

**PHOTOGRAPHY: A NEW TREATISE,
THEORETICAL AND PRACTICAL, OF THE
PROCESSES AND MANIPULATIONS ON
PAPER, DRIED AND WET; GLASS,
COLLODION AND ALBUMEN**

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Photography: A New Treatise, Theoretical and Practical, of the Processes and Manipulations on Paper, Dried and Wet; Glass, Collodion and Albumen by A. S. Heath & A. H. Heath

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A. S. HEATH & A. H. HEATH

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By O. Reckersdorff, Esq.

136 Canal street, New York.

A PHOTOGRAPH OF
SIR HUMPHREY DAVY,
THE FIRST EXPERIMENTER IN PHOTOGRAPHY.

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PREFACE.

Among the many modern inventions and discoveries, Photography claims attention as a valuable and pleasant aid to *art*, and an important auxiliary to science and industry.

Photography has made such rapid progress in the improvement of apparatus, that but little is left even to embellish its paraphernalia.

The word Photography (from the Greek *φως*, light, and *γραφω*, I write) is used to designate the art or process of fixing images of objects in the *camera obscura*, on any sensitive surface, as of metal, glass, paper, &c., previously coated with chemicals, which are blackened or colored by the action of light.

After the discoveries of Daguerre and Niepce, Mr. Talbot made some successful experiments in this art in England, where soon after he published his process called Calotype, Talbotype, &c.

A great number of experiments have been made to obtain "sensitive matters;" as yet but

one substance has succeeded, viz., the salts of silver.

The iodide of silver is always the principal agent. The mixture of the iodide with the fluoride, cyanide, chloride, bromide, ammonide, phosphate, carbonate, acetate, &c., of silver, is very good to accelerate the formation of images, but used alone they do not produce very good results. We do not at present think it possible to perfect the process without the salts of silver.

One of the happiest combinations is the union of iodide, fluoride, and cyanide of potassium, for we have made experiments with iodide alone; iodide and cyanide; iodide and fluoride; iodide, cyanide, and fluoride. The last formula is the best, giving the most satisfactory results. By using this triple salt at the moment it is formed, proofs may be obtained in two seconds in summer, and in thirty seconds in winter.

It is very important to procure good paper, which would be much more easily obtained if some experienced paper-manufacturer would make photographic paper exclusively. This plan we shall endeavor to secure.

The process on glass, it is true, gives proofs much better than the process on paper, but is pro-

ductive of some inconvenience. Glass is difficult to prepare, not convenient to handle, and it does not receive the image as quick as paper. A proof on glass is fine, but hard and rigid; but with collodion you have a good and a very sensitive plate.

Besides the utility of Photography in obtaining portraits and views, in Europe the arts and sciences are aided by it. Nothing is more easy than to take pictures of insects, animals, plants, inanimate objects, &c., for naturalists, physiologists, pathologists, and botanists. And especially is it useful in the mechanical arts. Nothing is more difficult and tedious than an accurate drawing of complex and complicated machinery. By Photography every desired view may be taken, and with correct proportions and details, of the most intricate mechanism.

In Europe the art has arrived to a high degree of perfection. In this country it is now being practised with success. In France and in England a great many books have been published upon the various branches of photography, photology, and photogenic chemistry. But few or no complete practical works, especially adapted to teach and guide the amateur successfully through the mazy

labyrinths of the art of picture-taking, have been published in this country.

We publish this work with the hope that in it will be found all necessary information to the easy and successful practice of Photography. In it will be found all the new processes, having consulted every valuable source of information from Paris, London, and in this country. We give also the preparation of chemical products, and the best tests of their purity. The phenomena of light have been treated of, on which subject, unhappily, too many photographers are deficient.

In the preparation of this book much care and attention have been given; and if it is the means of improving and advancing this beautiful art, we shall be abundantly rewarded.

We take great pleasure in acknowledging the valuable services of Monsieur H. Dussance, of Paris, and of those of the venerable Dr. Moore, of this city, who, though an aged gentleman, is an ardent and most successful photographer, at whose suggestion the Astor Library has been enriched with most of the foreign books on this subject.

A. S. HEATH, M. D.

A. H. HEATH.

New York, June, 1855.