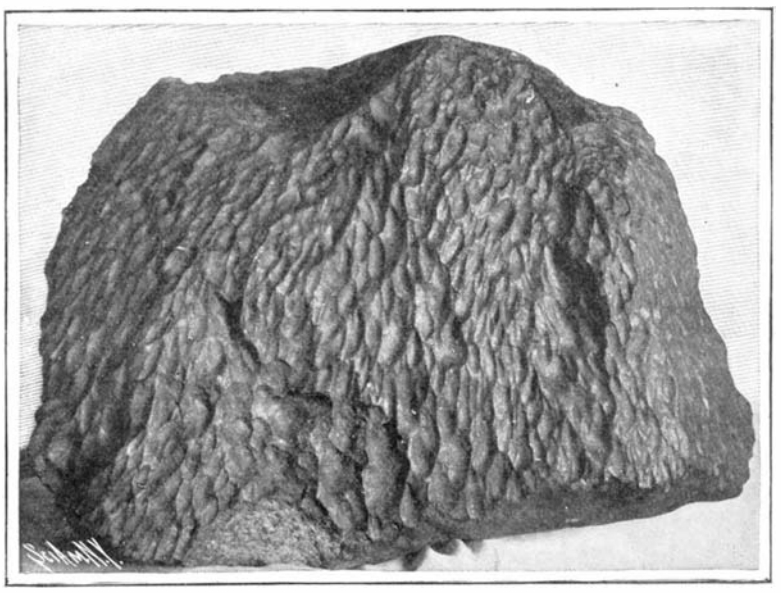
A NEW METEORITE RECENTLY PLACED IN THE AMERICAN MUSEUM OF NATURAL HISTORY.

On January 26 last there was placed on public exhibition at the Natural History Museum a new meteorite, one of the most remarkable of its class in the world. Prof. Henry A. Ward, of Chicago, read a paper before the regular meeting of the New York Mineralogical Club at the Natural History Museum, Wednesday evening, January 25, and gave a description of the meteorite. He stated that the Bath Furnace is an aerolite, or stony meteorite, which was seen to fall in the early evening of November 15, 1902, after a long luminous course through the heavens over Ohio and Kentucky, and its light was visible even to observers in Tennessee. Its course was N. 81 sec. E. until it reached the ground in Bath County, about fifty miles east of Lexington, Kentucky. The first description of the meteorite was published by Prof. Arthur M. Miller, of the State College of Kentucky. The few residents of the region where the pieces struck were much startled by the blinding light and the heavy detonations accompanying the fall. They spoke of the singing of the fragments as they flew through the air, and one eye-witness writes: "It sounded like a great buzz-saw ripping through a plank and coming at me through the air." Before striking the ground the mass broke into several fragments, three of which have been found.

The first-found piece fell at 6:45 P. M. in the road in front of the house of Buford Staten, near the old Bath Furnace, some five miles south of Salt Lake, and was picked up by him the following morning. It was about 8½ x 6 x 4 inches in extreme dimensions, and weighed 10 pounds 10½ ounces. It had cut a furrow about a foot long and three inches in greatest depth in the hard road where it first struck. A second piece, weighing half a pound, was found one hundred yards west of the first.

The third piece, the one which has now found a resting-place in the Ward-Coonley Collection at the Museum, was found by a squirrel hunter, Jack Pegrem by name, in May, 1903, about one and three-quarter miles south of the place where the other two pieces had been picked up. Mr. Pegrem's attention was attracted by a fresh scar on a white-oak tree some fifteen feet from the ground, and by the broken roots of a larger tree a few yards distant. Searching in the hole among the roots, he found a great stone buried less than two feet below the surface of the ground and crowded in among the roots, some of which had been severed by the collision.

This mass, as shown in the photograph, is one of the most completely furrowed and highly oriented aerolites known to science, and no other stone of American fall, at least, equals it in this respect. The mass is approximately a triangular prism in shape, and the furrowing of the bulging top and three sides is most complete. These furrows radiate from one point, or knob, in all directions, streaming back upon and over the sides. The regularity of the trend of the furrows is most interesting, as showing the steadiness of the mass in the air and the constancy of position of its axis, which doubtless was promptly taken after it entered our atmosphere and was retained throughout its whole flight. It owes this to the position of the center of gravity with reference to the shape of the mass.



BATH FURNACE NO. 3 METEORITE SHOWING A PECULIAR PITTED FORMATION.

In falling through space great heat occurs on the exterior of the mass, from which the melted particles are instantly brushed away as they form. It thus results that the brilliantly-glowing mass is in fact mainly cold. It brings with it the temperature of celestial space, which has been estimated at 504 deg. Fahrenheit below zero. This meteorite is thought to be the third aerolite in weight (184 pounds) ever found on our hemisphere. Iron meteorites run much larger.

