proportion, a card size negative being obtained, and, by such reduction, the best definition is secured. From this small negative an enlargement on plain paper about fifteen by twelve is obtained; and this enlarged print is very carefully worked in monochrome—water colour, chalk, or charcoal being employed, this latter being most suitable. This part of the work requires, of course, great skill and care. The points requiring especial attention from the artist are to preserve roundness and modelling, to avoid bold hatching or coarse manipulation of any kind, and to retain the likeness with scrupulous accuracy. A bold, round, well-modelled picture having been secured, with soft gradations closely resembling those of photography, a negative reduced to the original size is obtained from it. If the work be skilfully done, it will yield prints equalling the original in every respect, and, if necessary, in some respects superior, as all visiting the exhibition may see by examining the series of prints in which Mr. Rejlander teaches the lesson.

ANOTHER COLLODIO-CHLORIDE PAPER IN COMMERCE.

We have been favoured with some examples of collodio-chloride paper, and a pamphlet describing its employment and the advantages to be derived from its use by MM. Sander and Risse, of Nordon, Ost-Friseland. This firm is the first of the many who have made use of collodio-chloride who have felt it necessary to recognize the discoverer and ask his opinion of their work. The pamphlet points out the different applications of the material manufactured by the firm, which is brought forward to compete with the leptographic, Carrier, Obernetter, and other similarly prepared sensitive papers. So far as we have yet had time to test the examples of paper sent to us, we have found it to possess many good qualities, and to be free from the defect which has marred the excellence of many samples of collodio-chloride paper; we refer to the tendency of the film to leave the paper. The example we have tried is quite free from this defect.

The pamphlet is interesting, as very systematically putting forward the claims of collodion paper:—

"Collodion paper, invented in the first instance by Wharton Simpson in London, and afterwards improved and introduced by Obernetter of Munich, possesses the following advantages over albuminized papers:—

"(*a.*) The operation of sensitizing is obviated altogether, inasmuch as the requisite amount of silver is already contained in the collodion film upon the paper.

"(*b.*) The pictures produced exhibit high lights of the most brilliant character; and, by reason of the glassy nature of their surface, present also a delicacy of detail which it is impossible to attain by the use of albuminized paper.

"(*c.*) The pictures upon collodion paper repose upon the surface of the thin collodion film, whereas an image upon albuminized paper sinks into the body of the material itself. For this reason it is extremely difficult, if not altogether impossible, in albuminized pictures, to prevent, by washing, the injurious action of the hyposulphite of soda in combination with the sulphur containing albumen; whereas, in collodion pictures, the operation of washing is perfectly effective, and no fear need therefore be entertained of their becoming bleached after long keeping.

"(*d.*) Collodion paper does not, it is true, print faster than albuminized paper, but it tones more rapidly; and, when toned in a suitable gold bath, which may be made for a lengthened period before employment, is capable of being invested with any desirable tint, from the lightest sepia to the deepest black.

"(*e.*) Collodion paper may be preserved for a considerable time in good condition if stored in the dark.

"(*f.*) It is of a more reasonable price than other papers; it does not break or become injured in the washing and toning operations; and may be manipulated with the same ease and facility as albuminized paper."

Dr. Sander next proceeds in his pamphlet to detail the mode of printing and toning the collodion paper, and to give the formula best adapted for the toning bath. The prints should not be printed of a much deeper tone than they are to possess when finished, and should be washed in the ordinary way before being transferred to the toning bath. The latter is thus constituted:—

A, either

Chloride of gold	... ...	2 grammes
Distilled water	... ..	3 pounds

or,

Chloride of gold	... ...	8 grains
Distilled water ...	... ...	12 ounces

B, either

Sulphocyanide of ammonium...		40 grains
Distilled water ...	... ...	3 pounds

or,

Sulphocyanide of ammonium...		160 grains
Distilled water ...	... ...	12 ounces

Solution A is added to B, both being stirred the while. The mixture may be kept till exhausted, provided it is stored in a cool, dark place.

If the pictures are required of a brown tone, they must be withdrawn from the gold bath when still of that tint; if they remain longer in the solution the prints assume a bluish-violet or blue and black tone. It is in the power of the operator, therefore, to impart to the pictures any tone he may desire. The pictures are fixed by being allowed to remain for six or eight minutes in solution of hyposulphite of soda (proportion one of hypo to ten of water), and are then washed for a period of three or four hours. They are subsequently laid between sheets of filter paper, trimmed to the proper size, and mounted, when yet slightly damp, by means of starch paste, upon cardboard. If the prints are allowed to dry before being placed upon cardboard, the operation of mounting becomes a more difficult one.

Besides the ordinary collodion paper, Dr. Sander likewise advocates the employment of what he terms collodion transfer paper, which differs from the former material in respect to the sensitive film, which, instead of being fixed firmly to its support, may easily be removed from the latter, and transferred to other objects. Pictures printed upon this transfer paper are manipulated in the same way as those upon ordinary collodion paper, and, when finished, are placed for a few seconds in hot water, when the film readily leaves the paper. The two surfaces have previously been cemented together with gelatine, and, as a small quantity of this substance still clings to the reverse side of the picture, the latter is carefully cleansed therefrom under water by means of a soft brush; the film is afterwards secured upon a sheet of transparent paper, which is inserted underneath it. This transparent paper is prepared by impregnating a sheet of good writing paper with linseed oil varnish diluted with turpentine, and, when dry, coating it with ordinary negative varnish; its employment is necessary in order to determine the position of the print upon the cardboard.

To transfer the picture to cardboard, the latter, with the transparent paper, is placed upon a sheet of filter paper, and coated with a solution of gelatine (twenty ounces of water to one ounce of gelatine); the transparent paper, with the collodion picture underneath, is then placed upon the damp card in its proper position, the superfluous gelatine is pressed out by the aid of a soft camel's-hair brush, and the transparent paper then lifted off. Any unequalness in the film disappears on drying. The finished pictures are placed upon wax-paper to dry, so that the gelatine upon them may not cause them to adhere to one another.

The transfer of pictures to opal or transparent glass is effected in the same manner. It should be remarked, however, that when transparent pictures are to be produced,