

ultimate success. It were idle to attempt to give in a single article advice on the multiform requirements arising in the reproduction even of such small objects as jewellery, relics, enamels, dress, tapestry, bronzes, and all kinds of bric-a-brac, for which the full price is given by Mrs. Jacobs (no connection with Mr. Jacobs), of Petticoat Lane. In the portraiture of the larger and more prominent objects of antiquarian interest, on the items of process, exposure, development, lens, plate, camera, tripod stand, varnish, and print, a large series of papers might be written with no small advantage.

ADDRESS TO THE GRADUATING CLASS OF THE CHAUTAUQUA SCHOOL OF PHOTOGRAPHY.*

This is the age of beautiful pictures. They are everywhere to delight our eyes and gladden our hearts—in books, magazines, newspapers, portfolios, albums, and on the walls of our homes. Photography has done for pictorial illustration what the art of printing did for writing. Each has helped to make beauty, truth, and knowledge of universal interest, and available to all. Daguerre inaugurated the democracy of art, as Guttenberg made possible the republic of letters. Books and pictures once cost so much that wealth alone could purchase them. Now they are the possession of millions. There have been no happier people at this assembly than the men and women, boys and girls, of the camera. How often we have seen your eager faces in these groves or by the lakeside as, under the skilful instruction of your beloved teacher, you have sought, by the touch of the sunbeam, to make "a thing of beauty a joy for ever." Accurate marksmen, you have hit beauty on the wing. A curling wave, the flash of an oar, the smile of a child, or a flying shadow, is not too fleeting for quick embalming in the amber of your negatives.

One thinks with commiseration of that maiden of antiquity, whose affection for her lover, according to ancient tradition, gave rise to the coroplastic art. Wishing to console herself for his absence, she drew his picture with a bit of charcoal while he slept, pencilling the dear face as it was reflected on the wall by a lamp. Oh, for a kodak then! But, it is said, this likeness was so striking that the damsel's father filled in the outline, and thus produced the first medallion.

Children think in pictures. Humanity delights in pictures. The earliest peoples had some rude method of pictorial illustration. The genius of Champollion first unfolded to us the meaning of the pictures found in the hieroglyphic language of the East. Prescott tells us that the reporters of Montezuma gave that monarch, in the beautiful pictorial language of the Aztecs, an exact account of the landing of Cortez.

The present century claims the honour of originating the greatest improvements ever devised in picture-making. We are, however, primarily indebted to the chemist Scheele, who, in 1777, discovered that sunlight would affect certain chemically-prepared surfaces. Wedgwood, in 1802, produced photographs, but neither he nor Sir Humphrey Davy could prevent them from fading. Niepce and Daguerre, two Frenchmen, were the first to accomplish this. Daguerre made known the secret in 1839. His process was, briefly, thus: He exposed to light in a camera a polished surface of silver coated with iodine, then subjected it to the action of vapour of mercury, which was

* Delivered at Chautauqua on Photographers' Day.

precipitated upon the parts acted upon by the light. Hyposulphite of soda removed all the surplus iodide of silver, and thus made the picture permanent.

Professor J. W. Draper, of New York, was the first in this country to give us photographic portraits. During recent years an astonishing advancement has been made in the applications of this beautiful art. The dry plate and instantaneous impression now give the lover of nature opportunity to secure, not only form and shading, but motion, and have made possible to the amateur what was before attainable by the professional alone.

Photography has become the most important ally of the engraver, and in another department, photo-engraving, borrowing once more from the chemist's knowledge, secures, without the engraver's skill, a result which, at little expense, rivals the best work of a Sartain or a Ritchie. When photography shall make possible the transference of colour by the sunbeam, it will produce pictures the beauty of which will defy the highest skill of the painter, and prove that the sun is indeed the greatest of all artists. When this is accomplished, it will probably be done by a careful application of the law of complementary colours, and a study of the relation of surfaces to the absorption of light.

Investigation now suggests the possible identity of light and electricity, and as the storage of electricity is but a question of the near future, who shall say that the dream of the chemist in "Gulliver's Travels" may not be realised with a slight modification? He was trying to extract sunbeams from cucumbers, which were to be placed in phials hermetically sealed and preserved for use in raw, dark, and inclement weather. The photographer armed with dry plates and stored sunshine would, indeed, be well equipped.

In this age of intense application to business and professional work, it is delightful to find a means of relaxation which is, at the same time, promotive of intelligence, health, and happiness. The amateur photographer has rare opportunities for studying the beauties of nature. He may become a close observer, and discriminating in taste. So progressive is his art that he can always be advancing in knowledge and growing more skilful in his work. There is also a delightful *corps d'esprit*, which usually inspires and binds together a great company of persons possessing similar tastes and engaged in like pursuits.

I welcome this graduating class to the goodly fellowship of the Guild of the Sun Worshippers. In conclusion, you will not fail to remember that there are *three R's* in the photographer's vocabulary, and that while *Radiated* light is *Refracted* by our lenses, a very pleasant light may be *Reflected* from our characters. One other hint drawn from the mystic waves of the sunbeam may not be inopportune. The throbbing pulsations of ether are essentially rhythmic, and suggest the hope that you who so fully appreciate the magical order in the vibrations of light, may also enjoy sweetest harmonies in your lives.

J. T. EDWARDS.

ONE of the most frequent questions we have to reply to in the "Correspondence Column" is how to obtain deep black or purple tones on albumenised paper. The majority of amateurs appear to think, notwithstanding that we have often pointed out the contrary, that the tone of the print is entirely dependent upon the composition of the toning bath, whereas it has very little, if anything, to do with the matter. The chief factor in obtaining black tones is the negative, and next, the paper.—*Ex.*