The Bath Furnace aerolite, we find on examining its composition, is a base of fine, compact olivine and enstatite—both silicates of magnesia—with abundant sparkling points of nickel iron. It also has numerous white and gray spherical chondri of like material distributed through it, and breaking firmly with the mass. Its surface shows both primary and secondary crust.

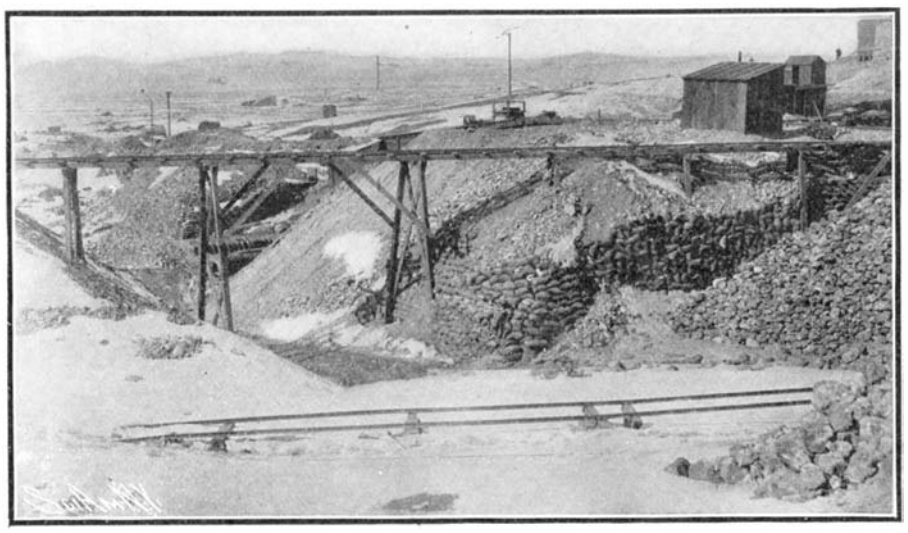
Its component minerals are allied to those of terrestrial volcanic rocks; but like other aerolites, it shows nothing of the melted slag structure of lavas. Stony meteorites apparently show us unchanged minerals from inner parts of the parent cosmic body. They bring us no new mineral elements, and a review of their chemistry shows that they yield only those elements which we know to exist on our globe. We may justly conclude that the most distant regions in stellar space contain only a repetition in varying proportions and combinations of the same elementary substances as obtain upon our earth.

Reichenbach has shown that a body like a meteorite, in falling through the atmosphere at the rate of forty miles per second, would have, by reason of air compression, a heat on its surface of over 7,200 deg. Fahrenheit, forming by melting and rubbing the peculiar glazing, pitting, and hollowing and channeling appearance which we find on the front and sides of meteorites.

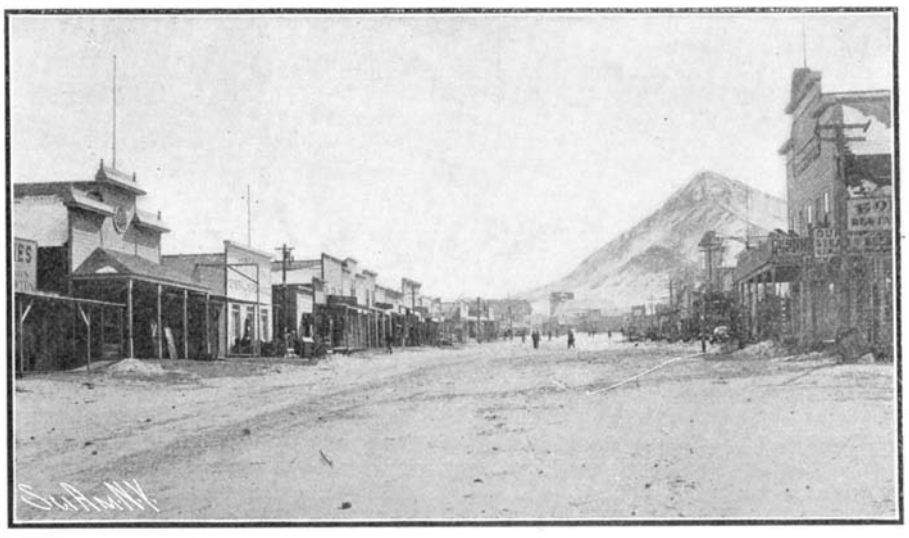
MODERN METHODS OF GOLD PROSPECTING AND MINING.

BY DAY ALLEN WILLEY.

