a grade of one inch in 100 feet. In the bottom is a drainage channel five feet wide and three and one-half feet deep. After the mining companies began pumping water into the tunnel, over three and a half million gallons were discharged every twenty-four hours. During 1880, the aggregate was over a billion and a quarter gallons, and it was estimated that double this quantity would be discharged when connection should be made with all the mines. The temperature of the mixed water entering the drain is 137°, and its temperature at the mouth is 118°. Little use is made at present of this stream of water, amazing equally for volume and for temperature. It is apparent, however, that this vast stream of hot water possesses capabilities of usefulness which American enterprise will not permit to run to waste indefinitely.

During twenty years, up to 1881, the bullion yield of the Comstock Lode had been \$306,000,000. Since 1874, business on the lode has been much depressed.

Investigations have been made for the purpose of ascertaining the source of the precious metals in the lode. Mr. George F. Becker has shown the presence of gold and silver in the unaltered diabase rock on the east of the lode, and demonstrated it practically absent from that part contiguous to the lode which has undergone decomposition. It results from his studies, that after the region had been shattered by earthquake disturbances, floods of heated waters rose through the rocks, carrying carbonic and sulphydric acids, and saturating the east country, dissolving out silica and metallic salts, and redepositing them again in the spaces comparatively open. He finds by calculation that the total metal taken from the lode is not in excess of that originally contained in the diabase on the east, within the region now occupied by the decomposed rock.

This explanation will apply to the accumulation of ore in veins of a more typical character. The Comstock Lode can scarcely be called a "true vein" in the accepted sense. A vein proper is a fissure extending to a great depth in the earth, and having generally a considerable longitudinal extent, with