the darker portion of the rock. It occurs near a band of crystalline limestone which occupies the bed of Trembling Lake.

III. An ordinary roofing slate from Wales. Analysed by T. Sterry Hunt. (Phil. Mag., 1854, p. 237.)

IV. A similar roofing slate of Cambrian age, from the large quarries in the township of Melbourne, in the southern portion of the province of Quebec. Analysed by T. Sterry Hunt. (Geology of Canada, 1863, p. 600.)

V. Gneiss from Darwin's Falls near the village of Rawdon, range V. of the township of Rawdon, province of Quebec. It is a highly quartzose garnetiferous gneiss and occurs in well-defined bands interstratified with quartzite, which is often highly garnetiferous, the bands being from a few inches to several feet in thickness.

VI. Red slate from near Tinzen in the district north of the Engadine, Switzerland. Highly siliceous, containing 9·12 per cent of silica as quartz. (Vom Rath, Z. d. G. G., 1857, p. 242.)

VII. Gneiss, lot 20, range VII. of the township of Rawdon. Gneiss composed essentially of malacolite, scapolite and orthoclase, and holding a considerable amount of graphite and of pyrite. Weathers very rusty. Occurs in well-defined bands, interstratified with a grayish-weathering garnetiferous gneiss.

Microscopical structure.

The four gneisses I., II., V. and VII., show no cataclastic structure, but when examined with a microscope seem to have undergone complete recrystallization under the pressure to which they have been subjected, no signs of crushing being now visible in the thin sections.

The analyses show that the first three of these gneisses have the composition of slates. Nos. I. and II. have the composition of ordinary roofing slate, as will be seen by comparing these analyses with analyses III. and IV., and are quite different in composition from any igneous rock. The high content in alumina, the low percentage of alkalies and the great preponderance of magnesia over lime, characteristic of slates will be noted.

No. V. is a gneiss which is so highly quartzose that it might almost be termed an impure quartzite, and also has a composition differing from that of any igneous rock, but one which is identical with many highly siliceous slates. No. VI. is such a slate from the Engadine district in Switzerland, and is, as will be seen, almost identical in composition with No. V. Siliceous bands from the Canadian slate quarries also have a similar composition. The alumina here is low on account of the preponderance of quartz, which also lowers the con-