Mr. Pearce said he had recently returned from the examination of an immense vein of cupriferous iron pyrites, carrying more or less silver and very little gold, in northern California. There is a permanent spring in the mine working the vein, and the superintendent claimed that, if the clear water from this spring was allowed to flow over zinc, a deposit of copper carrying gold was formed. The pyrite body is 100 feet wide and occurs in porphyry. Towards the surface it is partly oxidized, while down in the mine it is unaltered and very pure, carrying only from one to four per cent. of silica, little silver, and giving a distinct reaction for bismuth. The more or less oxidized matter from the upper part of the vein is broken and thrown into a trough through which water flows. The oxides and some of the finely divided sulphide are thus freed from the yet unaltered compact pyrite and allowed to settle in vats. This portion assays 100 oz. silver per ton, while the concentrated pyrite, being very much poorer in silver, is rejected. A peculiar feature of the mine is the occasional occurrence of pyritiferous nodules very rich in silver, sometimes assaying as high as 1300 oz. to the ton.