baryta) remains dark-blue, no precipitation of titanic acid taking place. Strontia acts in the same manner, but a much larger quantity is required to produce the reaction.

---

7. DETECTION OF OXIDE OF MANGANESE WHEN PRESENT IN MINUTE QUANTITY IN MINERAL BODIES.

[*First published in the Philosophical Magazine: February*, 1852.]

It is usually stated in works on the Blowpipe, that the smallest traces of maganese may be readily detected by fusion with carbonate of soda, or with a mixture of carbonate of soda and nitrate of potash: but this statement is to some extent erroneous In the presence of much lime, magnesia, alumina, sesquioxide of iron, or other bodies, insoluble, or of difficult solubility, in carbonate of soda, traces of oxide of manganese may easily escape detection. By adding, however, a small portion of borax or phosphor-salt to the carbonate of soda, these bodies become dissolved, and the formation of a "turquoise enamel" (manganate of soda) is readily effected. The process may be varied by dissolving the test-substance first in borax or phosphor-salt, and then treating the fused bead with carbonate of soda: the latter being, of course, added in excess. By this treatment, without the addition of nitrate of potash, the faintest traces of oxide of manganese in limestone and other rocks, are at once made known.

NOTE:—This method of examining bodies for the presence of manganese, was recommended by *Dr. Leop. H. Fischer* in 1861 (*Leonh. Jahrbuch:* [1861] 653), but the writer had forestalled him by nine years, having already described it in 1852—a fact apparently unknown to the editor of the 4th edition of Plattner's *Probirkunst*.*

* This new edition of Plattner's treatise, although containing some valuable additions from the pen of its editor, *Dr. Theodor Richter*, is not altogether free from errors of omission. One of these, the writer may perhaps be allowed to point out on personal grounds. In the third edition, p. 273, *Plattner* states under the head of cryptolite—"Das Verhalten dieses seltenen Minerals vor dem Löthrohre ist noch nicht ermittelt." In the new edition, *Dr. Richter* expands this statement as follows:—"Kryptolit (Phosphocerit)—Das Löthrohrver halten dieses seltenen Minerals, welches beim Auflösen des grünen and röthlichen Apatits von Arendal, sowie des gerösteten Kobaltglanzes von Johannisberg in Schweden, in Säuren zurückbleibt, ist noch nicht ermittelt." Now, the blow-