studying the Lake Superior silver district for the Survey in 1886, in one of the drifts in the Rabbit Mountain mine the vein was filled with a pulp thick enough to float a lot of crystals of the other minerals that formed in these veins, such as zinc blende and galena. The pulp was thick enough to hold them up, and it accounted in an interesting way for the fact that you find these perfectly formed crystals in such places. I should like to know whether that should be called magmatic differentiation or vein action. The degree of heat which constitutes the magma has never been settled.

PROF. MICKLE—With regard to the comparison between the Rossland and the Sudbury deposits I cannot see any resemblance at all. The first thing that must strike anyone is the remarkable difference in the form of the deposits, a plan of the Rossland ore bodies would have the form of a river, whereas the Sudbury deposits have the form of lakes, with or without irregular bays. Moreover, in Sudbury the plan of any particular level may differ entirely from that of the level above and below. Another difference that is striking is that the country rock in the Rossland district is weathered to a considerable distance back from the vein. In 1896 I took a systematic set of samples of rock from the Centre Star vein at Rossland, in a place where there was a crosscut that ran a hundred feet or so in each direction, starting close to the vein and going back twenty feet or more in each direction. The samples that I brought back were kindly examined by Dr. Coleman; without knowing where they were from he was able to notice the variation beginning with rock within a few inches of the vein that was so far decomposed that it was unrecognizable, back to the rock over 20 feet from the ore that was almost unweathered. The degree of weathering was in proportion to the distance from the vein, showing clearly that there was an action proceeding from the vein outwards, which, I think, could only be due to heated solutions. Moreover, in Rossland you see running across the ore veinlets filled with calcite, whereas you never see that in Sudbury. On the other hand in the latter place pieces of rock are seen imbedded in the ore, the sizes varying from the very smallest particles up to pieces presenting a face of several hundred square