, minerals may be divided into *fimple* and *compound*. To the first belong stones; falts, as alum, nitre, &c. inflammable minerals, as fulphur and bitumen;