

employed in the arts--copperas, (or green vitriol,) alum, sulphur, and carbonate of soda. The great advantage in its use lies in the fact, that from it two of the most useful substances, sulphur and alum, may be obtained at one and the same time. By simple roasting, one part of sulphur is obtained in a pure form, and this variety of sulphur is now more highly prized, for commercial purposes, than the native mineral. The residue, *protosulphuret of iron*, is then, by simple exposure to the air, and frequent moistening, oxydized, and converted into sulphate of iron, or copperas. I mention these facts, because, although well known in many quarters, they do not seem to be so well known to those whose interest it is, more particularly, to take advantage of such facts. Pyrites is almost invariably removed in large quantities, during the processes of mining for metallic ores, and is generally thrown aside into the refuse heap. If simply piled up over appropriate vessels and slightly roasted, a very considerable and valuable amount of vitriol might be obtained. It is also of importance to know these facts, because, in case of a foreign war, the Province might be obliged, as other nations have been, to seek their warlike materials from their own resources. They would then be obliged to manufacture both sulphur and alum from iron pyrites. To make the business profitable, however, when conducted by itself alone, it is necessary that there should be a very large supply of the material. I am not aware of any locality in the Province where it exists in sufficient quantities for such a purpose, unless it be the pyritiferous sandstones, noticed by me on the lower portion of the Nepisiquit River. In that section it seems to be very abundant. A large amount of mundie (pyrrhotine,) is also removed from the Wheal Louisiana Mines, in Charlotte.

*Alum Slate.*—The rock so called may be either a slate, actually containing alum as such, or else a pyritiferous shale, which may yield alum by exposure and lixiviation. The localities, if any, are the same as those referred to under pyrites. Alunite is also said to occur at the Hopewell Manganese Mines, where works for the manufacture of alum, &c., were once established. The rock is a valuable one, when abundant.

As regards materials for purposes of building, such as granites, marble, sandstones, and slates, my tour has afforded me little in addition to what was already known. Excellent slates were seen on the Nepisiquit River, but are too far from a market, and too difficult of transportation, to be of much value at present. Good granite also exists in the same locality. I have already alluded to the admirable freestones in the vicinity of the Mills, on the Lepreau River, and think their quarrying might readily be found profitable. There are excellent beds of clay in the same neighborhood.

*Graphite or Plumbago.*—This valuable substance has been found in several portions of the Province in greater or less quantities. The largest bed yet known is that at the Falls of the River St. John, and extending thence around a portion of the City. In 1853, according to Mr. M. H. Perley, 89,936 pounds were exported, but all work upon the deposit has since been discontinued.