ART. XIX.—*On a new variety of Zinc Sulphide from Cherokee County, Kansas;* by JAMES D. ROBERTSON.

A NEW and peculiar sulphide of zinc was found in southeastern Kansas a short time since, remarkable from the fact that it is nearly pure white and completely amorphous.

This singular mineral is found on the Moll Tract in the center of the town of Galena, Cherokee County, Kansas. The ore body, which is reached by a shaft about 90 feet in depth, consists of zinc blende with some large crystals of galena distributed through it. It is about 25 feet wide, 20 feet high, and 100 feet long, so far as explored. The blende has undergone much decomposition from the action of surface waters, the sulphide oxidizing to sulphate and being completely removed in solution. Thus no calamine or smithsonite are formed and the siliceous gangue rock remains, a cellular mass, showing casts of the dissolved blende crystals. In the center of the ore body and surrounded on all sides by partially decomposed ore, is a flat opening three to four feet wide, six

inches to a foot in height and filled completely with the white zinc sulphide. When taken from the mine this substance is soft, full of water, and resembles in appearance and consistency white lead ground in oil. It has a very slight reddish cast, probably from a little ferric oxide. Some red tallow clays overlie the deposit. In a shaft about 250 feet distant, near the same level, a much larger body has been exposed in the floor of the workings. This mass of sulphide of zinc has not been developed but is at least four feet in thickness and extends for a distance of thirty feet. Evidences point to quite an extensive body of this peculiar ore of zinc in this mine.

An analysis made by the St. Louis Sampling and Testing Works shows the following composition on the dried sample:

Insoluble matter	2·52
Zinc	63·70
Sulphur	30·77
Ferric oxide	2·40
	99·39

The water which was contained in the original sample bottled on the ground showed a slight amount of sulphuric acid.

This sulphide was evidently formed since the deposition of the ore by the precipitation of the sulphate of zinc, resulting from the oxidation of ordinary blende by sulphureted hydrogen or an alkaline sulphide. No odor of sulphureted hydrogen was perceptible in the mine nor was any found in the water which saturated this sulphide of zinc. This mineral has never, it is believed, been met with before, the conditions which would thus imitate the reactions of the laboratory not being common in nature.