2. *Silver Glance :* from Thunder Bay, Lake Superior.

The sample consisted of a small mass of distorted crystals (combinations of cube and octahedron), perfectly sectile and malleable. Sp. gr. $= 7\cdot31$. Decomposition was effected by nitric acid; the silver weighed as Ag Cl; and the sulphur partly as S, and partly as Ba SO^4. The analysis of $1\cdot933$ gramme yielded in per centage values :

Sulphur .... 13·37
Silver .... 86·44
Copper .... faint trace

3. *Magnetic Pyrites :* from Madoc (lot 18, con. 2).

Some carefully selected fragments, apparently quite free from FeS^2, were taken for the analysis, and decomposed by chlorhydric acid with subsequent addition of nitric acid. They were strongly magnetic, and the mass from which they were separated exhibited well marked magnetic polarity. Their sp. gr. was equal to $4\cdot485$; but most examples from this locality, in consequence of intermixed silica or siliceous rock-matter, vary, as regards sp. gr., from about $4\cdot2$ to $4\cdot3$.

The picked fragments yielded :

Sulphur .... 39·98
Iron .... 59·66

The sample contained no trace of either nickel or cobalt. An assay of 50 grammes, for gold, left nothing on the cupel.

In another examination, the sulphur was determined by decomposing a portion of the finely powdered mineral with nitre and carb. soda in a porcelain crucible. $1\cdot155$ gramme gave $3\cdot377$ grammes of Ba SO$_4$. This is equivalent to 40·17 per cent. of sulphur.

4. *Arsenical Pyrites :* from Tudor, in Hastings county.

This sample, if I may so call it, was not analysed, as it consisted merely of a few minute but well-defined crystals, given to me some time ago by my colleague, Professor Croft. Two of these little crystals, examined by the blowpipe, shewed unmistakably the re-action of cobalt; and the presence of this metal appears to be connected with a crystallographic peculiarity in these and other crystals of mispickel. The more common crystals of this mineral, consist, it is well known, of a rhombic prism combined with the planes of a side-polar or brachy-dome $\frac{1}{4} \infty$. In these Tudor crystals, the brachydome in question is replaced by two of less obtuse type, namely, $\frac{1}{2} \infty$ and ∞. Now, the