An Address on the Past, Present and Future of Copper

Delivered before the American Mining Congress, Chicago, on Wednesday, Oct. 25, 1911, by Horace J. Stevens

THE PAST.

The great copper industry of the present day is a thing of small beginnings. One century ago, in the year 1811, the world's production of copper was a trifle under 10,000 long tons, an amount smaller than was secured last year by any one of more than twenty different mines. During the present year the great Anaconda mine, of Butte, has produced, during nearly every month, as much copper as was supplied by all the mines of the world, in the entire year of 1811.

Fifty years ago, in 1861, the world's output of copper was but a trifle more than 100,000,000 pounds, a production that was exceeded, in 1910, by the Anaconda, American Smelters Securities Co., and Phelps, Dodge & Co. The production of the year 1900, the last of the nineteenth century, was just fifty times as great as that of the year 1800. Should the same ratio of increase be maintained during the twentieth century, the output of the year A. D. 2000 would be 24,318,150 long tons of copper, twenty-five times as much as the present production, and even a fifty-fold increase for the twentieth century would allow an average increase of less than four per cent., while the average annual increase, for the decade beginning 1900 and ending 1910, was almost exactly seven per cent., compounded yearly. Those who foresee a complete collapse in the copper industry would do well to give consideration to the actual figures of increase during the past. The copper industry does not move forward at even an approximately steady rate from year to year, but is given to advancing by great leaps, almost inevitably followed by periods of quiescence, or even of actual retrogression. High prices for the metal stimulate production, while curtailing consumption, and, as a direct consequence, output is increased, which decreases prices, which in turn brings about decreased production, due to the inability of small and weak producers to stand the strain of low prices. Decreased production again brings about high prices, and the cycle is begun anew. Much the same conditions existed in the American iron and steel industry for 50 years, until the formation of the United States Steel Corporation, which, while unable to prevent periods of depression, as its sponsors fondly hoped, has proven a wonderfully steadying factor in the iron and steel market, serving the purpose of a gigantic balance-wheel.

GROWTH.

The growth of the copper industry is best shown by the following figures of the world's production, by decades, in long tons: 91,000 tons in the decade ending 1810; 96,000 tons in 1820; 135,000 tons in 1830; 218,000 tons in 1840; 291,000 tons in 1850; 507,000 tons in 1860; 900,000 tons in 1870; 1,189,000 tons in 1880; 2,373,000 tons in 1890; 3,708,000 tons in 1900; 7,390,000 tons in 1910. The influence of the electrical industry upon the consumption of copper is plainly shown by the figures since 1880. The production of the seventh decade of the nineteenth century was only 900,000 long tons, or a trifle less than ten times the output of the first decade of the century, while the production of the last decade of the century, ending 1900, was more than forty times the output of the first decade, and was more than four times as great as that of the decade ending in 1870, only thirty years before. The output of the decade ending 1910 was more than six times as great as the output of the decade ending in 1880, and was almost exactly double the production of the previous decade ending in 1900. The production of copper by the world, amounting to approximately 7,390,000 long tons, for the decade ending 1910, amounted to more than three-fourths of the total world's production of copper for the entire preceding century.

Figures of production and consumption of any given commodity in universal use may differ from year to year, according to whether a surplus is accumulated, or a preceding surplus is drawn upon, but over long-term periods, production and consumption necessarily are the same, and, figured by decades, it is safe to say that the figures of production are practically the figures of consumption. At present there is a copper surplus, of which much is heard, but to show how comparatively unimportant the present surplus is, when compared with the figures of output for the preceding decade, it may be stated that the world's surplus of copper at the present time is slightly less than 300,000,000 pounds of finished metal, or a trifle under 135,000 long tons, an amount less than 5½ per cent. of the total production of the decade, and equivalent to only about eight weeks' supply of copper, at the present time measuring the supply either by productive capacity or by consumptive demand.

Very exact figures are available regarding production, dividends, costs and metal prices of the mines of the Lake Superior district since the first production was secured, in the year 1845, the total output for that year having been only 24,880 pounds of finished copper. The total production of fine copper by Lake Superior mines from 1845 to 1910, inclusive, a period of sixty-six years, or two-thirds of a century, was 5,122,478,402 pounds, having a gross value of $726,849,840, from which were paid dividends of $182,824,770, the ratio of dividends to gross values for this entire period amounting to 25.1 per cent., and dividends, divided by copper production, show average dividend payments of 3.56 cents per pound. The average price received from all Lake Superior copper for this period of sixty-six years was 14.19 cents per pound, which, after deduction of dividends, leaves an estimated cost of 10.63 cents per pound for all years. By adding the figures of expenditures on unproductive mines, amounting to about $60,000,000, the cost of Lake Superior copper would be made almost 11½ cents per pound, and by adding a further $15,000,000 for assessments on mines that have since repaid in dividends the original assessments, the cost of copper would be made about 11.85 cents per pound, leaving a net margin of profit for the entire production of almost exactly two