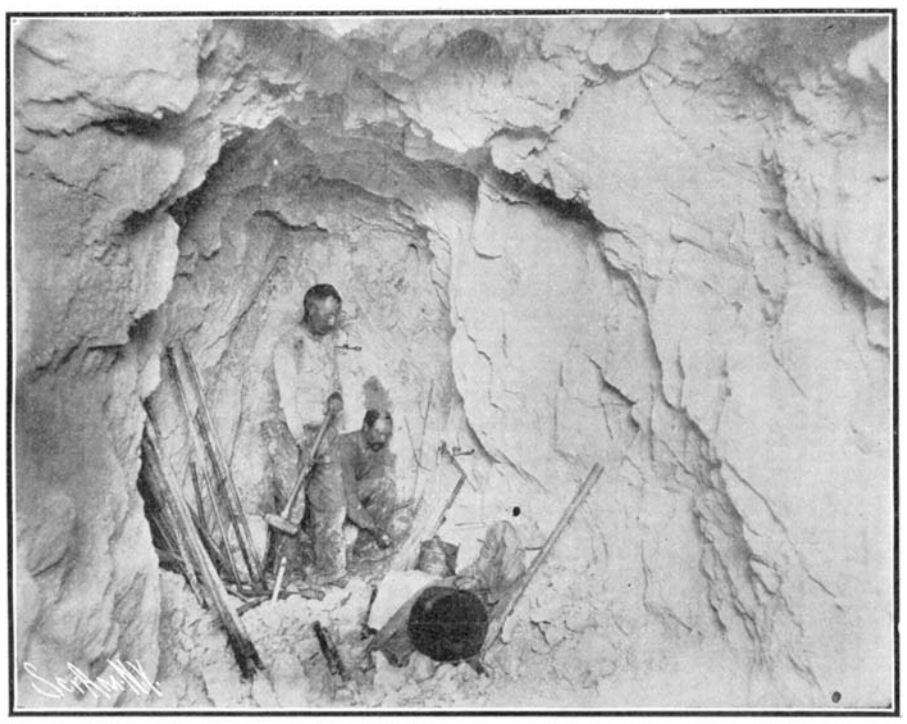
During the year 1903 the estimate of precious metal obtained from all of the districts controlled by the United States, outside of the Klondike, represented 25 per cent of the world's production of gold, and 33 per cent of the world's production of silver, being 3,600,000 ounces of gold and 56,500,000 ounces of silver. In 1895 the various States and Territories produced but 2,255,-



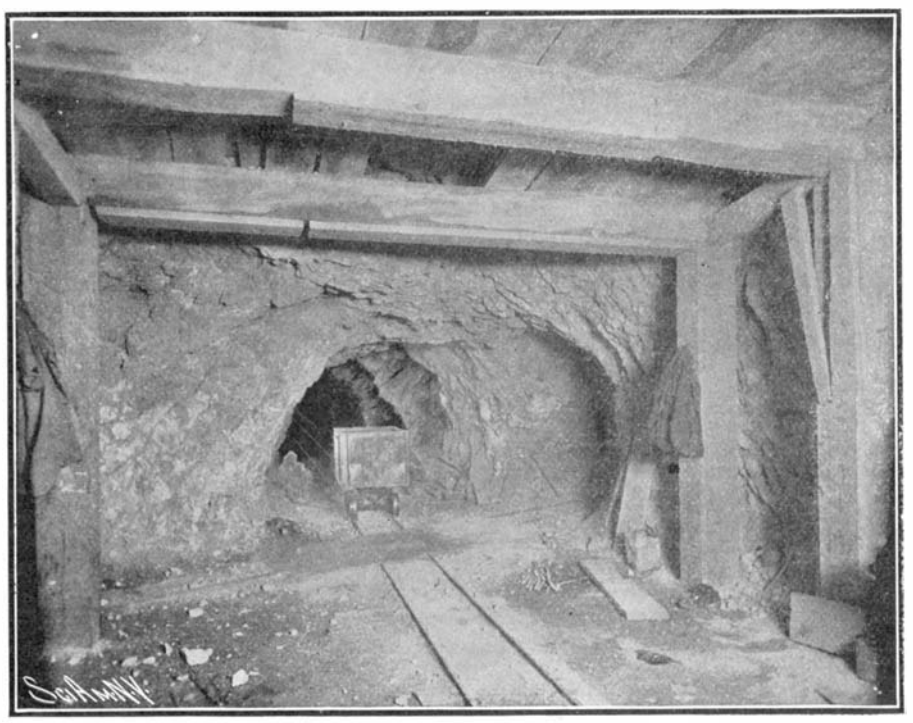
A Nevada Mine, Showing Piles of Ore Loose and Sacked for Shipment.



Street in Tonopah, One of the Mining Towns of Nevada.



Opening a Gallery From a Test Shaft to Secure Specimens of Ore for Analysis.



A Test Tunnel in the Rocky Mountains.

MODERN METHODS OF GOLD PROSPECTING.