

mercial supplies; there are now so many manufacturers who offer uniformly an excellent article, that no difficulty has been experienced in procuring collodion of first-rate quality. We have adopted, likewise, the common practice of mixing two samples for ordinary use. I have lately had an opportunity of seeing very good results follow the employment of carbonate of soda as a means of restoring iodized collodion which has become reddened by age. A few drops of the aqueous solution were sufficient for the treatment of a large bulk of the red collodion; and, after allowing time for the subsidence of the insoluble particles, such a collodion appeared to furnish a denser image and to be more sensitive than before. This mode of proceeding is being carried out by Sergeant Inglis, and, so far as I am aware, is novel.

The process of iron development (using a 15-grain solution of the protosulphate), has given us some of our best results; the plates have then been intensified with pyrogallie acid and silver, applied, usually before fixing, but in some instances, especially when the least tendency to fogging was exhibited, afterwards.

The importance of a good supply of pure water for photographic use has been most conclusively demonstrated in the taking of negatives at Shoeburyness. The wells from which the ordinary supply is taken, are close to the shore, and so near the mouth of the Thames that the water contains more saline constituents than usual, with a proportionately large amount of the chlorides of sodium and magnesium. It has consequently been found desirable to wash the finished negatives with distilled water before drying the film, and applying the varnish. Some of the early negatives, taken at a time whilst this precaution was not known to be necessary, have suffered by the cracking of the varnish, and the appearance of moisture under the film. The deliquescent character of the salts left on the evaporation of the water offered at once the full explanation, and no difficulty of this kind has since been experienced.

Whilst upon the subject of negatives, I feel it a duty to bear testimony to the excellence of a plan of intensifying those which have already been varnished, for which we are indebted to Mr. G. Wharton Simpson. The method consists in first softening the film and varnish with alcohol, and then treating with tincture of iodine, the action being carried so far only as to produce an olive layer of superior non-actinic properties.

The printing process adopted in our Department involves the use of albumenized paper for all purposes. Many trials have been made of the new German enamelled papers, and also of the gum benzoin or resinized paper, prepared according to the instructions of Mr. Cooper. The examination of the resulting prints led me to the conclusion that the brilliant lustre of the enamel papers permitted only of their being employed for small pictures, whilst the benzoin paper, on the other hand, although well adapted for large subjects, did not give sufficient details in the shadows to render its general introduction desirable.

The sheets of albumenized paper are usually sensitized by floating upon a 70-grain solution of nitrate of silver, printed and washed, toned by the alkaline gold process, and fixed in plain hyposulphite solution.

The formula for the gold toning bath has usually been—

Chloride of gold ...	...	...	...	5 grains
Bicarbonate of soda ...	...	...	...	20 grains
Water ...	...	...	...	1 pint.

The acetate of soda process has likewise been occasionally employed. The final washing process has always been considered a matter of grave import, and has been carried out with that scrupulous attention which the necessities of the case demand. After a few preliminary rinsings, the prints are washed in a current of water, for which purpose they are transferred to deep gutta-percha or porcelain dishes, having a lip at one corner, which provides for the overflow without permitting the sheets of paper to escape from the washing trough. An india-rubber joint and glass tube delivers a supply of fresh water without splashing, and the produce of the day's work remains in the water during the succeeding night. On the following morning the prints are dried by suspension from the American spring clips. They are then mounted with glue, and passed through Bury's rolling press. Gum-water preserved with camphor has been to a limited extent employed for mounting.

Faded photographs are almost unknown to us; none have yet been reported, and the few prints I have had occasion to

condemn were instances of after contamination, due either to incautious handling or splashes of the hyposulphite solution. I have to regret my inability to remove, by chemical means, the whole of the silver from the protected white parts of albumenized prints, a difficulty to which I invited attention some fourteen months ago. All my efforts in this direction have hitherto been unavailing, and it has not been found possible to remove this small proportion of silver without using powerful agents, which injure the tone or impoverish the character of the photograph.

Our photographic department is at the present time almost in a transition stage, a new building having been erected for us in the Royal Arsenal, one wing of which will be devoted to photography, the remainder being occupied by the chemical laboratories. The new glass room has its chief aspect nearly north, and is partially lighted both on the west and east. The roof is lofty, and the principal dimensions are 25 feet by 15 feet. Adjoining this are two other rooms which will be devoted to printing and general operating, the former being fitted with moveable sashes, glazed with Claudet and Houghton's red "non-actinic glass." The washing-table occupies one side of the printing room; it is lead lined, and provides a water supply to each batch of pictures.

The negative rack is of the ordinary description, with curtains in front to exclude the dust. We have already a thousand negatives in stock, many of them being plates of the largest size, and from these we have issued during the present year to the various Government Departments upwards of eight thousand prints. The majority of these are sent out mounted on quarto cards, tinted of a pale buff, and with a manuscript description appended.

#### GLASS ROOMS, AND LIGHTING THE SITTER.

BY W. B. PARKER.\*

WHEN asked by your secretary to write a paper for this evening, I hardly knew what to write on that would be at all interesting. There has been so much said upon everything photographic, that one is at a loss to find a subject upon which any new ideas may be brought forth. However, upon looking at the *British Journal of Photography* for the 1st instant, and seeing therein a description of a "glass room," it struck me that such would form a good subject for a paper.

Every one has his pet idea of a glass room, but great is the diversity of opinion thereon; one holding out for plenty of top light, another for plenty of side light, while another says "neither of you are right unless you have an abundance of front light." Still, generally, we find it advised that you should have as much glass as you can get.

For my own part I believe that it does not depend on the amount of light, so much as on proper management. I have worked in many glass rooms, and have seen some of the finest things produced taken where the majority of operators would have been unable to get anything passable; and I have seen some of the worst "pictures" I ever saw, taken in some of the finest rooms.

In the discussion which I desire to originate this evening, I hope we may do something towards tracing out a cause for this difference of results; and we shall find, I think, that it generally arises from a want of knowing how to arrange the light so as to ensure the most pleasing, truthful, and artistic results. It would be impossible to give any set rules for controlling or directing the light, because every different sitter necessitates a different arrangement of the light; but still we may, perhaps, suggest some principles upon which to work with some degree of certainty.

It is necessary that the sitter should receive equal illumination, the feet and accessories being well lit. In some rooms, to secure this is very difficult, through not having a sufficiency of side or front light. This I have overcome best by covering the larger portion of the roof over head with tissue paper (of course it has lengthened the exposure). This gives an extraordinary good effect by weakening the light on the top part of the figure, thus allowing you to bring up the whole of the details in the lower part, and securing a more harmonious picture.

Still it is particularly necessary, to avoid flatness and monotony,

\* Read at a meeting of the South London Photographic Society, December 10th, 1863.