will refer to some others, which, by certain chemical treatment, can be made to produce many bright and permanent colours.

WHITE.

White Lead.

The white lead of commerce is essentially a carbonate and hydrate of lead, sometimes mixed to a large extent with baryta and is, I believe, being manufactured by electricity direct from galena. As this mineral is largely distributed in British Columbia and Ontario, especially where the proportion of silver in the galena is not high, I think it could be converted into the carbonate with more remunerative success than by the tedious operations of smelting and refining.

Baryta.

Baryta is largely used to mix with white lead, not so much as an adulterant as is supposed, its presence, in discriminating quantities, tending to elevate the standard of that paint. A large number of samples of white lead, put up in tins, were analyzed by the Inland Revenue Department, some of which were found to be very pure while others were largely "adulterated," or, in other words, contained large proportions of baryta. The pureness of the lead or the absence of baryta need not be points of recommendation. The essential feature of either of those materials is their fineness. A paint may be found to be absolutely pure lead, but coarse grinding would necessarily detract from its quality. On the other hand, lead, mixed with ten or twenty per cent baryta, and finely ground, would be much superior, both in durability and covering properties, although the baryta in itself has no body and will not assist in strengthening the body of any other paint. Its important use lies in keeping the finely divided particles of lead from adhering together and becoming lumpy, which is the habit with particles of pure lead. We frequently hear of white lead peeling off, after a short time, and the prevailing opinion is that it is caused by the contained baryta. If this defect be carefully watched it will be found that it is the lead that is falling off, simply because the material has not been ground fine enough,—the coarser particles therein protrude from the oil, allowing free access to the ever floating gases which attack it at every exposed point, but more particularly at the line of contact with the oil. As this erosion progresses, the adhering point is weakened and the exposed portion is too heavy to be longer supported.

Baryta occurs in several of the provinces, chiefly as a sulphate: the carbonate, witherite, has been found within the township of Gillies,