

able lamps, where there is no ordinary gas supply. In this way it would take the place of the illuminating products of petroleum, and thus offset the alleged exhaustion of the oil fields. In that event the value of the new discovery might be so great as to be beyond computation.

A TALK FROM MR. CARBUTT BEFORE THE DETROIT CONVENTION.

LADIES AND GENTLEMEN: It gives me great pleasure, I assure you, to address this Association and to see so many new faces. It gives me further pleasure to meet with some of those who were present at the meeting of the Association fifteen years ago. No doubt all of you notice what wonders have been attained by photography since the first meeting named. It is true that, although much progress has been made in the chemical department, still greater strides have been made in the art department. We may regard the exhibits in the adjoining galleries as a crowning triumph for the photographer; moreover, they should inspire the younger members to go forward and try to excel what they here see, if possible.

There are not only possibilities but probabilities in photography to-day which were not dreamed of fifteen years ago. Now even the art student is making photography his life business, and is showing further what photography is capable of in this direction. In the chemical department the manipulation has, I believe,

reached about as wonderful results as can be expected, and it now depends upon the photographer to follow on and improve upon the efforts of the past.

The modern gelatine dry-plate process was first made practical in 1871 by Dr. R. L. Maddox, of London, but the plates he produced were of very slow speed; and it was not until 1875 that the gelatine dry-plate began to displace the wet collodion process, when a Mr. Bennett, an amateur photographer, discovered that by long digestion at a low temperature a great increase of sensitiveness was secured, beyond anything achieved either by the wet or dry collodion method. The results obtained by Mr. Bennett soon set others to investigate the new gelatine process. Among them, Col. Stuart Wortley, a skilled amateur, who found by digesting at a high temperature for a short time, say three-quarters of an hour, as high a degree of sensitiveness was secured as when digested for many hours at a low temperature. The professional photographers of England, learning of these results, turned their attention to preparing gelatine dry-plates for use in the studio and field, and, on the establishment of manufactories of dry-plates, gave up the use of the wet collodion method, owing to the superior sensitiveness and great convenience of the dry-plate.

I had in Philadelphia for some years been working with gelatine printing methods. In 1877 I commenced experimenting with making emulsions by the new gelatine method, and my results being quite encouraging, and