

ties and modes of occurrence of several mineral deposits of economic importance."

Now, among the minerals of this character, that which forms the subject of this Report claims our attention from the great variety and importance of the uses to which it is applied; such, for example, as the manufacture of lead-pencils, and electrotyping; for both of which purposes the purest article is required, and the highest price is paid, (for the latter, \$2.50 per pound). It is extensively used for polishing stoves and other articles of iron; for lining moulds for delicate castings; for lubricating the bearings of heavy machinery; and, especially, when mixed with clay, it is used in the greatest quantity for a purpose we regard as the most important of all; namely, the manufacture of crucibles. Being infusible, and presenting a powerful resistance to the action of caloric, this mineral is indispensable for the composition of melting-pots that will stand the intense heat of furnaces for the making of cast-steel.

It is to be observed, that plumbago, or graphite, as it is called by Werner, one of the most eminent mineralogists, is of two principal varieties, — the amorphous or uncrystallized and the lamellar or foliated. The former is used for many of the above purposes; but only the *foliated*, in a state of great purity, will answer for crucibles. For this use there is growing up in our country a demand which it will not be easy to supply. Hitherto our dependence has been, and still is, almost, if not altogether, upon the plumbago imported from Ceylon, in the East Indies, either directly to this country, or by the way of England. The